Think Models for Collaborative Knowledge Building

People

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Introduction

For a number of years now, this trio of authors has waged war on bird units being conducted in classrooms and libraries across the world. Accused of being enemies of nature, we have begged forgiveness of our feathered friends for creating the metaphor for substandard learning experiences teachers recognize and all learners seem to have been subjected to in the past.

Our definition for a bird unit is a learning experience where kids or teens choose some sort of topic to research; copy out a bunch of facts from books or from the Internet; paste those facts onto worksheets or into PowerPoint slides; and finally subject their peers to boring oral reports. If those types of assignments were bad in the era of the printed book, they are now dreadful in the era of the Internet. We find evidence that these zero learning experiences have infected the world of Web 2.0 tools where they are as disastrous in the world of high tech as they are in the world of pencil and paper, including those ubiquitous posers or brochures of coped text or illustrations. No wonder critics of technology decry the use of a 747 to deliver a bon bon across town!

The following illustration demonstrates the set of publications that have been designed to transform the library/learning commons into a major force in teaching and learning:

MOVE TO THE CENTER OF TEACHING AND LEARNING WITH THESE

For our arsenal, we first published *Ban Those Bird Units* where 15 think models of instructional design made their debut.

Then came *Beyond Bird Units* that expanded the think models to 18 and provided all new examples of high-level units of instruction.

Along the way we dropped the bomb *Build Your Own Information Literate School* that enriched the concept of teaching information literacy embedded in real learning experiences.

Next came the actual centerpiece of the redesign of school libraries into learning commons as both physical and virtual spaces in the school where clients claim ownership and propel the learning commons into the heart of teaching and learning.

Along the way, we noticed that practitioners were having difficulty understanding and creating the Big Think as a culminating activity to the end of a major learning experience. Thus, we created *The Big Think* book where nine metacognitive strategies were presented as the capstone of a learning experience.

Finally, we have created a trio of books that bring together learning experiences on the three most common topics that teachers bring to the learning commons for help. For convenience, we brought together the previously published units into topical packages and revised them to meet the specifications of our later thinking.

People   Places   Issues

Thus, as we look across our writing, the 18 Think Models are the foundation of our war strategy, models we have taught, explained, led, and introduced to anyone who would listen. These models are reprinted in this book, complete with their planning sheets, in an attempt to make deep understanding within the world of information and high tech. Their function is to form the basis of instructional planning.

Instead of telling the classroom teacher to "go it alone" in the classroom, we advocate that the teacher reach out to the specialists in the school: the teacher librarian, the teacher technologist, reading coaches, counselors, teachers of the gifted, and even art, music, and any other adult charged with the mission of enhancing teaching and learning through their specialty.

We say that two heads are better than one in the planning, teaching, and assessment of learning experiences. Adding a specialist as a co-teacher, a collaborator, makes the whole greater than the sum of its parts so that two plus two can equal five.

If you examine the following model, you will see that in the first half, learners respond to an engaging question to build background knowledge. In the second part of the activity the stakes rise. Learners jigsaw to combine what they know with what others know to answer a higher order question. Instead of ending here, the learning continues on as they build collective intelligence through a Big Think.

Think Model #6: Concept Jigsaw Puzzle

Why This Model?

• Develop deep understanding rather than surface knowledge
• Develop group skills including interdependence and accountability
• Two heads are better than one
• Replicate a prototype of the real world of business and industry
• Stimulate each learner into making a contribution
• Use to introduce lots of material quickly
• Encourage divergent thinking

Possible Topics:

• Persons
• Places
• Things
• Events
• Ideas
• Movements

☆ **Life Skill: Questions are the key to understanding.** ☆

So we now present for your use, modification, and creativity ideas for units that will make the learning commons a major positive force in teaching and learning. It is the place we all hoped that the library media center concept would take us, but never actually achieved the dream for a variety of reasons.

Our observation over time of those who adopt our models and unit ideas leads us to a pattern of adoption. When the teacher librarian first introduces the Think Models to a particular teacher, we note that they follow both the model and the suggested teaching strategy closely in their first experimentation. However, after a bit of experience with the models and our ideas, we notice that teacher/teacher librarian teams get their own "wings" and build new models and adaptations of our work to meet various local needs and priorities. We could not be happier when the replacement of bird units becomes an everyday expectation of the kind of learning that goes on in the learning commons. When a parade of the very best units of instruction graces the calendar of the learning commons, we celebrate along with you, the users.

Our advice is to document and publicize the results of transformations of bird units. Ask these and other questions about your efforts:

- Why is the transformation better?
- What impact did it have on the learners?
- What percentage of the learners met or exceeded expectations?
- How does that percentage compare to students who encounter traditional bird units?
- What progress is the teacher librarian making in the spread of transformed units throughout the school?
- What impact is this having on school improvement?
- How do these models fit with the school improvement agenda already in place?

We urge the users of this series of publications to communicate with us at:

- David V. Loertscher, 312 South 1000 East, Salt Lake City, UT 84102, email: reader.david@gmail.com
- Carol Koechlin, 1073 Pharmacy Ave., Scarborough, ON M1R 2H2 Canada, email: koechlin@sympatico.ca
- Sandi Zwaan, 214 Bayshore Rd. RR#1, Apsley, ON K0L 1A0 Canada, email: szwaan@cogeco.ca

We would love to share successes and challenges with you.

A note on the arrangement of this book: We have divided the book into sections of sample units based on topics connecting to the main theme of the book. These examples of units across the grade levels are then followed by a reprint of the 18 Think Models with their planning sheets.

Chapter 1

What do we want to learn about when we study PEOPLE as individuals?

Fame and Fortune

Crimes

Heroism

Perseverance

People as individuals

Adventure

The Arts

Invention

Success or Failure

Responsibility
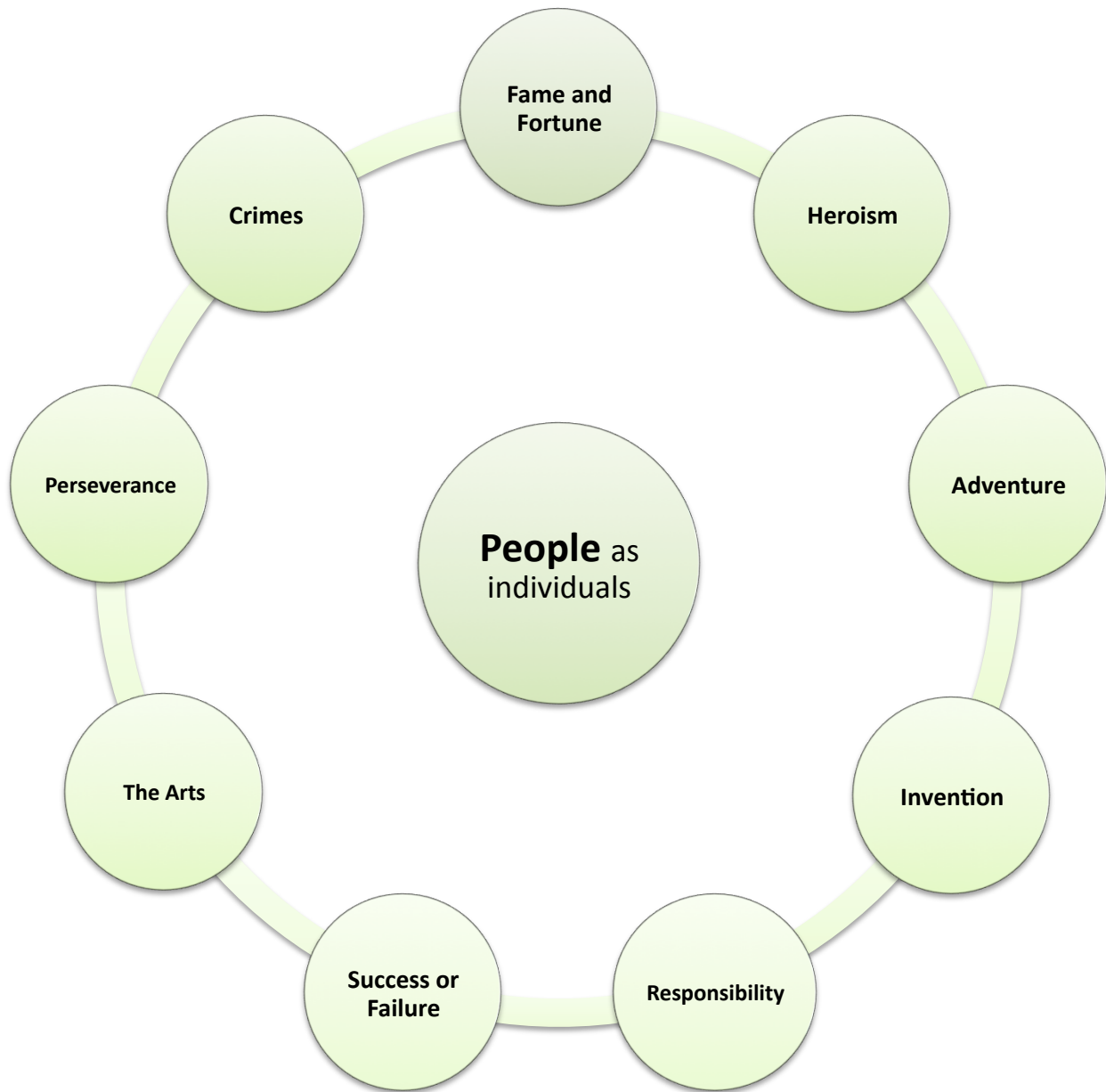
Example #1   Clockwork   Gr. 1–4
How do clocks help us?

Problem
Teachers want students to understand the role of time and time pieces in daily life and have them see the importance of being able to tell time.

Gathering Facts
Have students look through old magazines and catalogues for pictures of clocks and other timepieces. Cut out, sort, and categorize.

Introduce engaging question. Arrange students in triads with another classmate and an older learning buddy. The task is to interview a school community member and record what they do during the school day. Provide triads with a Clockwork *Time Log* organizer and the interview questions. Use a different color for each group. Groups proceed to interview an assigned school member (e.g. principal, teacher, secretary, caretaker, parent, library media specialist, ed assistants, students etc). They record activity for each time slot from 8:00 am to 4:00 pm.

Creating Timeline
Have each group cut up their time log chart and place information on a large circular time-line with a clock face in the middle.

Analysis
Ask each group to share the "day story" of their survey subject, hour by hour, and then pose some analysis questions. E.g. Are there any times when several people are doing the same thing? Do the things one person does affect others? What might happen if someone didn't have a clock? Record the findings on a chart.

✴ **The Big Think** ✴

Content
H.O.T.—Revisit the essential question and list student responses. *So What?* Brainstorm for ways clocks help at home and in the community and add to the list. *What Next?* Learners create a collage of illustrations to show ways clocks help them and their school community. Discuss any problems with these timekeepers.

Process
Active Discussion—Show learners several examples of typical linear timelines. *So What?* Our timeline was a circle. Why did we use a circle? *What Next?* What other topics would be good to represent in a 'time-circle'?

Clock Work Time Log

Time	Activity	Who
8:00-8:30		
8:30-9:00		
9:00-9:30		
9:30-10:00		
10:00-10:30		
10:30-11:00		
11:00-11:30		
11:30-12:00		
12:00-12:30		
12:30-1:00		
1:00-1:30		
1:30-2:00		
2:00-2:30		
2:30-3:00		
3:00-3:30		
3:30-4:00		
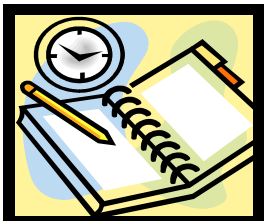
Team Names: Date:

1)

2)

3)

Example #2   Responsibility   Gr. 1–4

What is a good school citizen like?

Develop Background Knowledge

Take students on a tour around the school building and grounds and take pictures of different places and signage. Talk with students about the people, processes and things around the school that keep them safe and happy. Use the photos to build collaborative stories about life at your school. Set up groups. First work in expert groups to answer: What are the rules? Then jigsaw to answer: *What are our school responsibilities?*

Research Aspects of Problem	Jigsaw to Investigate Possibilities
What are the rules? Each group creates an illustrated list of rules for their assigned space. They should interview school personnel to make sure they have identified the rules correctly.	*What are our school responsibilities?* In the new groups ask students to think of ways they can make sure the rules are always followed everywhere.
Group A – classroom Group B – library Group C – gymnasium Group D – playground and halls Group E – lunchroom	Group ABCDE Group ABCDE Group ABCDE Group ABCDE Group ABCDE

Collaborate to Find a Solution

Collaboratively build a large chart of school rules and responsibilities. Ask student to think about ways they could always remember to be good school citizens. Have them draw a picture, write a story, or perform a short skit that demonstrates that they are good school citizens.

✷ The Big Think ✷

Content

Active Discussion—*So What?* Why do we have rules and responsibilities? Are there any rules that should be changed? Why? Are there any other new rules we should have? Why? ***What Next?*** Have students share their school rules and responsibilities at home and discuss with caregivers their home and community rules and responsibilities. Who else has rules and responsibilities? Why?

Process

H.O.T.—Complete a group reflection *Hurrah for Our Team.* ***So What?*** Have students work in groups to develop the rules and responsibilities of working in groups. ***What Next?*** Set goals for improving group work skills and responsibilities.

Hurrah for Our Team

3 **Three ways our team worked well together:**

2 **Two things our team could do to improve:**

1 **One important thing I learned from my team:**

Example #3   European Explorers Trek to North America   Gr. 4–6
What are the 5 W's of European explorers?

Goal
Learners need to gain some general knowledge of explorers before they embark on their own voyage of discovery to study the impact of European Explorers on North America.

Explore, Skim and Scan
Introduce the topic with maps, stories, pictures or video clips and brainstorm a list of key words students should use for searches. Students have blank *Quick Fact Trading Cards* to complete on the explorers of their choice. They rotate through the resource stations (print encyclopedia, electronic encyclopedia, books, pictures, and video) set up in the library and complete as many cards as possible in the time available. They skim, scan, read, view and listen to a variety of carefully selected resources.

Make Connections
Students gather in small groups, and sort their trading cards alphabetically by explorer's last name. They share the quick facts they recorded on their cards and take note of any conflicting data. Have students sort their cards chronologically, by departure point, by destination, and reason for the excursion.

Build Questions
Have groups discuss findings and develop questions using the *Question Storming* worksheet. Groups share questions with the class. Have students revisit their trading cards, and consider the group questions to help them settle on the aspect of European exploration or the particular explorer(s) they want to investigate. Students create a question for individual study. Introduce focus words such as impact, effect, results, resulted, relationships, conditions, significance etc. to help learners build good inquiry questions. Review the *Question Rubric,* explaining criteria, so students understand how their questions will be evaluated.

✳ The Big Think ✳
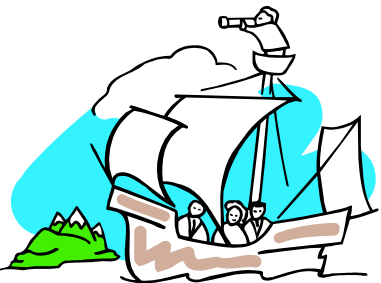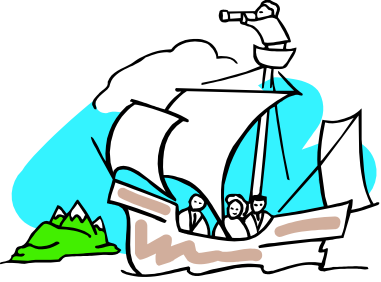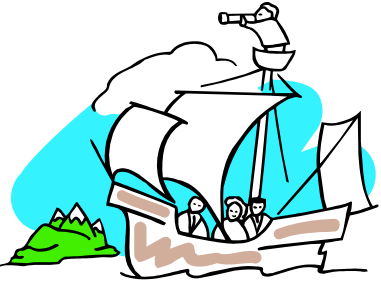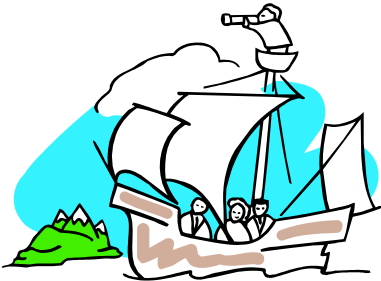
Content
Active Discussion—In new groups share and discuss questions. ***So What?*** What do you know now that you didn't before? How has asking questions helped us to broaden our understanding of European Explorers? ***What Next?*** Consult with a peer, and teachers to refine inquiry questions. Develop a plan for research.

Process
H.O.T.—In small groups compare questions; look for commonalities and exceptions.
So What? How did question storming and focus words help build better questions?
What Next? Start a question building tool kit.

Quick Fact Trading Cards

**European Explorers
Quick Fact Trading Cards**

Who?

What?

When?

Where?

Why?

**European Explorers
Quick Fact Trading Cards**

Who?

What?

When?

Where?

Why?

**European Explorers
Quick Fact Trading Cards**

Who?

What?

When?

Where?

Why?

**European Explorers
Quick Fact Trading Cards**

Who?

What?

When?

Where?

Why?

Question Storming

Write your topic in the centre starburst. Record questions you have about this topic in the surrounding ovals. Continue to develop questions about these questions to further explore and refine your topic.
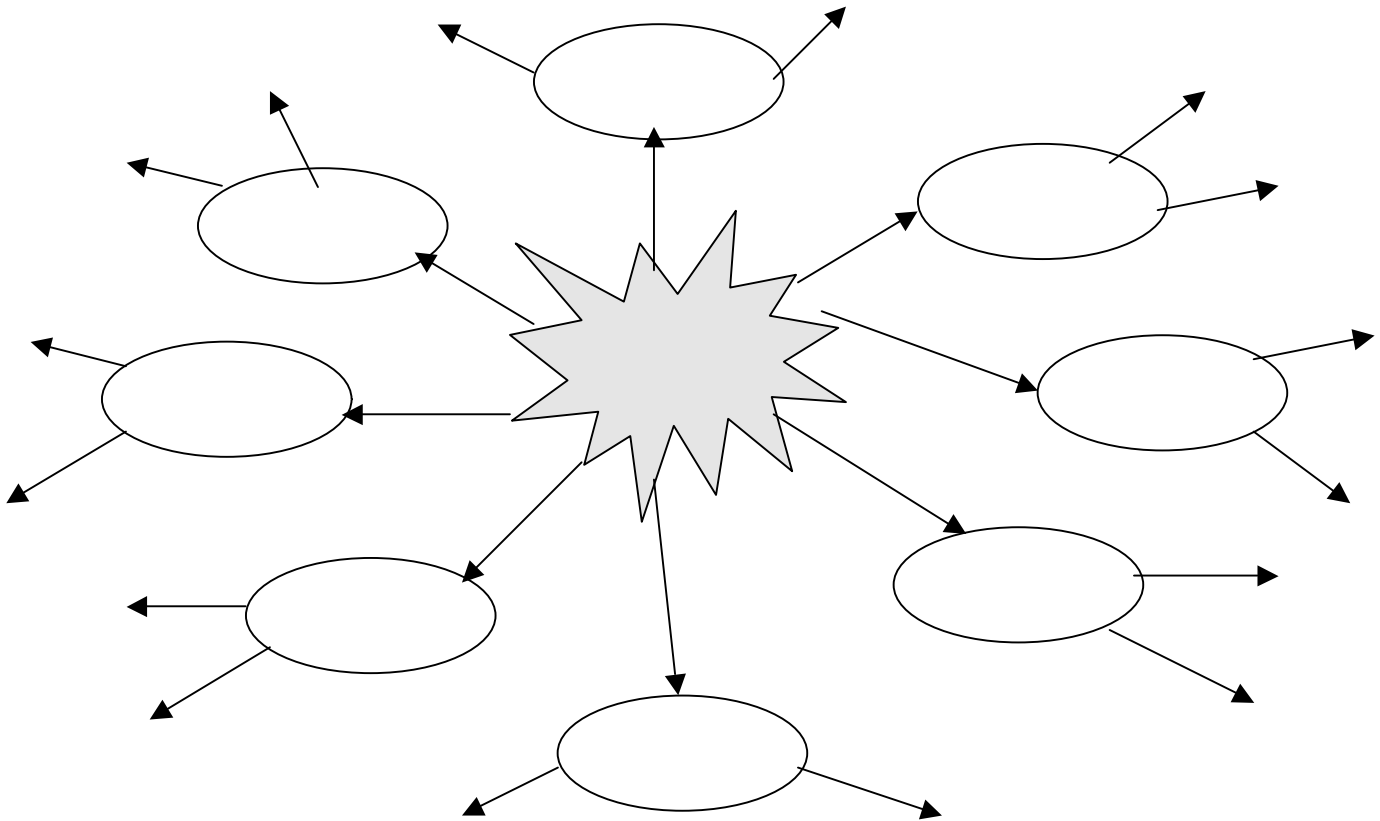
Which questions would you really like to explore for your research project?

Your Research Question - Rubric

Criteria Level	Focus	Interest	Knowledge	Processing
Your Research Question:	*Does your question help to focus your research?*	*Are you excited about your question?*	*Will your question help you learn?*	*Will your question help you to understand your topic better?*
Level 4	- will evoke personal reaction	- inspires further investigation and more questions	- catalyst for transfer or application	- requires independent analysis, synthesis and application of information
Level 3	- requires looking at information from a variety of perspectives	- stimulates curiosity and enthusiasm	- directs personal reflection, opinion	- requires general comparison based on criteria
Level 2	- manageable, with limited exploration potential	- motivates some personal interest	- requires collection of facts and opinions	- requires classification of data
Level 1	- broad and unmanageable or narrow with little scope	- of little personal interest	- requires lists, one word answers	- requires data collection only

Adapted from *Info Tasks for Successful Learning,* Pembroke Publishers

Example #4   Famous People WebQuest   Gr. 6–10

How do you make it into the history books?

Introduction

There are many talented and accomplished people in this world. Do these people have unique qualities that help them rise to great heights? Is it just plain luck? Do you have to be super 'talented' to be an inventor, artist, or athlete? Does it all come down to money and connections? Does effort play a role? Here is your chance to find out the answers to these questions and many more. Join the team to develop a new biography website.

Task

Your team will select a biographical topic and investigate some famous people over the past century. Each team member will select a different person to research in-depth using questions to guide your searches.

- The Arts
- Science and Technology
- Athletics
- Politics
- Health
- Global Issues

Process - Background to Question

- **Build Background** Brainstorm accomplished people, in your category from the 20th century.
- Explore *Info Please* and *Library Spot* to add to your list.
- Select 6 people you are interested in and gather data about those people using the *InfoBytes* worksheet.
- **Connect to Old and New Learning** Share *InfoBytes* data in your group. Have each team member select a personality to study in-depth.
- Open *The Biography Maker* and follow the process, outlined there, to create a new engaging biography for our website.
- **Build and Research Questions** Think about this person and create probing questions to guide you in your search and your analysis.
- ESL students: please use organizer *Famous People in North America.*

Information Sources

Info Please: http://www.infoplease.com/people.html
Library Spot: http://www.libraryspot.com/biographies/
The Biography Maker: http://fno.org/bio/biomaker.htm

Evaluation

- navigated sites efficiently and effectively
- engaged in relevant exploration
- made connections and discovered relationships
- interest sparked effective personal research questions

✳ The Big Think ✳

Content

Thoughtful Writing—Congratulations! You have discovered what it takes to become an accomplished person. *So What?* How does this new knowledge affect your plans for the future? *What Next?* How can you apply this information to your own aspirations? What might you change? How will you measure your personal success?

Process

Active Discussion—*So What?* How did InfoBytes help keep us on track? *What Next?* Brainstorm other tools and strategies to help learners keep track of their thinking and learning as they research. Post note making tools and tips on the Virtual Library Commons.

Info Bytes	Info Bytes
Who?	**Who?**
What?	**What?**
When?	**When?**
Where?	**Where?**
Why?	**Why?**
How?	**How?**
Which?	**Which?**

Famous People in North America Organizer

Name:

Who is your famous person?
When was he/she born? **When** did he/she become famous?
Where did he/she live? **Where** did he/she go to school?
What did he/she accomplish?
Why was he/she so successful? (3 qualities or skills) 1) 2) 3)
How did these qualities/skills help this person to become successful?
How has learning about this person helped you?

Example #5   All That Jazz: A Guided E-tour   Gr. 7–11
What is Jazz? Why is it important?

Goal
To give learners a working knowledge of jazz so that they will be able to engage in a meaningful experience as they do an in-depth study later.

Explore, Skim and Scan
Begin by listening to great jazz CD's, reading a picture book (e.g. *The Sound of Jazz* by Weatherford and Velasqueq, *If I Only Had a Horn -Young Louis Armstrong* by Roxane Orgill) or watching a video. Prepare the students to take an etour by following the *Guided Tour* itinerary. Share and discuss the *Etour Rubric* so students understand how their tour will be evaluated. They visit a variety of bookmarked websites to find answers to their Guiding Questions (See *Guided Tour)* and record brief point form answers on the *Jazz Tour Map* worksheet.

Make Connections
After the tour, gather as a large group to share and discuss findings. Ask students to do a learning log using prompts such as: I was surprised to discover..., It is amazing that..., I wonder..., What if…?

Build a Question
Discuss areas of interest and help students develop questions to guide their continued research. Provide them with focus word, from which to choose, for inclusion in their question. (e.g. influence, impact, effect, relationship, importance, significance) Introduce the *Question Rubric,* explaining criteria, so students understand how their questions will be evaluated.

Gathering Evidence of Understanding
- students navigated sites effectively and stayed on task
- students completed the *Jazz Tour Map* with accurate data
- learning logs indicated students made connections
- questions developed will guide meaningful research about importance of jazz
- research plans are complete and realistic

✳ **The Big Think** ✳

Content
H.O.T.—Chart the inquiry questions developed by students. Sort these questions into categories e.g. history, instruments, musicians, culture etc. ***So What?*** Will our questions help us to answer our essential questions, What is Jazz? Why is it important? ***What Next?*** Refine individual inquiry questions as necessary.

Process
Active Discussion—***So What?*** Discuss the role of the question rubric in question development. ***What Next?*** Create a plan to guide individual research based on newly formed questions.
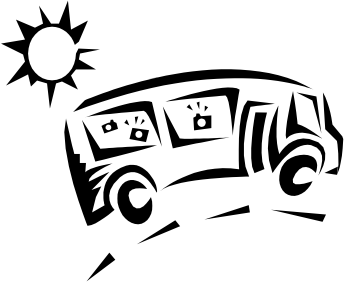
Planning a Guided E-tour

Topic:
Essential Question:

Curriculum Expectations and Information Skills

Selected Web Sites

Guiding Questions

Assessment Criteria

E-tour Rubric

Criteria	Background Building	Navigating	Note Taking
Level 4	- accurate and abundant information collected from the tour - effective and efficient use of both itinerary and guiding questions	- navigates to and from relevant web sites with ease - able to return to home page and navigate back and forth in several sites at the same time to make comparisons	- skims and scans to identify relevant information - efficiently selects relevant data and makes effective use of allotted time
Level 3	- accurate and adequate information collected from the tour - information collected indicates guiding questions and itinerary were used effectively	- uses hot links selectively to locate required information - able to return to home page and navigate back and forth	- skims and scans to gain an overview - identifies useful information and makes effective use of time
Level 2	- incomplete or inaccurate information collected from the tour - information collected indicates some of the guiding questions were used and the itinerary was followed loosely	- uses hot links randomly and with limited success - able to use navigation tools with some success	- skims and scans with some success - has difficulty evaluating usefulness of data and runs out of time
Level 1	- little information collected from the tour - paid little attention to either guiding questions and/or itinerary	- shows little understanding of significance of hot links - indicates little or no understanding of navigation tools such as "back" arrow or "home" link	- demonstrates limited ability to skim and scan - fails to evaluate usefulness of data and consequently spends time inefficiently

Guided E-tour
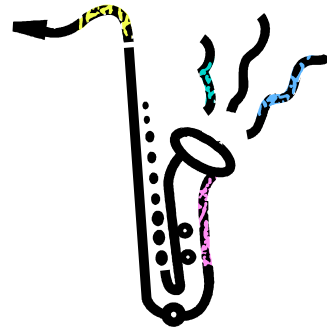
The History of Jazz

Selected Web Sites:

Jazz Hall of Fame
http://www.jazzhall.org/

Hyper Music History of Jazz
http://www.hypermusic.ca/jazz/mainmenu.html

A Passion for Jazz
http://www.apassion4jazz.net/index.html

Jazz a Film by Ken Burns
http://www.pbs.org/jazz/
http://www.artsci-ccwin.concordia.ca/history/Carr_article.html

Music Making History: Africa Meets Europe in the United States
of the Blues
http://asweknowit.ca/evcult/USBlues.shtml

The Red Hot Jazz Archive
http://asweknowit.ca/evcult/USBlues.shtml

The Golden Age of Jazz
http://www.jazzphotos.com/

Planet Jazz Magazine
http://www.planetjazzmagazine.ca/

Louisiana State Museum: Audio Jazz Glossary
http://lsm.crt.state.la.us/site/audio/glossary.htm

Tour Check

o Review guiding questions.
o Stick to the tour itinerary.
o Check off sites visited.
o Skim and scan for needed data.
o Keep notes as you go.
o Record direct quotes you find useful with proper citations.
o Make use of "hypertext links" within the website for further detail.
o Use the "back" arrow to return to original site or look for a link to the "Home Page" if you get lost.
o Revisit the guiding questions and continue touring until you have fulfilled your exploration.

Guiding Questions
What is jazz?
What are the important characteristics of jazz?
Where did jazz begin?
Who are the early jazz greats?
Why is jazz an important music form?
Which instruments are commonly used in jazz?
What are the connections between jazz and current pop music?
Are there jazz musicians or pieces I recognize?
Is there jazz related vocabulary I should know?

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Jazz E-tour Map

Where did jazz begin?	Who are the early jazz greats?
What are important characteristics of jazz?	Why is jazz an important music form?
Which instruments are commonly used in jazz?	**What is jazz?**	Jazz Jargon
	What are the connections between jazz and current pop music?	
Jazz musicians or pieces I recognize.	**What next?** (Potential topics or questions for further research.)	

Example #6   My Personal Space   Gr. 7–12
How can I better organize my resources, and my home and school personal spaces?

Develop Background
Introduce by sharing photos, advertisements and/or cartoons depicting chaos and disorganization. Discuss how to put some order back into each scenario. Brainstorm for tools and strategies that help people get organized.

Develop Questions for Research
Ask students to consider their academic and personal organizational needs (home, family, school, sports, work, hobbies, etc.). Have them develop a checklist of questions they need to answer as they conduct their research. Arrange for students to visit an office supply store, speak to professionals, as well as search books and websites for answers.

Develop a Plan
Students develop a plan complete with timelines and a cost analysis of what it will take to get organized.

Doing
Have students carry out their plans and take before, during and after photos of their home work space, their lockers, and other evidence of their newly organized lives to use in building a photo journal.

✸ The Big Think ✸

Content
Active Discussion—Hold a discussion/tip session for several weeks. ***So What?*** Have students demonstrate short and projected long-term benefits of organizing space and resources. ***What Next?***

> **Web 2.0**
> Invite students to take ownership and organize activities, resources, and support in one convenient location by creating an iGoogle page. Ask students to make a list of possible items for inclusion on their iGoogle page. Some examples include: RSS feeds, calendar, public library connection, weather reports, school website, online homework support, email addresses, homework, assignment due dates, test dates, hobby connections, extra curricular events, etc. Have students also develop a list of responsibilities they now have with use of this space and post it. For help, consult the book: *In Command! Kids and Teens Build and Manage Their Own Information Spaces…And, Learn To Manage Themselves in Those Spaces*. By Robin T. Williams and David V. Loertscher. Hi Willow Research & Publishing, 2007. Available from http://lmcsource.com

Process
Thoughtful Writing—*So What?* What did you learn about yourself and your resources as you got organized?
What Next? Set new goals for yourself in other aspects of your life and follow this task process for setting an action plan.

Example #7   Celeb Trends   Gr. 7–12
What do shoes reveal about the wearer?

Build Background and Make Predictions
Ask students to bring to class pictures of their favorite celebrities in the worlds of entertainment, sports, music, and the arts. Make a display of the celebrities adding books, newspaper and magazine clippings. Partner students with someone else interested in the same celebrity. Have pairs research this celebrity and build a profile of their likes and dislikes. Present the focus question and the task. In teams, have students create a sneaker with their celebrity in mind.

Develop Questions
Students have a profile of their celebrity. Now ask them to learn about designing and making sneakers and how to match the sneaker to the celebrity's interests and tastes. Ask students to create questions that will guide them through the next process. Share questions and make a list of questions that apply to everyone. Add more questions, if necessary, as the process unfolds.

Develop Skills and Action Plan
Have students work with their team to research the design and production of sneakers. Conference with students and set some design considerations for their Celeb Treds (e.g. match to user profile, material, structure, creativity, graphic detail, quality of production, manufacturing, materials, attention to environmental concerns). Based on their research they will create drawings, a materials list, and a process for manufacturing their celeb trends. Some sites to consult:
• The History of Sport Shoes: http://podiatry.curtin.edu.au/sport.html#fast
• Sneakerhead Academy: http://www.sneakerhead.com/sneaker-academy.html
• Bata Shoe Museum: http://www.batashoemuseum.ca/

Doing
Using their drawings and action plan students will gather materials and create prototypes of their new sneaker design.

Reflection
Ask students to list the skills they have practiced and developed during this project. Share skills and categorize e.g. teamwork, literacy, design, problem solving, and creative thinking. Compare these skills to those sought by employers today. How has this project helped prepare you for your future?

✳ **The Big Think** ✳

Content
Active Discussion—Form discussion groups. Appoint group roles**.** See *Team Task Prompts*. *So What?* Discuss how celebrities influence fashion, popular culture, and what we choose to wear. Discuss the implications for consumers, industry and celebrities. *What Next?* Display and celebrate the Celeb Treds. Investigate the market for 'novelty' shoes. Explore the many careers associated with the clothing industry.

Process
H.O.T.—Assess teamwork, see *Take the Team Test*. *So What?* How did we do? What are we good at? Where do we need to make improvements? *What Next?* Set goals for improvement.

Team Task Prompts

Today you are the **Encourager**

- ☐ Is the group on track?
- ☐ Use positive body language: thumbs up, nod, smile.
- ☐ Use positive language: good job, that's it, great idea, let's go for it, just a little more to do, you are a great team, keep thinking

Today you are the **Recorder**

- ☐ Record all ideas.
- ☐ Don't comment or make judgements, just record.
- ☐ Use abbreviations and symbols to keep up.
- ☐ Ask for clarification if you are unsure of what was said.
- ☐ Paraphrase when necessary and confirm your interpretation of ideas presented.

Today you are the **Worrier**

- ☐ Does the team agree on the task?
- ☐ Is the team keeping on task?
- ☐ Is everyone contributing?
- ☐ When is the task due?
- ☐ How much time is left?
- ☐ Is everyone being considerate?
- ☐ Are we working as a team?
- ☐ Did we forget anything?

Today you are the **Checker**

Does everyone understand his/her job?
- ☐ Does everyone understand the task?
- ☐ Do we have all the materials/resources we need?
- ☐ Have we checked the evaluation criteria?
- ☐ Have we completed our task?
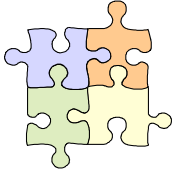
Adapted from *Build Your Own Information Literate School*

Take the Team Test

How well did we work as a team?

We each took responsibility by:

1

2

We made sure we stayed on task by:

1

2

We supported each other by:

1

2

Our team could be stronger if:

1

2
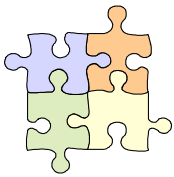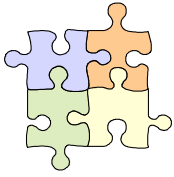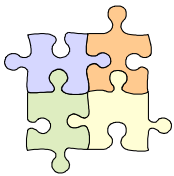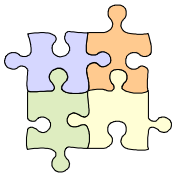
Our group is proud of:

1

2

Example #8   **Quotation Marks**   **Gr. 7–12**
Why are these quotations so important? What purpose do they serve?

Select
This strategy will work well with any discipline when you want to highlight some major contributors to a specialty area or explore the major players during an event or era. Select the quotations that will lead students to important concepts and knowledge.

Explore
Write the selected quotations at the top of sheets of chart paper and mount them all around the classroom. Have students do a gallery walk and read all the quotations, pausing to add comments and questions when they want to respond. Ensure students have enough time to read all the quotes and think about them. Ask students to select one of the quotes that is of interest them for this project.

Research
Individually, students conduct research about the quote as well as the life and contributions of the person quoted. They need to research the context of the quote, the time and event or work that it came from, as well as the reasons for its endurance.

Construct/Perform
Students will plan to deliver the quote to the class, in role, taking care to create an accurate atmosphere. Continuing in the role of the quoted person, the student will explain when and why his/her words will remain important in the future.

✴ **The Big Think** ✴

Content
Active Discussion—Provide learners with an organizer of all the quotes studied and instruct them to keep track of key ideas they discover as moments in history are re-created by their peers. **So What?** In groups discuss emerging concepts, share with the class. *What Next?* Research an important person today and suggest quotes that may have lasting endurance and impact for the future.

Process
Thoughtful Writing—Review proper citations for quotes. *So What?* Why is it important to acknowledge quotations in your work? *What Next?* Search for good sources of quotations and add them to Personal Learning Networks.

Quotes about Quotations

"Stay at home in your mind. Don't recite other people's opinions. I hate quotations. Tell me what you know."
        Ralph Waldo Emerson 1803-1882, American Poet, Essayist
"I often quote myself. It adds spice to my conversation."
        George Bernard Shaw 1856-1950, Irish-born British Dramatist
"It is a good thing for an uneducated man to read a book of quotations."
        Winston Churchill 1874-1965, British Statesman, Prime Minister

Example #9   Positive Imaging of Teens   Gr. 7–12

How can we be the best we can be?

Introduce and Build Background

Read aloud a good article about a teen accomplishment. Discuss the teens, currently in the news, that the students admire.

The expert groups build expertise. Next, Jigsaw the groups so that each new team has an expert from each topic area. Pose the concept forming question.

Build Expertise	Combine Expertise to Build New Understanding
How have teens taken the spotlight?	What are the common attributes for success?
Each expert group researches their topic area to discover famous teens and how they achieved their fame.	New team share information and study it to answer the concept forming question.
A – Athletics B – Human Rights C – Business D – Entertainment E – The Arts	ABCDE ABCDE ABCDE ABCDE ABCDE

✳ The Big Think ✳

Content

Active Discussion—Collate common attributes. *So What?* Group discussion: What supports need to be in place to help teens reach their goals? What if those supports are not in place? Can one still succeed? *What Next?* Have students work in groups to develop suggested projects and actions that will enhance opportunities for all teens in their schools and communities. Invite the guidance counselor to participate in the discussion and to familiarize students with community service requirements of specifics on various college applications.
Keep on Thinking How can we make use of this knowledge about accomplished teens to project a positive image at our school? How can we celebrate youth? Write and perform your own version of Disney's *High School Musical.*

Process

Active Discussion—Review the Jigsaw strategy. *So What?* Group discussion: How does the Jigsaw strategy help us to understand complex issues? *What Next?* Select another issue of concern to teens. Collaborate with another class/school and create a wiki jigsaw environment so learners can work virtually.

Example #10   Faster, Higher, Stronger   Gr. 9–12

How can we improve the Olympics so the games truly reflect all athletes' accomplishments?

Problem
Introduce the Olympic motto "Citius, Altius, Fortius": Faster, Higher, Stronger and discuss the meaning. In pairs, students consider all the positives, the negatives, and the questionable aspects of the Olympic Games. Share with the class, cluster ideas, and develop a list of major problems to overcome (e.g. cost, doping, judging, cheating, advertising, politics, financial support to athletes, security, media coverage, stress and bias etc.). Collectively decide which of the issues the class wants to deal with and develop focus groups to study them.

Investigation
Remind groups to explore all the relevant perspectives, validate, and accurately document their sources. Brainstorm possible sources and/or provide URLs of the IOCE, official athletic associations, national support programs, etc. Encourage groups to share data they find, that could help another group. Groups keep accurate notes of their findings, and provide group members with a copy for sharing in the next stage.

Compare/Contrast
JigSaw students to form study groups. Share findings. Keep track of similarities or differences in the information shared. Look for patterns and trends in the collective data. Students use *Inductive Reasoning* organizer to help them develop substantiated generalizations about their collective findings.

Reinvent
Reconvene in home groups; share relationships and generalizations discovered. Review the guiding question. Home groups should now be able to make a few suggestions about ways the Olympics could be re-invented to address the problem their group focused on. Students use *Reinvent the Olympics* organizer to test out their solution ideas, citing the strengths, weakness and considerations of each. Share and chart the best solution ideas from each group. Work with the class to develop the top 10 things the Olympic Commission should do to improve the Olympic Games.

✴ **The Big Think** ✴

Content
Active Discussion—Reconvene in expert groups and review research findings. ***So What?*** How effectively does the class Top 10 list address the concerns uncovered by our team research? What adjustments should we suggest? ***What Next?*** Who needs to know about our class work? Finalize lists and present reinvention suggestions to appropriate groups such as an athletic association.

Process
Active Discussion—Review methods used to analyze and synthesize data during the process. ***So What?*** How did our strategies help us reach fair and supported conclusions? ***What Next?*** What more could we have done to maintain objectivity?

Inductive Reasoning

If….

Then…

┌─────────────────────────┐
│   Guiding Question: │
│   │
│   │
│   │
│   │
└─────────────────────────┘

Examine your data.

Look for patterns, connections and relationships.

What do these links tell you?

How can you explain the relationships you see?

Given the links you have discovered, what is probable?

Make some thoughtful generalizations.

Make some inferences based on your observations.

Organize the data and test out your ideas.

Do you have enough quality data to back up your reasoning?

Be careful. Don't jump to faulty conclusions!

Reinvent the Olympics

Focus Problem

Solution Ideas	Strengths	Weaknesses	Considerations	Analysis

Based on this analysis, the best possible solutions are:

Example #11 **Model Parents** **Gr. 9–12**
What are the attributes of good parenting?

Select
This model is excellent for planning the culmination of a unit on parenting in a family studies class. With a partner, students will write and perform a docudrama demonstrating good parenting.

Explore
Introduce this topic with a carefully selected video clips that demonstrate both positive and negative parenting. As a class, debrief the video and develop a "That's Good, That's Bad" chart from their discussion. Ask students for more examples to expand the chart beyond the video content.

Research
Pair students. Pairs target an age group and research characteristics of children and strategies for supporting the healthy development of this group. Remind students that validation of sources is a critical for this assignment. They should look at the whole child in terms of development: nutrition, safety, mental health, physical health, discipline, learning support, and enrichment.

Construct
Students need to develop a plan for their skit and consult with a teacher before proceeding with actual writing of the script. Once the script is drafted, arrange for peer consultations and build in revision and practicing time.

Perform
Ensure that students have a workable space for presenting their docudramas. Videotape the performances so students can critique and set goals for improvement.

✳ **The Big Think** ✳

Content
H.O.T.—Learners create a list of attributes they have discovered that are common to good parenting. *So What?* Rank the attributes in order of importance. *What Next?* Discuss the child's responsibilities in building healthy relationships with parents/guardians.

Process
Construct Visuals—*So What?* What problems were encountered during the process? How were problems resolved? Create a visual to show the process. *What Next?* Use the video-taped docudramas for follow-up problem solving exercises.

Chapter 2

What do we want to learn when we study PEOPLE as leaders?

Science

Politics

History

Religion

Global
Citizenship

People as
leaders

Community

Health

The Arts

Human Rights
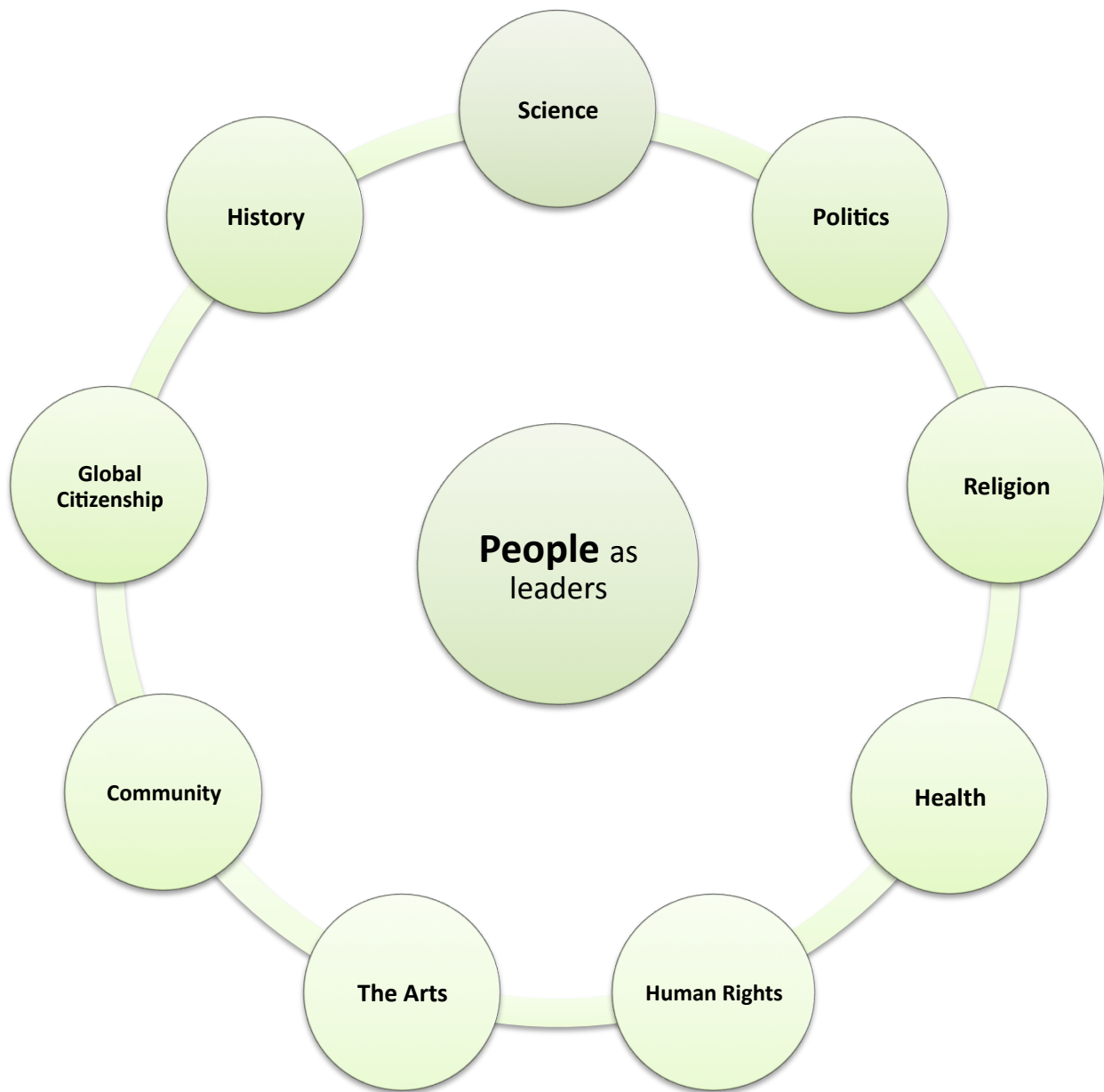
Example #1   **National Leaders**   **Gr. 2–5**
What keeps the President/Prime Minister busy all day?

Explore Issue or Event/Build Background
Group students and provide them with an assortment of newspaper and magazines photos of the national leader. Ask students to sort the photos into categories. Share the categories (e.g. at work, relaxing, with family, traveling, eating, etc.). Chart what students now know about their President/Prime Minister and what they would like to find out.

Research to Validate Authenticity of Re-creation
Have students explore the wealth of visuals available on selected Internet sites.
Photo Essays about the President and life at the White House:
http://www.whitehouse.gov/president/gallery/photoessay/pe_archive.html
Photo Gallery for Canada's Prime Minister:
http://pm.gc.ca/eng/media_gallery.asp?media_category_typ_id=3
Have students fold a paper in 4 sections to create an organizer to record their notes and sketches. Label the sections work, fun, home, and travel.

Select Format and Construct Re-Creation
Share and discuss the student discoveries about what the National Leader does all day. List the activities that students were able to discover in the photos and official sites. Ask students to select one activity and re-create an illustration of it. Encourage students to review photos to ensure that the details in their pictures are as accurate as possible.

Perform
Scan the student pictures and create a slide show of a day in the life of the President/Prime Minister. Tape students talking about their pictures and add the audio to the slide show.

✴ **The Big Think** ✴

Content
Construct Visuals—Create a chart that compares a day in your life with a day in the life of the National Leader. Share charts and collate into a class chart. *So What?* What have we learned from the National Leader that will help us as you grow up? What do you think the National Leader could learn from us? *What Next?* If you were Prime Minister/President for a day what would you like to accomplish? Write a detailed agenda stating your plans and itinerary for the day.
Process
Active Discussion—Review photos used in the project. *So What?* How were you able to glean information from the photos? *What Next?* How can we share our ideas for analyzing photos?

Example #2   Voices in History   Gr. 6–8
How can perspective help us to understand historical issues?

Explore Issue or Event/Build Background
Read *Voices in the Park* by Anthony Brown. Have students work in groups to rehearse and perform using Reader's Theatre. Ask groups to create a visual map that illustrates the connectivity and tensions among the four characters so they can better understand the story in its entirety. Discuss the author's use of perspective to present a story. Introduce famous human rights activists such as Ruby Bridges, Harriet Tubman, Cesar Estrada Chavez, Helen Keller, Tommy Douglas...

Research to Validate Authenticity
After students have had an opportunity to discover basic information about each activist, ask them to decide on one that they want to research further for a re-creation. Form research teams of four and have students record what they now know about this person as well as questions they would like to find answers to. During the research stage, conference with student groups to help them uncover 4 perspectives they should be exploring in this historical story. Ask students to continue their research and try to build an understanding of the issues and events surrounding the activist and three other people who played major roles in this historical story.

Select Format and Construct Re-Creation
Ask students to consider how they could re-create this historical story in four voices so that each perspective is represented (e.g. a play, diary entries, photo essay, graphic novel, panel discussion, etc.). Once they have decided on a format, have them work on a script and authentication details. Depending on their format they will need things such as costumes, exact dates, locations, quotations, etc.

Perform
Organize an event to share the newly created Voices of History. Invite another class to interview the Re-Creation teams and prepare news coverage with fresh perspective.

✷ The Big Think ✷

Content
Create New Questions—Groups create a web to illustrate their new learning about Human Rights Issues. *So What?* Create new questions sparked by the web. *What Next?* Pursue new inquiries. Investigate today's human rights issues from relevant perspectives.
Office of the High Commissioner for Human Rights:
http://www.unhchr.ch/html/menu2/hrissues.htm

Process
Active Discussion—*So What?* Discuss how working in groups enriches perspective. *What Next?* Review chapters in history textbooks, encyclopedia articles, or websites. Analyze them to see if they are written from multiple perspectives. Explain why it is important to hear more than one voice when studying history

Example #3   Government Achievements   Gr. 7–12
What did the government achieve during its term?

Gather and Sort Data
Each student will become an expert on a President/Prime Minister. As a class, decide on what is important and identify categories for collecting and recording data (public appearances, meetings, campaign duties, government business...). Create a graphic organizer for sorting and recording data. Remind students to validate sources and keep an accurate list of works consulted. Instruct them to also note the important historical, cultural, societal, and political events that establish the context for government actions.

Place Data on Timeline
When students have collected the necessary data, instruct them to prioritize, summarize, and then select the important achievements to be ordered on the timeline. Have each student create a timeline for their respective era and plot important achievements along with significant contextual reference points (establish a standard increment). Timelines can be created on paper or using software such as Timeliner from Tom Snyder Productions.

Analyze Timeline
Look for links, influences, cause and effect, and impacts to make connections between government achievements and contextual references.

✳ **The Big Think** ✳

Content
H.O.T.—Combine individual timelines to create one comprehensive class timeline. *So What?* Study and analyze by looking for connections, patterns and historical influences and concepts. Are there repeated patterns among leaders or significant differences? *What Next?* Challenge students to portray their findings creatively through story, skit, music, poetry, cartoon, etc.
Investigate other world leaders over the same time period and compare timelines.

Process
Active Discussion—*So What?* How does the timeline help identify cause and effect? Why else are timelines important? *What Next?* Build a collection of exemplar print and digital timelines for future reference.

Example #6   **Candidate Candor**   **Gr. 7–12**

Problem
Where do the candidates stand on global warming, stem cell research, interest free student loans…?

Investigate
Present and discuss the issue/engaging question. Provide students with ample activities to explore the topic so that they are able to identify the key interest groups.

Divide the class so that an equal number is assigned to investigate each of the key candidates or interest groups to discover their position and their rationale for that position. Provide each student with a copy of *Prevailing Positions* worksheet to record their findings.

Create a long position line across the width of the classroom, on the chalkboard if possible, identifying only the ends: one as positive, fully supports; the other as negative, totally opposes. See *Take a Position Teacher Reference.*

Analyze
Group students according to the candidate/interest group they represent. Have groups meet to discuss their findings, using their completed organizers, and to determine where they believe their candidate/group should be positioned on the line.

Prepare
Provide each group with an index card to label and affix to the position line in the appropriate location.

Present
 Have a representative from each group place their card on the position line and explain the opinion of their candidate/group and the rationale for their stance.

Gathering Evidence of Understanding
o   efficacy of student exploration of the topic indicates accurate identification of the issues and positions.
o   groups are able to agree about their stakeholders' position on the line.
o   individual students are able to answer response journal questions and justify their answers.

✸ **The Big Think** ✸

Active Discussion—Study the position lines and consider the rationales for any given issue. *So What?* Who took which position? Why? *What Next?* Ask, how do you feel about what you see? What new questions do you have? Where would you place yourself on the line?

Process
Thoughtful Writing—What was it about this activity that affected your opinion and helped you take a position? *So What?* How did your group reach consensus? Document the process. List situations in life where/when people should use this process. *What Next?* How can we value and recognize individual opinions that differ from the group?

Prevailing Positions

Topic

Important facts

-

-

-

-

Stakeholder

Issue	Issue
Impact on stakeholder	Impact on stakeholder
Issue	Issue
Impact on stakeholder	Impact on stakeholder

Having considered all the issues and their impact, the perspective of this group is...

Because...

Take a Position Worksheet
Position Line

Create a Position Line using string, yarn or tape along the length or width of the classroom. Identify the polarity at either end of the line.

As students research an issue, instruct them to think about where candidates, stakeholders, journalists, & lobbyists, would sit on the Position Line.

For	Against
Conservative	Liberal
Affirmative	Negative
Yes	No
Defensible Position	Indefensible Position
Prevalent Position	Unique Position
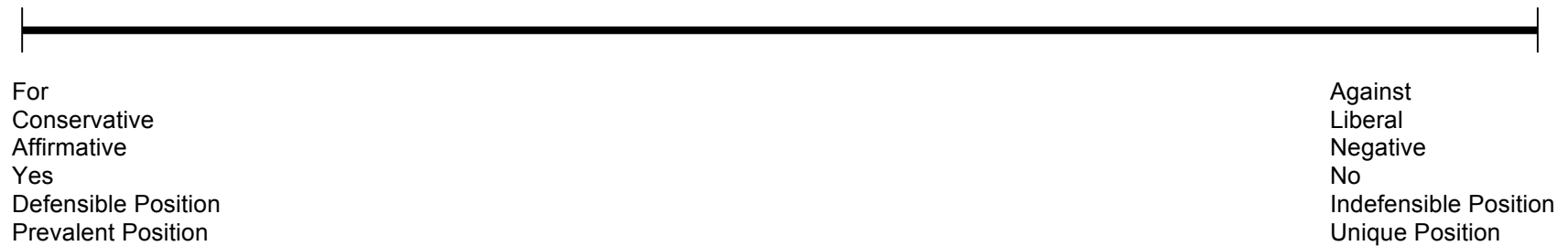
After discussing who is positioned where and why, cluster authors, candidates, stakeholders, journalists, lobbyists, editors and so on, in groups according to their ideas and their position on the line. Review the line positions to see if they feel they are still valid or if there should be some adjustments.

Idea Group 1

Idea Group 2

Idea Group 3

Idea Group 4

Idea Group 5
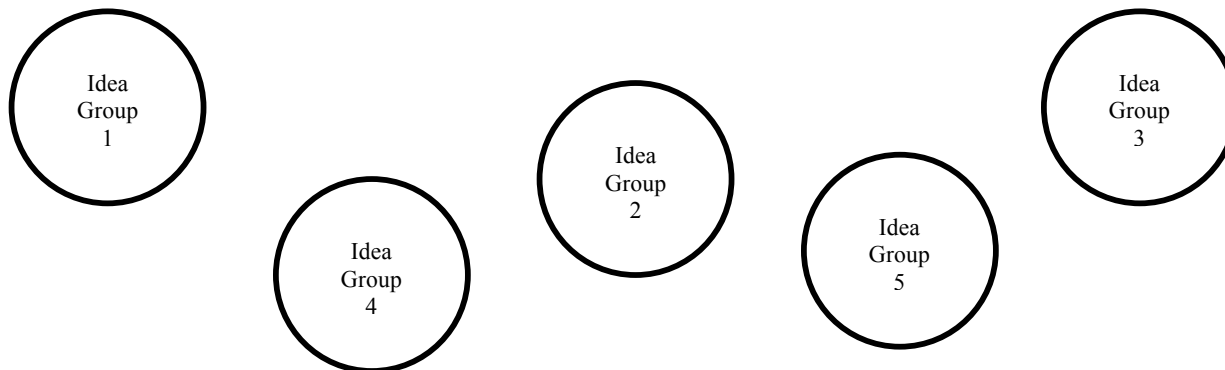
Example #5   **Philosophy Rules**   **Gr. 10–12**

Is it true that what goes around comes around?

Introduce the Problem

The words of some Historians and Philosophers seem to be timeless. This is a good task for review of a History/Philosophy unit or course; select quotations appropriate to the course. Ask students to find historical proof, through the ages, that the words of these authorities have stood the test of time.

Authority 1—Margaret Mead (1901–1978): "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

Authority 2—Homer (800 BC–700 BC), *The Iliad*: "The outcome of the war is in our hands; the outcome of words is in the council."

Authority 3—Aristotle (384 BC–322 BC), *Politics*: "If liberty and equality, as is thought by some are chiefly to be found in democracy, they will be best attained when all persons alike share in the government to the utmost."

Authority 4—Martin Luther King (1929–1968), *Letter from Birmingham Jail, April 16, 1963*: "Injustice anywhere is a threat to justice everywhere."

Authority 5—Voltaire (1694–1778): "It is dangerous to be right when the government is wrong."

Gather and Sort Primary and Secondary Evidence

Review, or teach, students effective search strategies for locating historical primary and secondary information and for validating their sources. Instruct students to search for examples in history that indicate whether or not these authorities have stood the test of time.

Compare and Contrast

Ask students who worked on the same quotation to conference and compare the examples they think provide evidence that the quote is a timeless truth. Instruct groups to collate their examples and prepare a presentation to defend their evidence.

Evidence Check

Ask students to double-check their evidence to ensure that they have examined several reliable sources and have adequate, accurate documentation for their claims.

✷ **The Big Think** ✷

Content

Active Discussion—Have one group present and defend or question the timelessness of their quotation to another group. *So What?* Reach a combined group conclusion. Now present those conclusions to the class as a whole. Argue out the conclusions. *What Next?* Have groups create and share videos featuring the quotes and highlighting the essential question *Is it true that what goes around comes around?*

Process

Create New Questions—Discuss with the class: Why is it important to validate sources of information? *So What?* Develop 'silent' questions that everyone should ask themselves when validating information sources. *What Next?* How can we share our questions with others who need to know?

Example #6   Select a Candidate   Gr. 10-12
Which candidate do I want to support?

Problem
Three candidates are running for President of the United States: a Republican, a Democrat, and an independent. (In Canada, for Prime Minister, a Conservative, a Liberal, and a New Democrat).The teacher and librarian agree to have students base their choice on a deep understanding of issues rather than a focus on surface qualities.

Data Gathering

Choose a Candidate Based on the Issues						
Subject Groups	Traits to Question					
	Economy	Debt	Foreign Policy	Social Security	Education	Etc.
Republican						
Democrat						
Independent						

Analysis
Student groups do issue papers, interview political leaders, analyze speeches, debates, ideas and trends, study campaign advertising, and make decisions based on sound information.

✸ The Big Think ✸

Content
Active Discussion—Review the matrix content. *So What?* What are the leading issues in this campaign? Are there some issues that we discovered in our research that should be getting more coverage and attention? Who needs to know? *What Next?* How can we encourage candidates to discuss issues that are important to us?

Process
Thoughtful Writing—Consider the Matrix process. *So What?* What are the benefits and weaknesses of using a matrix in decision making? *What Next?* How can we use our matrix to analyze the campaign as it progresses?

Chapter 3

What can we learn when we study PEOPLE as groups?

Race & Culture

Age Groups

Politics

Social Networks

Religion

People as groups

Community

Immigrants

The Arts

Sports
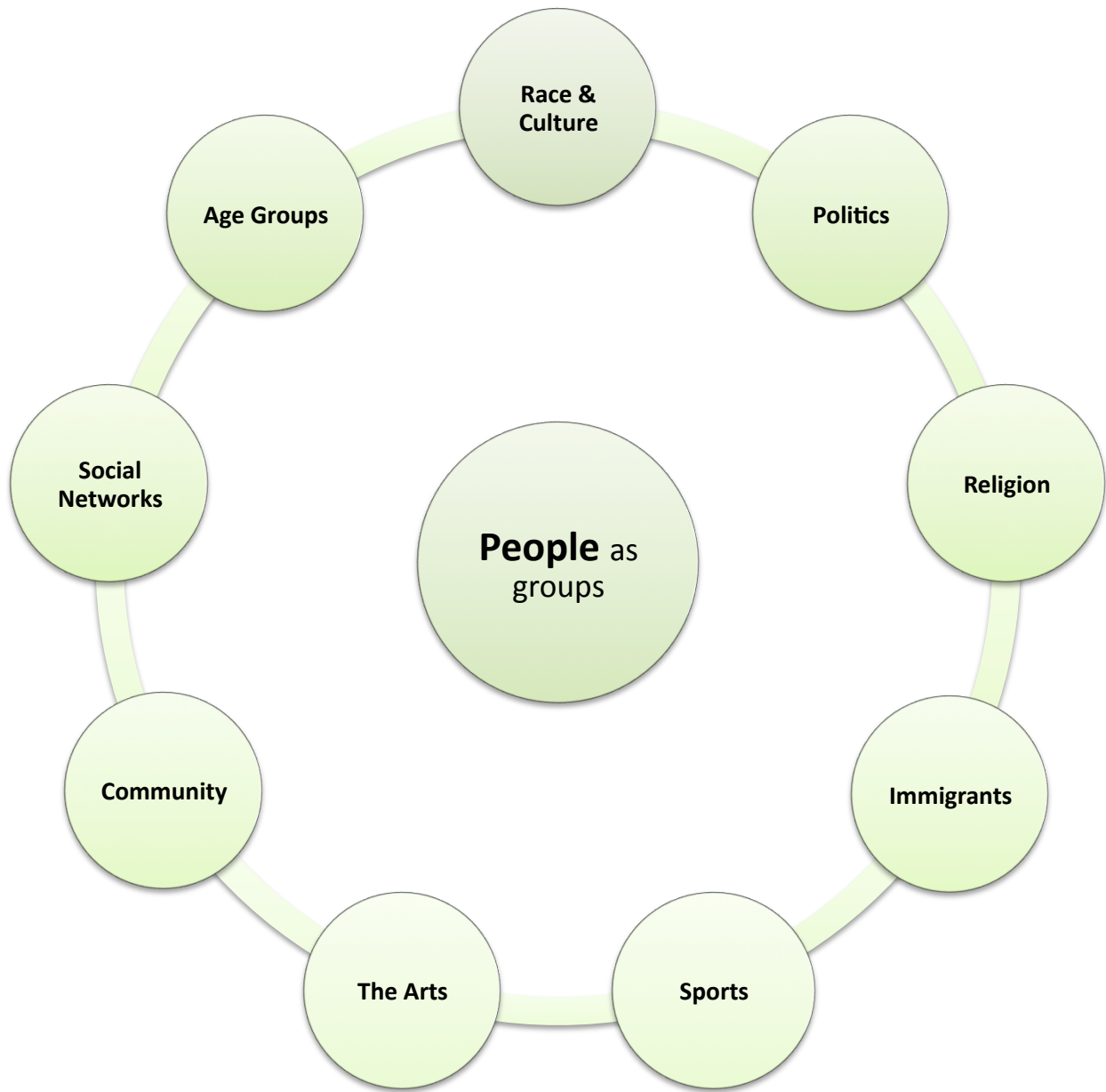
Example #1   Mayan Mysteries   Gr. 4–6

What evidence can you find to prove that the ancient Mayans were a highly skilled civilization?

Problem
What is acceptable evidence and where do we find it?
Read aloud a Mayan myth and discuss what we have learned about this culture through their stories. Introduce the guiding question and brainstorm other places to look for evidence of the ways of life of this ancient civilization.

Study Primary and Secondary Evidence
Assign groups a selected set of resources rich with information on Mayan culture. E.g. Authorities: 1. on-line encyclopedia, 2. videos, 3. non-fiction books, 4. book-marked websites. Students use *Mysteries of Mayan Culture* to record their evidence and their explanation of why or how it demonstrates superior skills.
E.g. Evidence: Mayan glyphs, Support: very complex and hard to read because the symbols are paired in columns and read in a zig zag.

Compare/Contrast Activity
Have two groups meet and present their findings. They should look for similarities, differences, and missing or conflicting information. They should help each other to identify gaps in the evidence or other flaws in conclusions. Groups confirm with each other the items to be declared "evidence of a highly skilled civilization."

Evidence Check
Students should return to their sources if they feel they have not been able to build a convincing amount of supporting evidence. They may also need to revisit sources to confirm ideas.

✳ **The Big Think** ✳

Content
New Problem or Challenge—Each group prepares and presents a presentation to support their findings. **So What?** How did the ancient Mayan society achieve such sophistication? **What Next?** What would people in the future identify as evidence that we are a highly skilled society?

Process
Active Discussion—Review the process of comparing research findings. **So What?** What new things did we learn when we compared our research? How does comparing help us to be better learners? **What Next?** How could we use technology to help us make comparisons?

Mysteries of Mayan Culture
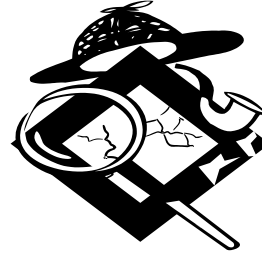
Look for clues that the Mayans were very skilled people.
List the examples in the **Evidence** column.
Ask yourself why this clue shows they were highly skilled.
List your proof in the **Support** column.

Evidence	Support

Example #2   Trading Partners   Gr. 4–8
Who makes our clothes and accessories?

Build Background
Have students brainstorm items they like to trade with their friends (e.g. sports cards, games, books, etc.). What are the advantages of trading? Research and discuss the history of trading goods.

Gather Data
Organize groups of 4–5 students. Provide students with 6–8 sticky notes each or per group. Tell students to examine their school supplies (clothing and accessories) and record item names and the place they were made on sticky notes, one per item.

Organize Data on Matrix
Ask students to sort their items into categories. Then organize them by creating a matrix on a large piece of chart paper. Remind students that they need x and y categories to create a matrix where x = locations and y = items.

Analyze Matrix and Examine Results
1) Have students discuss the patterns they see and summarize them on the bottom of their matrix.
Discussion points:
• Are there significant clusters of sticky notes in any cell(s)?
• What does that tell us?
• Why are there more items in some cells than others?
• Could you have organized the categories differently?
• Are you surprised by the data? How?
• Is there a pattern you expected to see that isn't there?
2) Hang the matrix charts about the room. Have students do a gallery walk and look for other patterns as well as any trends they can glean from the collective information.
Discussion Points:
• What information is similar, related, or repeated?
• Is there a repeated pattern?
• What is the reason for the pattern?
• Might the pattern hold over time to develop a trend?
• How does……………relate to ……………………….?
• How is………………similar to………………………..?

✸ The Big Think ✸

Content
Active Discussion—*So What?* Return to the focus question and discuss, *Who makes our clothes and accessories?* ***What Next?*** Collect data about other items such as sports equipment, appliances, furniture, tools, etc. at home and at school. Analyze with a new matrix. Compare the findings to the clothing patterns and trends. Are they consistent? Why or why not?
Process
Create New Questions—How can we find authoritative information about our topic? Consult references and compare findings from the class matrix to actual data about clothing trading partners. ***So What?*** What questions do you have about what you observed? Can you make some predictions based on the patterns and trends you have discovered? Do trends change? What is the rate of change? Why might a trend change? Why would someone want to know this? ***What Next?*** Develop learning advice on analyzing for patterns and trends for the Virtual Learning Commons.

Example #3   Too Long   Gr. 5–8

For many of the students who ride the bus to and from school, the ride seems way too long. *How can we still pick up all students and drop them off but do it in less time?*

Investigation

Select a manageable number of routes that impact students in the class. Create bus route groups and give them maps of the school area. Each group must discover how the current system works and why. Instruct groups to survey student riders to discover where and at what time they are picked up and dropped off. Groups need to document addresses of pickup and drop off points and numbers of students picked up and or dropped off at each stop then develop maps of current bus routes. Groups should interview experts (bus drivers, school administrators, police officers and parents) to obtain all the data regarding traffic, safety, and special needs.

Compare/Contrast

Have each group mark the route, number of pickups and drop-offs per stop on a large bulletin board map. Use different colored string or yarn for each route so they can see the overall picture. Compare maps looking for things such as streets covered, times, and overlap.

Reinvent

Groups use their own data and consider the overall picture as they try to identify ways to reorganize or combine the routes or pickup points to make the rides take up less time. Reconvene as a class. Share ideas for improvement and select the ideas most likely to work.

✷ The Big Think ✷

Content

Construct Visuals—Compare existing bus routes with student suggested routes. *So What?* Create a matrix charting potential effects of changes. How will the changes impact students, parents, bus drivers, traffic flow, time, potential costs to the district? *What Next?* Create a report of reinvented bus routes, supported by student research, to be presented to the appropriate authorities at the school district.

Process

Active Discussion—Review all the perspectives consulted for this project. *So What? Why* is it important to examine all relevant perspectives when reinventing? *What Next?* Brainstorm other situations students could apply reinvent for improvement.

Example #4   Sports Trivia—ESL WebQuest   Gr. 5–8

How can I use my enthusiasm for a sport to interest others in it?

Introduction
What is your favorite sport to play? Which sports do you like to watch? Have you ever thought about how these games got started? Today you will have an opportunity to investigate your favorite sport in detail. Every sport has a history: where, when and by whom it was first played, and all kinds of trivia such as of rules, equipment, championships, records, statistics and outstanding players.

Task
Find others who also enjoy your selected sport. Form a team to research this sport and create a new Trivia game about it. Game cards must be ready for the Great Sports Trivia Challenge.

Process
Read, View, Listen, Experience Gather resources that tell about your sport. Scan each text and decide on the best resources. Have each group member work with a different source of information. Use the *Sports Data Digger sheet* to record your trivia. Try to find more information in two other resources. Use a new sheet for each information source. **Compare/Contrast** When your research is completed, meet with your group to compare your findings and decide on the most interesting bits to use when creating your Sports Trivia Game question and answer cards.

Information Resources
• Start with an encyclopedia search. Keep accurate notes.
• Next, look for books. There are books in the library about specific sports. Ask for help if you cannot find what you need
• Finally, check the Internet. Here are some sites that will help you.
  Sports Know How: http://www.sportsknowhow.com/index.html
  World Almanac for Kids: http://www.worldalmanacforkids.com/explore/sports.html
  Open Directory Project: http://dmoz.org/Kids_and_Teens/Sports_and_Hobbies/Sports/
  Google Directory:
  http://www.google.com/Top/Kids_and_Teens/Sports_and_Hobbies/Sports/

Evaluation
• Identified and recorded key information.
• Spoke the language of the topic.
• Contributed to group knowledge building.
• Trivia questions and answer choices demonstrate understanding of the sport.

✳ The Big Think ✳
Content
Construct Visuals—After the Great Sports Trivia Challenge have learners meet in small groups and share information about sports that they did not know before. *So What?* Instruct students to individually illustrate and write about a sport they would like to participate in and one they would like to be a spectator at. *What Next?* Create a Virtual Museum of illustrations, sports history and trivia.
Process
Active Discussion—In small groups have learners discuss their reactions and those of others as they played sports trivia. *So What?* What worked well, what didn't? What problems and success did you have during the research? How can we fix the problems? *What Next?* Use these ideas to create a trivia game about the research process.

Sports Data Digger

Name:
Source:

Sport:		
How is this activity played?		
Rules	Equipment	Sketches

History		
Who invented this sport?	**When** was it invented?	**Where** was it played first?

Why do so many people enjoy this activity?

What is the most difficult part of this activity?

Example #5   Grad Trip   Gr. 6–8
Where should the class plan to go for their year-end excursion?

Advice to Action
The graduating class is planning a year-end excursion. They want to consider everyone's preferences, but there are so many other things they need to consider. In pairs, students brainstorm a list of factors to consider. (e.g. cost per student, sponsorship, fundraising, and possible locations as well as district regulations regarding chaperones, transportation, accommodation, meals, etc.). Share with the class. List information needs and experts to consult. E.g. survey students to develop a list of trip preferences, consult parent association, school administration, possible sponsors. Divide up the tasks and have students gather the needed information.
Hold a class conference to present findings and to decide on the traits to be set (e.g. cost per student, distance, special needs and accommodations, etc.). Review the preferences of students and locations suggestions of administration and parents. Evaluate the suggested locations based on some of the established parameters and decide on 6–10 possible sites for further investigation.

The Matrix Model
Build a giant matrix on a class bulletin board. Assign a location for each group investigation. As students gather data, pictures, maps, and brochures, they mount them on the class matrix.

Excursion suggestion	Location: Distance, travel time, and costs	Accommodation: locations, amenities and costs and availability	Site-seeing: tours and costs	Food choice and costs	Clothing requirements		
1)							
2)							
3)							
4)							
5)							

Groups analyze their gathered data, and decide on the top three choices to present.

✳ The Big Think ✳

Content
Active Discussion—*So What?* Consult with other groups and select the location preferred by most groups. ***What Next?*** After the excursion assess how well the trip met their expectations.
Process
Thoughtful Writing—List all the experts and resources consulted during the process. ***So What?*** Why do we need to do our 'homework' when making major decisions? ***What Next?*** How can you apply this process?

Example #6   The Power of Native Art   Gr. 6–9

What are the elements of Native Art that contribute to such a strong voice?

Explore Issue or Event/Build Background
Immerse students in North American Native Art experiences (e.g. visit museums and art galleries, both real and virtual, invite Native storytellers and dance groups, view films, examine art artifacts and photos). Create displays and read Native tales and powerful picture books such as *Our Native Land* by George Littlechild. Discuss themes, images, texture, color, and patterns that are prevalent in Native Art.

Research to Validate Authenticity
Form research teams, based on interest, to explore various genres of Native Art (e.g. dance, storytelling, sculpture, painting, crafts, authors, and music). Have teams research the history of a Native art form, regional and tribal differences, famous examples, and specific artists for their genre. Jigsaw groups and instruct them to share their genre research and then look for common elements and characteristics of Native Art in all its forms.

Build a Story and Construct Re-Creation
Discuss with students contemporary issues and themes that touch their lives (e.g. celebrations, choices, anxieties, environmental concerns, bullying, gun violence, health care, war, etc.). Have students work in their groups to draft a contemporary story. Instruct students to apply the characteristics and elements that they discovered in their research to construct their re-creation with a strong Native voice.

Perform
Plan a day of celebration and sharing. Have students display their artwork (paintings, sculptures, crafts), tell their stories, and perform dance and music in Native voice. Take digital photos and video footage of the day and have students create a webpage to share their re-creations.

✷ The Big Think ✷

Content
Active Discussion—*So What?* Discuss the essential question**,** *what are the elements of Native Art that contribute to such a strong voice? **What Next?*** Collaborate with a Native community school. Add a blog, and wiki, to the student Re-Creation webpage to continue sharing and learning through the common voice of art.

Process
Interact with an Expert—Invite a native person, a museum curator, or other expert to attend your re-creation either in person or virtually. Afterwards, have a group reflection with the expert. ***So What?*** What successes did we have and how could we better capture the essence of a culture? ***What Next?*** Add authentic Native voices to the student webpage by linking to stories, art, music and film.

Example #7　　　　Immigration to Canada/US　　　Gr. 6–10
How does immigration impact on peoples' lives?

Introduction
Share a good story about an immigration experience (personal, book or video).Have students discuss their ancestral roots with their families. Then ask students to locate their countries of origin and approximate date of immigration on a large map on a bulletin board and with punch pins mark the country they, their parents, grandparents and extended families were born in. Use this data to create graphs and charts. Have students use a split page organizer to list what they now know about immigration and questions that they now have as a result of this activity. Share the questions and arrange them on a web with the engaging question at the centre. *Why do people move from one country to another?* Use these questions to generate a note taking organizer for students.
Select origins to research and group students to become experts about immigration from those countries.

Build Expertise	**Combine Expertise to Build New Understanding**
Why do people move from one country to another?	*What were the challenges facing immigrants?*
Group A – Country 1 Group B – Country 2 Group C – Country 3 Group D – Country 4	Share reasons for movement and regroup students posing a higher level question. New groups may have to conduct further research. Group ABCD Group ABCD Group ABCD Group ABCD

✳ The Big Think ✳

Content
Active Discussion—Return to questions students had about immigration. If they have not been answered conduct further research. *So What?* Discuss the essential question, *How does immigration impact on peoples' lives? What Next?* Research immigration experiences today. Do people move for the same reasons? Do they face the same challenges? Have students work with their new knowledge to create a play, movie, photo journal, poem, or virtual museum, etc. Have students create an information pamphlet for new immigrants. Be sure the creation conveys how immigration impacts senses and emotions as well as physical and financial implications.

Process
H.O.T.—Have students assess how well their group worked together using the organizer *Take the Team Test. So What?* What went well? Where were the problems? *What Next?* How can we improve our teamwork skills?

Take the Team Test
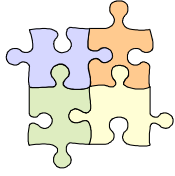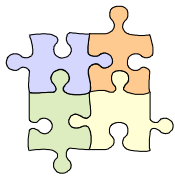
How well did we work as a team?

> We each took responsibility by:
>
> 1
>
> 2

> We made sure we stayed on task by:
>
> 1
>
> 2
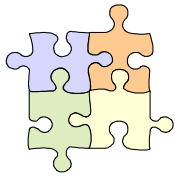
> We supported each other by:
>
> 1
>
> 2
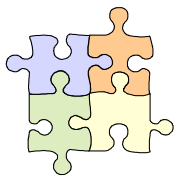
> Our team could be stronger if:
>
> 1
>
> 2
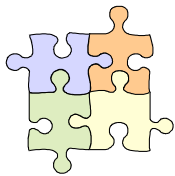
> Our group is proud of:
>
> 1
>
> 2

Example #8   Global Citizens   Gr. 8–10

Who is responsible for care of our planet? What are the responsibilities of individuals and countries with regard to global issues? What is understood by the term "global citizen"?

Background

Introduce the concept of global issue by reading and discussing *If the World Were a Village* by David Smith. Brainstorm to identify organized groups with global concerns. Select specific groups for this study.

Specialist Team		Sharing Team	
First Question: *What are the roles and responsibilities of global organizations?* Group A - United Nations Group B - World Wildlife Association Group C - World Watch Group D - International Red Cross Group E - World Health Organization	**Research** Organize groups of five. Each Specialist Team researches a global organization in terms of their roles and responsibilities and history. Have students create a triple T-Chart organizer for recoding their discoveries.	**Concept Forming Question:** *What are the responsibilities of individuals and countries with regard to global issues? What is understood by the term "global citizen"?* Group ABCDE Group ABCDE Group ABCDE Group ABCDE Group ABCDE	**JigSaw** One student from each Specialist Team joins the new Sharing Team. Students present their expert information about the global organization they researched. Using the *Global Organization* worksheet group records key points. Ask groups to identify the scope of concerns and discuss and formulate some ideas about responsibilities. With this background, discuss the roles and responsibilities of individuals and countries, with regard to global issues. Work together to develop a definition for the term "global citizen".

✳ The Big Think ✳

Content
Active Discussion—Share group findings and definition with the class. *So What?* Return to the essential question, Who is responsible for care of our planet and what are those responsibilities? *What Next?* What are the major concerns and what can we do about them as young 'global citizens'?

Process
New Problem or Challenge—Share the URLs used by each group for their investigations. *So What?* How can we keep track of these organizations and their projects and progress? *What Next?* Set up a collaborative digital space for the class to revisit organizations and continue their work.

Global Organization

Who is responsible for care of our planet?

Organization:

Roles	Responsibilities

Organization:

Roles	Responsibilities

Organization:

Roles	Responsibilities

Organization:

Roles	Responsibilities

Organization:

Roles	Responsibilities

Organization:

Roles	Responsibilities

Example #9   Population Patterns   Gr. 9–12
Discover population patterns and demonstrate visually.

Problem
Examine and analyze population statistics for patterns.

Gather Data
Ensure a cross representation of developed and developing countries and areas of the world are examined. Validate all sources of information. Decide on the categories of data to collect so they can be recorded in a spreadsheet or database for analysis (e.g. ages and gender of people, occupations, education, types of communities, span in years or decades).

Analyze Relationships
In small groups, have students examine the data collected and look for possible patterns, connections, missing, and conflicting data. Revisit sources as necessary to fill gaps. Have students use the potential of the spreadsheet software or database to experiment with relationships and visual representation (e.g. line graph, bar graph, pie chart, population pyramid, flow chart, and map). Groups study the results and develop some hypothesis statements about their findings.

Select and Use Effective Tool
Groups decide on the most effective visuals to provide a clear picture of their hypothesis.

Create and Critique
Groups plan their presentation and decide on a presentation format (e.g. overheads, slide show, pamphlet, poster, etc). Groups develop their presentation, rehearse, and share findings.

✳ The Big Think ✳

Content
Active Discussion—After group sharing list and discuss common findings and discrepancies in understandings. *So What?* How could multiple interpretations of the same data occur? What are the implications? *What Next?* Consult trusted authorities to confirm understanding.

Process
New Problem or Challenge—Examine various types of visuals used by learners. Sort into categories. *So What?* Discuss when each different type of visual is most effective. *What Next?* Collect effective visualizations of data (newspapers, magazines, pamphlets, Internet) and build a portfolio/display to enhance future applications.

Example #10   Marketing to Teens WebQuest   Gr. 10–12
What makes the teen market tick?

Introduction
Producers and marketing companies spend a lot of time and money developing profiles of consumers. The teen market is particularly volatile because trends change so quickly.
Task
You will be working for a very successful marketing firm, Dog Whistle Ink. Your task has three steps. Develop a census for gathering needed data about teen lifestyles in your community. Conduct the census. (Accuracy of data is key.) Place your data in a matrix and analyze it for patterns and trends. Develop a series of effective graphs and prepare a report on teen trends.

Process - Patterns and Trends Model
Build Background Design the census questions. Decide what is important to know about teens. Limit your survey to 10 points only (e.g. Listening to or playing music—In hours per week). Sample census questions: http://www19.statcan.ca/01/doc/01_questions_4-8_e.doc
Gather Data Conduct the survey with 20 students in each of the target groups: Group 1: Grade 9, Group 2: Grade 10, Group 3: Grade 11, Group 4: Grade 12.
Organize Data on Matrix Use spreadsheet software to create a matrix of data. Create graphs to best analyze your findings. Combine group data to create a Histogram.
http://www.shodor.org/interactivate/activities/Histogram/?version=1.5.0_05&browser=MSIE&vendor=Sun_Microsystems_Inc or *Inspire Data* by Inspiration.
Analyze Matrix and Examine your group graphs and your collaborative Histogram to see if a correlation might exist between two variables. Can you find patterns and predict some trends in teen activities? Prepare your report and present it to the marketing firm.
Information Sources
Marketing to Teens: www.media-awareness.ca/english/resources/
educational/lessons/secondary/advertising_marketing/mtt_introduction.cfm
The Bribed Soul: Ads, TV and American Culture:
http://www.medialit.org/reading_room/article575.html
What are you worth? Audience for sale: http://www.medialit.org/reading_room/article348.html
Evaluation
  • census targeted key activities
  • data was adequate; advice was relevant and accurate
  • graphing was accurate and effective
  • analysis was logical and insightful
  • understood the patterns or trends

✳ The Big Think ✳
Create New Questions—Small group think: You have developed a powerful data profile and analysis of teen activities in your community. Summarize as a class. *So What?* Should there be ethical considerations when creating marketing for teens? What new questions do you have? *What Next?* Think about these questions and then create 5–6 questions you would ask in an interview with an executive at Dog Whistle Ink.
Process
Active Discussion—Review data collection process. *So What?* Are there ways we could have collected better data to answer our question? *What Next?* What is the significance of the results?

Chapter 4

What can we learn when we study PEOPLE in careers?

Geography & Environment

Arts & Entertaining

Education & Training

Weather & Climate

History & Philosophy

People in careers

Health & Welfare

Politics & Diplomacy

Law & Enforcement

Trade & Economy
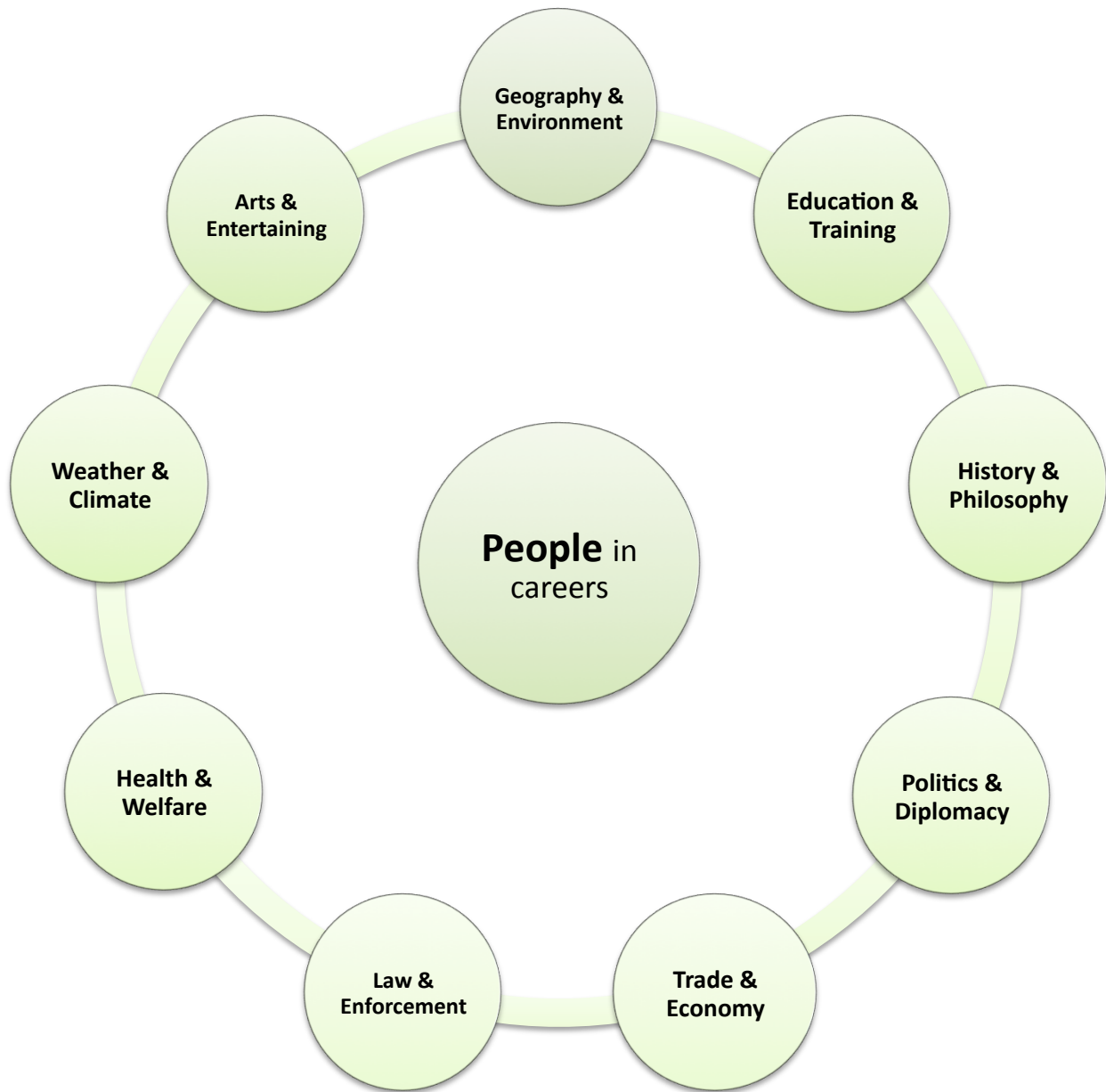
Example #1   **Community Workers**   **Gr. 1–3**

Who helps to make our community a good place to live? How do community helpers work together in our community?

Build Background
Play a matching game. Find pictures of community helpers, mount those pictures on cardstock, and cut into 2-4 pieces depending on student ability. Mix up the pieces and give each student a piece. They have to find their 'missing information' by finding other students with pieces needed to create a complete picture. Have the group now find books about their community helper and explore them to discover more about the helper.

Connect to Old and New Learning
In a sharing circle have each group dramatize something they have discovered about the helper they explored. Invite other students to add information from their own experiences or ask a question.

Build and Research Questions
Introduce the 6 Ws and How. Explain how these starter words help us to build good questions for research. Brainstorm, and record, questions about community helpers, using each of the question starters. Ask students to select a community helper they want to learn more about. Provide students with a *My Thinking About* organizer and have them build questions about the helper that has aroused their curiosity. Students use the questions to focus their research. They record their discoveries and then create a picture to represent their information.

✶ **The Big Think** ✶

Content
New Problem or Challenge—Group learners and share pictures and learning. ***So What?*** Present a problem to each group and ask them to discuss the problem and decide what community helpers they think could help with that problem. ***What Next?*** Guide students on a walk or bus tour in your community. Take digital photos of community helpers at work. Invite older computer buddies to help students build a slide show of "How community helpers work together in our community."

Process
H.O.T.—Discuss with students how the questions helped them find their missing information. ***So What?*** Compare questions from *My Thinking About* organizer. Divide the questions into 'fact finding' questions and 'wondering' questions. ***What Next?*** Are there any questions we have not found the answers to? How can we try to find answers?

My thinking about………………………………………….

I wonder…	I discovered…..	I see…..
Who		
What		
When		
Where		
Why		
Which		
How		
Books I used		

Example #2   Authors Have the Last Word   Gr. 3–6
How can successful authors help us to become better writers?

Build Background
Set up a display of award winning fiction and non-fiction books. Talk about the publishing process and share stories of how some of these authors got started writing for children and young adults.

Predict
Introduce the essential question and ask students to work with a partner to predict the kinds of skills good writers need and the processes they might follow.

Gather and Analyze Expert Advice
Make a list of both fiction and non-fiction authors that they would like to interview. With a partner, have students decide on an author of common interest to research and interview about the author's writing. Using the organizer *Fishing for Questions,* have students brainstorm questions about the author that they want to find answers to. With these guiding questions, have students conduct research about their author and keep accurate notes. After the background research is conducted, have students select 3 or 4 remaining questions that relate to the writing process that they have not found the answer to. Prepare students for the interview process and assist them to connect with authors, arrange an interview time, and record their interviews.

Conference
Have student partners analyze their interview and clarify the tips they gleaned, for improving the writing process. Have students meet in larger groups of 6-8 to share their authors' suggestions and collaboratively develop a list of writing tips.

✷ The Big Think ✷

Content
H.O.T.—Share group lists. ***So What?*** Refine lists to Top Ten Writing Tips. ***What Next?*** Who would benefit from this information? How can we share? (Posters, library website, pod casts of author interviews etc.)

Process
Active Discussion—Review questions the learners generated. ***So What?*** Which questions were the most helpful? Why? ***What Next?*** How can questions help us become better writers?

Fishing for Questions

Who

What

When

Where

Why

How
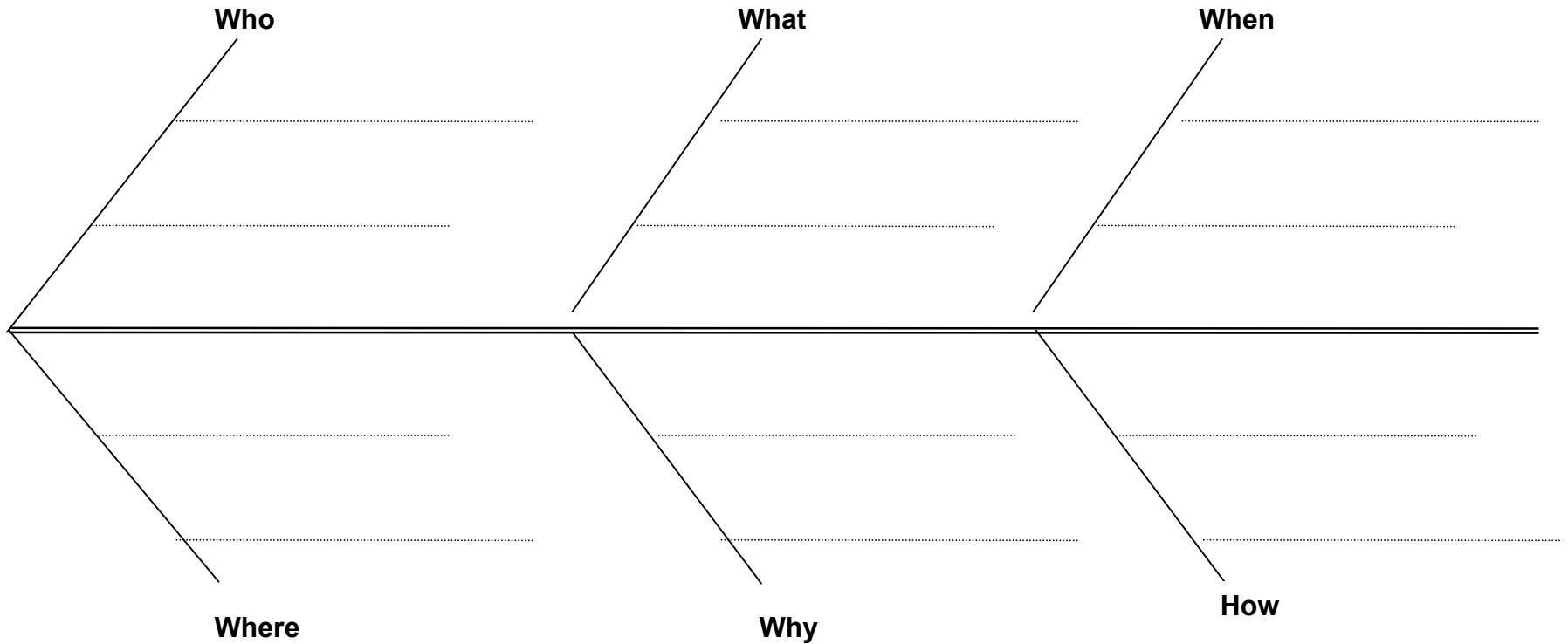
Example #3   Natural Designers   Gr. 4–8

How has nature provided models for engineering and design?

Reason for Comparison
Science and Technology classes are beginning a study of design. Look first at the purpose and function of design in nature and then have students find a manmade application of that design and work out a metaphor. To prepare, review metaphors and examine lots of samples.

Form Criteria
Introduce by showing pictures of such things as a swallow's nest, magnified insect wing, an ant colony etc. Have students brainstorm for other fascinating designs in nature. Select an example of a metaphor in nature and model development for students. e.g. a honeycomb and a large apartment complex. Chart things that are the same and things that are different. Examine the chart and cluster items to develop criteria that could be used for making comparisons between natural and manmade structures (e. g. design, material, purpose, structure, and origin).

Gather Data
Students conduct searches to find designs in nature. Have students develop a list of key words and search terms they could use to access the data they need. Once students have a collection of natural designs they need to work on matching them with a man made design e.g. burdock burrs and Velcro.

Sort Based on Criteria
Form small groups. Ask students to select an example from the generated list of natural and manmade designs that they want to compare. Using the organizer *What's the Same? What's Different?,* students apply criteria for comparison, and complete their analysis.

Make the Comparison
Students use the data from the organizer to develop a poem, chant, metaphor or visual that illustrates their comparison.

✳ **The Big Think** ✳

Content
Active Discussion—In small groups learners share their comparisons and discuss the criteria they used for making their comparisons. ***So What?*** Why would it be beneficial for designers and engineers to study natural design? ***What Next?*** Design a building, or other structure based on natural models.
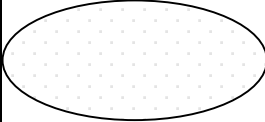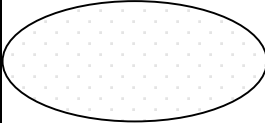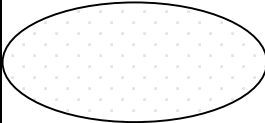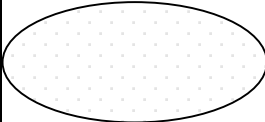
Process
Active Discussion—***So What?*** Why is the development of criteria so important when making comparisons? ***What Next?*** Explore examples of comparisons we make in daily life and develop appropriate criteria for each example.

Compare and Contrast Model

What's the Same? What's Different?
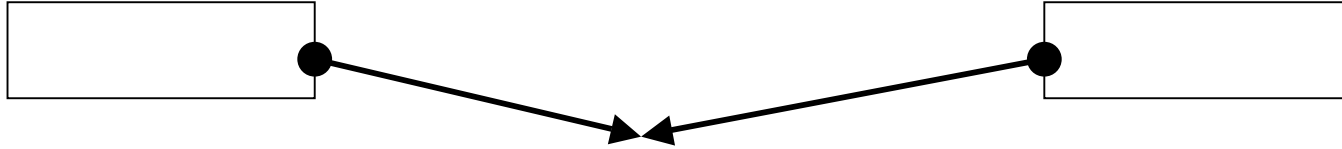
Comparison Criteria	What's different?	What's the same?	What's different?

Adapted from *Information Power Pack: Intermediate Skillsbook*, Pembroke Publishers

Example #4   **Author Biographies**   **Gr. 4–8**
How do authors live through their books?

Introduction
View a short biographical video of an author. Have students brainstorm and record the kinds of questions the researcher would have asked in order to gather the information used in this video. Share questions, sort into categories, and collate to form a succinct collaborative web.

Read
Select another author for whom you have multiple copies of several different titles. Set students up in reading groups so each student in the group is reading a different title from the selected author. Provide copies of the question web. Inform students that as they read they should keep these questions in mind. They should watch for clues and try to make inferences about the author's likes and dislikes, habits, views about issues, writing style, etc. At the end of each reading period, have students share their discoveries from that day and confirm or modify their ideas about the author's personality and writing style.

Compare/Contrast
Once students have finished reading the book, instruct groups to prepare a profile of the author based on the novels they read and shared. Now have students research the author using the questions developed from the biographic video to confirm or modify their information. Students should ask themselves lots of questions. Some examples include: How did events in the novel help make connections to the author? What are the relationships or connections between the story and the author? How do the author's personality, interests, and experiences impact on the novel? What surprised you in your research about the author? How do you think the author's personal life has impacted the novel?

✴ **The Big Think** ✴

Content
Active Discussion—Ask students to count how many predictions were they able to verify in their biographies. Analyze the data as a group. ***So What?*** Can authors "leave themselves out" of their writing? Is it a conscious choice? ***What Next?*** How can we share our author profiles?

Process
Thoughtful Writing—Ask students to share the inferences about the author that they were able to verify as well as a few ideas they had that were way off base. ***So What?*** How did the process help you to create a deeper understanding of the author? ***What Next?*** Describe the process of making inferences. Develop a list of prompts to assist inference making.

Example #5   Hurricane Watch   Gr. 7–12

Have major tropical storms become more severe in the last few years?

Problem
View pictures of tropical storm damage from recent hurricanes. Show a video clip such as *Storms* by Discovery. Provide students with small sticky notes and ask them to record a storm word or phrase on each sticky note. Continue brainstorming storm words until time has expired. In groups of 4–5 have students share their storm ideas and sort ideas into categories on chart paper (e.g. hurricane names, types of storms, descriptive words and phrases etc.). Then instruct learners to label the categories, creating a web of storm words. Share the storm words and introduce the guiding question.

Data Gathering
Inform groups that they will be assigned to a decade from the period 1900 to the present. Their task is to gather data about the storms during their time period and enter it in a class database. They need to use accurate, validated, data from authoritative sources and keep a well-documented reference list. Discuss how they will measure the severity of a storm and decide on criteria for data collection (e.g. name of storm, date, duration, intensity, category, deaths, property damage, and environmental damage).

Group Dates	Storm Name	Date	Category	Duration	Rainfall	Death Toll	$$$$ Damage
1900–1919							
1920–1939							
1940–1959							
1960–1989							
1990–20??							

Analysis
Instruct groups to manipulate the data in the database and create visual representations of each criterion across the decades on graphs, charts, and plot lines. Review guiding question and make further comparisons.

✳ **The Big Think** ✳

Content
Active Discussion—Each group prepares a report based on, and backed up by, data analysis. Reports could take the form of a magazine article, oral presentation with a slide show, short video, newscast etc. *So What?* Students could meet in groups to discuss what needs to be done so that people and structures are better prepared to withstand future hurricanes. *What Next?* Compare our findings with what several scientists have said about trends in tropical storms.

Process
New Problem or Challenge—*So What?* What do we mean by authoritative/official data sources? How well did we do finding them? *What Next?* Chart common sources used and tips for finding them.

Collaboration Rubric

Achievement Level	Personal Responsibility	Support/ Appreciation	Focus	Problem Solving	Engagement
Level Four	- takes on leadership role - fulfills all aspects of the role - works as part of the team	- facilitates sharing of ideas and information - honors and praises strengths of others - assists others while respecting their roles and responsibilities	- adjusts plan as necessary to facilitate the needs of team - stays on task and reviews topic as necessary - offers positive support to help others to refocus	- is proactive in solving problems - asks probing questions and listens attentively - tests and evaluates solutions - facilitates consensus	- highly motivated - exhibits excitement - plans and works with others
Level Three	- understands personal role - fulfills assigned role duties - contributes fair share to task	- shares ideas and information - open to ideas/ point of view of others - shows awareness/ concern for feelings of others	- focuses on plan and carries it out - focuses on topic throughout task - completes all tasks on time	- uses a variety of strategies to solve problems - considers all solutions - assists others in problem solving	- very interested - positively and actively engaged - organizes task activities
Level Two	- not fully aware of role assigned - carries out some, but not all, role responsibilities - makes a minor contribution	- shares with reluctance - listens to ideas of others on occasion - offers some support to others	- follows plan some of the time - loses focus of topic and/or plan - completes some tasks on time	- unsure how to deal with most problems - usually goes along with suggested solutions - looks to others for help	- exhibits some interest - usually cooperates with others - lacks organizational skills
Level One	- little awareness of team roles - takes no responsibility for role - contribution of little value	- little effort to share information and ideas - works in isolation - offers little support for others	- pays little attention to plan - not focused on topic or task - does not meet timelines	- gives up readily when problems arise - sometimes frustrated by problems - relies on others to solve problems	- shows no interest in activities - has difficulty working with others - is very disorganized

Team Work Debriefing
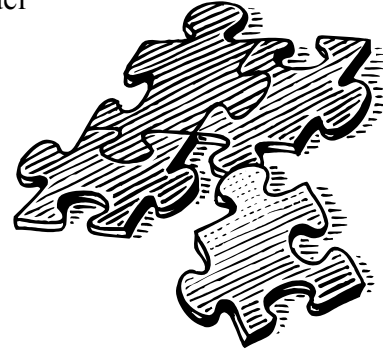
Everyone on the team had an important job to do.
How well did we do our jobs?

Team spirit

Team effort

Meeting task expectations

Meeting timelines

Quality of our work

Goals for next time

Working as a group helped us to...

Example #6   **Resume Writing**   **Gr. 7–12**
What are the elements of an effective resume?

Problem/Issue
Students need to develop the skills to create effective resumes to help in their search for summer employment.
Prediction
Groups of students brainstorm for possible content, format, and style of effective resumes.
Building Background
Students individually search career ads in newspapers, job centers, and websites. They use highlighters to identify information required for specific jobs. Now re-group, share, discuss findings, and add any new ideas.
Expert Advice
Individually learners consult experts: job agencies, employers, parents, and websites to gather samples. Return to groups with expert advice and sample resumes. Share and compile results. Have each group set up a display of their findings.
Conference
Students rotate through groups, listen to best advice, discuss, and question.

✴ **The Big Think** ✴

Content
New Problem or Challenge—Review the essential question, what are the elements of an effective resume? *So What?* Groups develop a resume writing kit complete with checklists for self assessment, tips for writing effective resumes and several exemplars. *What Next?* Using the resume kit as a reference, individuals craft their resumes, critique with a partner, revise, edit, and publish.

Process
Active Discussion—Review original predictions. *So What?* Compare predictions with resume kits. How close were predictions? What impact did expert advice have on our learning? *What Next?* How can we keep our resumes fresh? How do you get to be an expert?

Example #7   Themes and Schemes   Gr. 8–10
How do artists make paintings about the same theme look so different?

Reason for Comparison
Compare collections of paintings by different artists on the same theme to discover similarities and differences. Ask why they are so different. (E.g. Winter scenes by Lauren Harris and Cornelius Krieghoff; Ballet Dancers by Edgar Degas and Antonio Canova)

Establish Criteria for Comparison
Review art terms related to style, technique, media, etc. from previous studies. Create a list and from it establish the criteria that will be used to make your comparison.

Gather and Sort Data
Examine several examples of paintings by the two different artists on the theme you have selected. Use virtual galleries on the web, look at art books, or visit a gallery.
Thinking points for each artist: What is your first impression? What message was the artist conveying about the theme? Think about how these differ: colors, medium, techniques, mood, etc. What influence did the time period have on the painter's style?
Create a T chart. Using your criteria list as a guide, identify and note what it is about the artists' treatment of the theme that makes their paintings so different.

Compare
Study your findings from the T-Chart. Identify similarities and differences in all criteria categories. Summarize your ideas to discover how the artists came to create such different paintings on seemingly similar themes.

✳ **The Big Think** ✳

Content
Construct a Visual—Make a group, class chart or graphic organizer of the major discoveries. *So What?* Is most artistic work serendipitous or planned? How much is art influenced by culture of the time? What other influences are at play?
What Next? Compose a comparative essay for the school art journal to share your findings. Use the *Comparative Essay Rubric* and *So you have to write a comparative essay...* to assist you with your composition.
Process
Active Discussion—Review the comparison process. *So What?* Why do visual tools (Venn diagrams, T-Charts) help us when we are making comparisons?
What Next? How can we use visual tools when we are planning for writing?

T-Charting Comparisons

Subject #1:	Criteria	Subject # 2:
	⬅ ➡	
	⬅ ➡	
	⬅ ➡	
	⬅ ➡	
	⬅ ➡	

Compare and Contrast Model

Comparative Essay Rubric

Criteria / Level	Introduction	Organization	Content	Comparison
	Is this essay a comparison only, a contrast only, or both compare and contrast?	*How well did I follow the outline for organizing my essay?*	*Did I gather and use both sets of information to their potential?*	*Is the comparison well defined, balanced, and understandable?*
Level 4	- well defined rationale - clearly defines items and type of comparison, and foreshadows approach	- interest catching introduction, insightful conclusion - clear and orderly use of details and supporting examples	- effective elaboration of all relevant details for both sides of the comparison - importance and relevance of supporting information explained	- criteria for comparison is very clear to reader - use of cue words and transitions is effective and varied - details and examples for all criteria - balanced amount of data for both sides - comparison fully explored
Level 3	- states a reason for comparison, - introduces items and defines type of comparison	- strong introduction, logical conclusion - clear and orderly comparison with examples	- adequate, accurate details with supporting data for both sides of the comparison	- well-defined comparison - used and varied cue words and transitions - included adequate details and examples for both sides - good exploration of comparison
Level 2	- rationale unclear - introduces items to be compared	- weak introduction and/or conclusion - inconsistent organization	- some missing or erroneous details - some examples	- unbalanced amount data for either side - some data identified but not compared
Level 1	- no rationale - topic and items unclear	- opening and/or closing statements absent - order confusing	- ineffective use of details and examples	- little actual comparison of identified data

So you have to write a comparative essay...
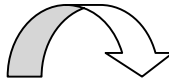
Where do you begin?

Prepare Information
- identify the topics/subjects to be compared
- clarify your rationale/reasons for the comparison
- explore to get an overview of the topic
- establish criteria for comparison
- gather data relevant to your rationale
- use an organizer such as *Compare Facts* to sort data for both subjects
- decide on essay model – *compare by criteria or **organize based on similarities and differences
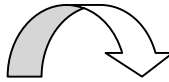
What Next?

Make an Essay Plan
Introduction
- **I**ntriguing: captures readers' interest
- **N**ames topics/subjects being compared
- **T**hesis: topic and main idea
- **R**ationale: reason for comparison
- **O**pens comparison discussion

Supporting Paragraphs
Criteria Based
- begin with a transition to criterion being compared
- use cue words or phrases for similarities or differences to begin each comparison
- support comparison with examples
Comparison Based
- one paragraph for all similarities, another for differences
- use cue words or phrases to transition from similarities to differences or vice versa
- discuss all features of the relationship

Closing
- summarize comparison, show that it was meaningful
- state your conclusions/point of view
- include interesting discoveries and your inferences or predictions

Transition Cues

Compare	Contrast
akin to	although
also	and yet
as is with	but
as well with	conversely
at the same time	differs from
both	in contrast to
like	however
likewise	nevertheless
in the same way	on the contrary
in the same manner	on the other hand
is similar to	unlike
similarly	when in fact
-	where as
	while
	yet

Example #8   Financial Planning   Gr. 10–12

What is the best way to make money work?

Build Background

The class has been studying current and projected economic trends and stability in their region.

Group students and give each group a financial scenario to work on. In each case a client has suddenly received $30,000 and is looking for advice on how to best invest the windfall.

Group A — single receives an inheritance

Group B — bonus for an employee with a young family

Group C — small business owner makes a big sale

Group D — sick leave gratuity for recent retiree

Group E — insurance settlement for a handicapped teen

Groups will brainstorm possible investment opportunities (savings bonds, real estate, RRSP, stocks, etc.) and decide on experts who could provide advice on investment potential (e.g. banker, real estate agent, investment broker, life insurance salesperson, financial planner, mortgage broker, etc.).

Ask students to make predictions about the kinds of advice they might receive from the experts, and from this information develop a few specific questions they need to ask their expert during the interview.

Gather and Analyze Expert Advice

Students each contact three experts. Record the advice given as well as the expert's rationale, and the possible investment implications on the organizer *Dilemma - Advice - Action*. Students examine the information gathered from all experts and determine an investment solution.

Conference

Team members meet in conference and discuss the advice they received and present their individual investment solutions. The team decides on an investment plan for their client. Each group will prepare an investment plan report complete with projected investment earnings.

✳ The Big Think ✳

Content

Active Discussion—*So What?* Jigsaw and discuss how the investment solutions differ from group to group. Why? *What Next?* What important tips did you learn about investing money? List key questions you would ask now if you had a sum of money to invest.

Process

Construct Visuals—Chart the Advice to Action model. *So What?* What are the strengths of this model? *What Next?* Use this model to investigate other financial topics—budgeting, credit management, cash services, loans, etc.

Dilemma - Advice - Action

Dilemma

My Prediction

Advisor #1 says	Advisor #2 says	Advisor #3 says

Advisor's Rationale	Advisor's Rationale	Advisor's Rationale

Implications	Implications	Implications

My solution
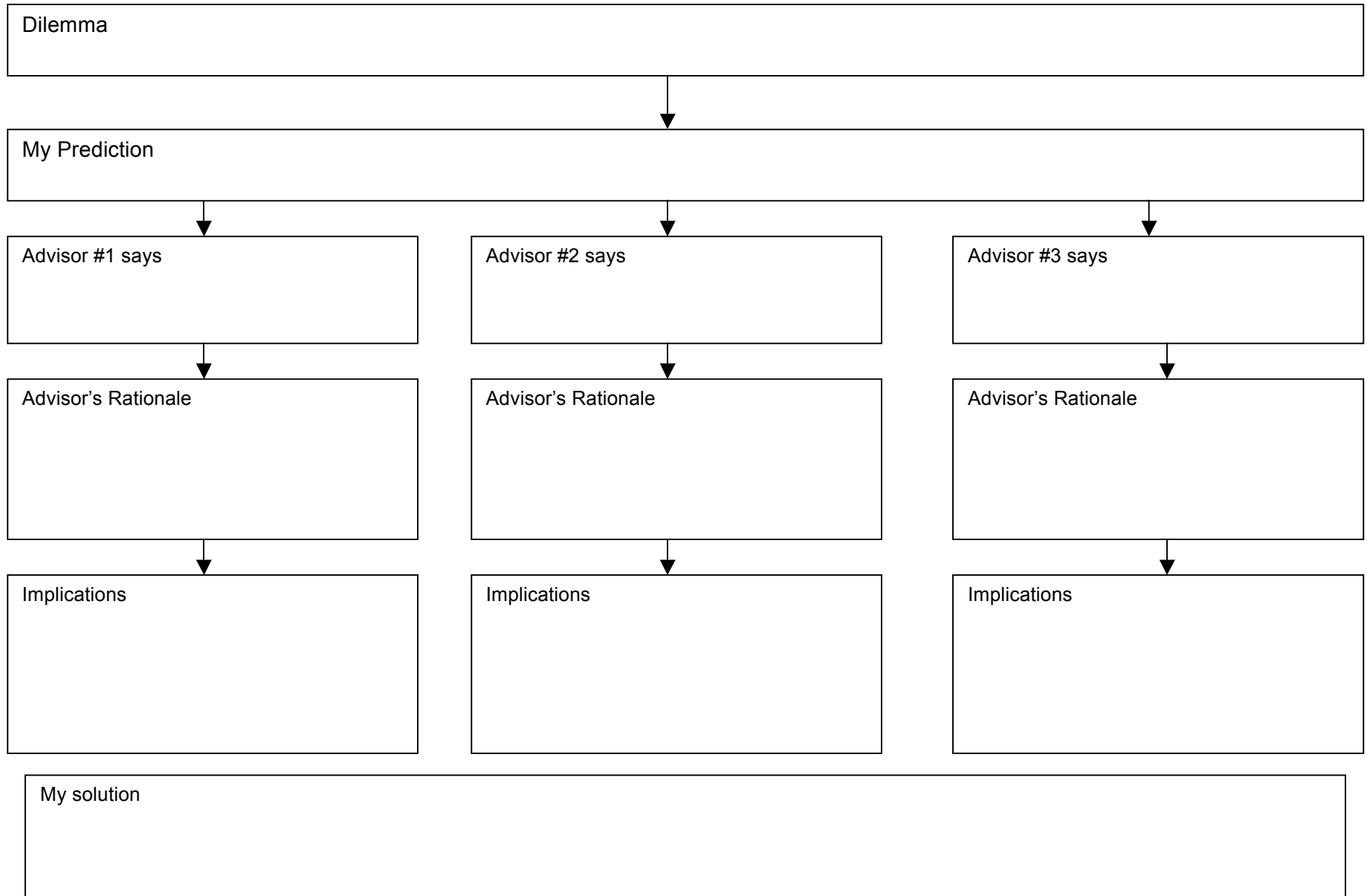
Example #9   **Grading Schools**   **Gr. 10–12**
Which post-secondary educational facilities are best for me?

Reason for Comparisons
This activity will help students to research and analyze data to enable them to find the schools that are best for them after finishing secondary education.

Form Criteria
In groups have students brainstorm for the things they will look for in a post secondary school. Share and chart their ideas. Cluster similar ideas and develop a set of criteria for assessing the suitability of prospective schools. E.g. academic programs, fees, scholarships, admission requirements, web service, access to library, distance education, athletics, recreation, housing, virtual tour, disability services, bookstore, location, transportation links etc. Individual students will consider items in the criteria list and make note of their personal requirements with regard to each criterion. E.g. must be on a bus route that links with home, must offer secondhand texts for sale, would like an Olympic sized pool on campus or nearby.

Gather Data
Provide students with the URLs of state/province wide post secondary institutions or instruct students to conduct their own searches if time permits. Have them search these sites to discover data to satisfy each criterion and then enter the data in a searchable database.

Sort Based on Criteria
Using the database software students can sort and compare the collected data.

Make the Comparison
Students experiment with several kinds of graphs and charts to select those that best illustrate their analysis.

✷ **The Big Think** ✷

Content
H.O.T.—Share and discuss graphs and analysis of schools. *So What?* Individually, learners select their top three schools and complete the organizer, *School Selection: So What? What Next?* Learners put together a portfolio of graphs and data to present to their families/caregivers to support their selections.

Process
Active Discussion—In groups learners discuss the official websites of post-secondary facilities that they used to search for information they needed. *So What?* Did you find out everything you needed to know? What problems did you encounter? How user-friendly were the sites? *What Next?* Make recommendations to the site managers that would assist future patrons with their searches.

School Selection: So What?

Take a closer look at the schools you selected. Consider them using these prompts.

Selection Criteria

Schools	Must Haves	Would Like to Have
School # 1		
School # 2		
School # 3		

Schools	Pros	Cons
School # 1		
School # 2		
School # 3		

Do these schools really meet the selection criteria you and your parents have?

Should you go back and reconsider some others?

Example #10   Higher Education   Gr. 10–12

What are the current trends in post secondary education? How might these trends affect career choices?

Build Background

We know investment in education is an investment in the future. Yet, we find parents struggle with budgets, students vie for scholarships, and colleges and universities compete to gain funding. We need to consider the anonymous quote, "If you think education is expensive, try ignorance" when we think education costs too much money. Apart from the cost there are other factors at play today that need to be considered in order to gain a better picture of what is really happening in education.

Gather Data & Organize Data on Matrix

Explore national and local websites to gain an overview of the important statistical data that is available. Instruct students to keep a record of questions they have and important traits they discover in their early exploration. Use these records to decide on the traits for the matrix. Some important traits to consider: cost of programs, scholarships, gender, age, foreign students, distance learning, etc. Select a balanced sampling and organize students into groups by States/Provinces. Have each group record data for each trait in the matrix. Remind students that accurate data and documentation of sources is essential.

Trends in Post Secondary Education				
Groups	Traits/Questions to Answer			
	High School Completion (M/F)	College/University enrollment(2000+) (M/F)	Popular courses (M/F)	Drop-out rates (M/F)
Group A				
Group B				
Group C				

Analyze Matrix and Examine Results

Instruct students to generate graphs with the data to help summarize and analyze findings. Look for relationships, surprises, discrepancies, etc. Compare and discover patterns between locations and across traits. Using patterns discovered, predict possible trends in education for the next 7 years. What are the trends with regard to skills and professions? Who is studying what? Does gender play a role? Why? How might all this impact lifestyles? Discuss current family lifestyles: who works, who takes care of the children, cooks the meals, provides financial support, etc. Are these trends linked?

✷ **The Big Think** ✷

Content

Interact with an Expert—Use the organizer *Career Directions* for individual synthesis. *So What?* With an invited expert, explore what the futurists are saying about 21st century careers and the education they require. Are post secondary institutions ready for the 21st century? *What Next?* How does this information affect planning for career choices?

Process

Active Discussion—*So What?* Which sources had the most useful data for building the matrix? How were they different? *What Next?* Use the same process to examine education in other countries. Are the patterns and trends global or are there significant differences? Why?

Patterns and Trends Matrix Model

Career Directions

Patterns and Trends discovered in post secondary education:

Futurists' **Predictions:**

Possible **Career Choices:**

Good **Career Resources:**
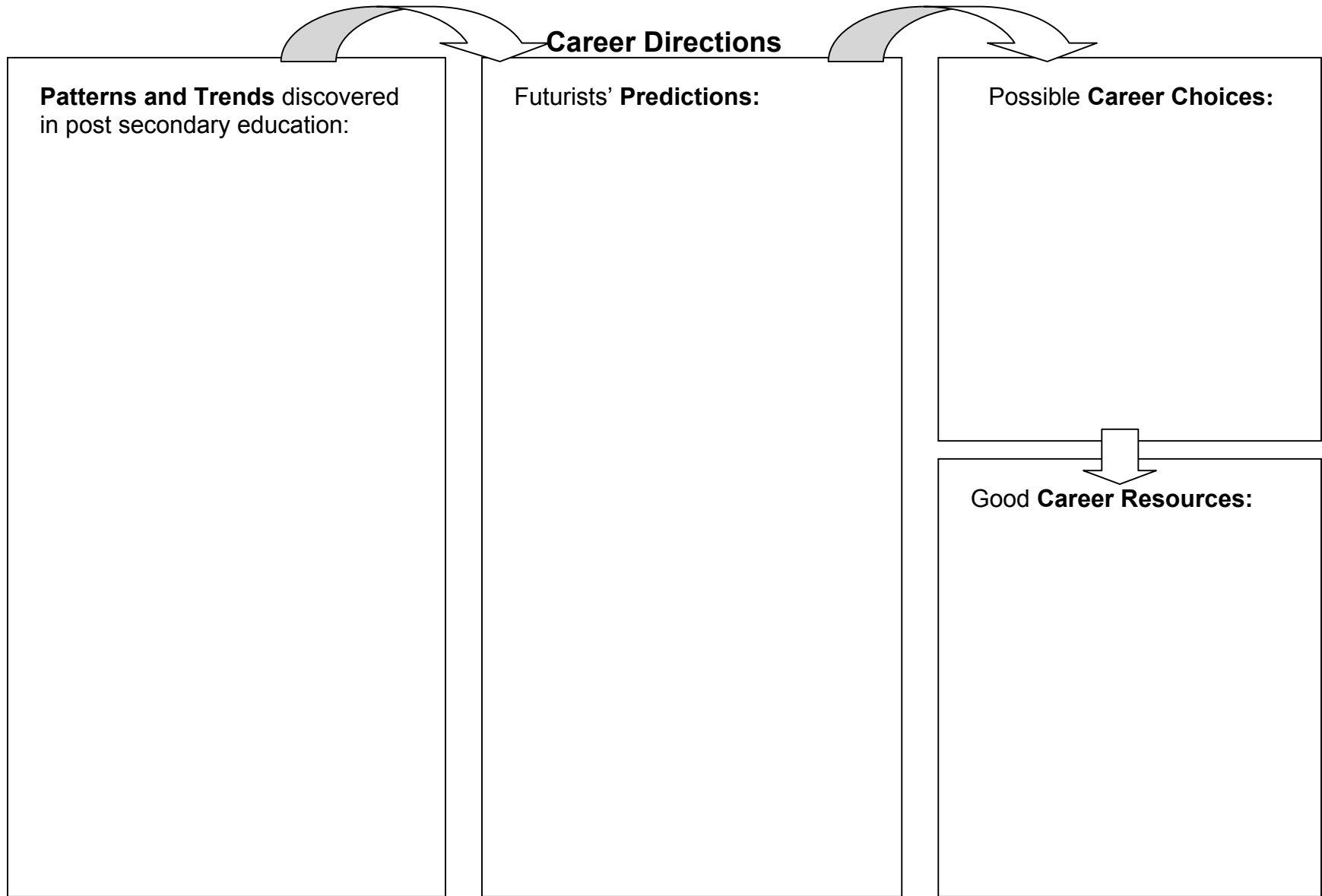
Chapter 5

When do we study PEOPLE in time?

Past

Present

Future
Trends

Future

Artifacts

People in time

History

Heritage

Explorers &
Adventurers

Settlers
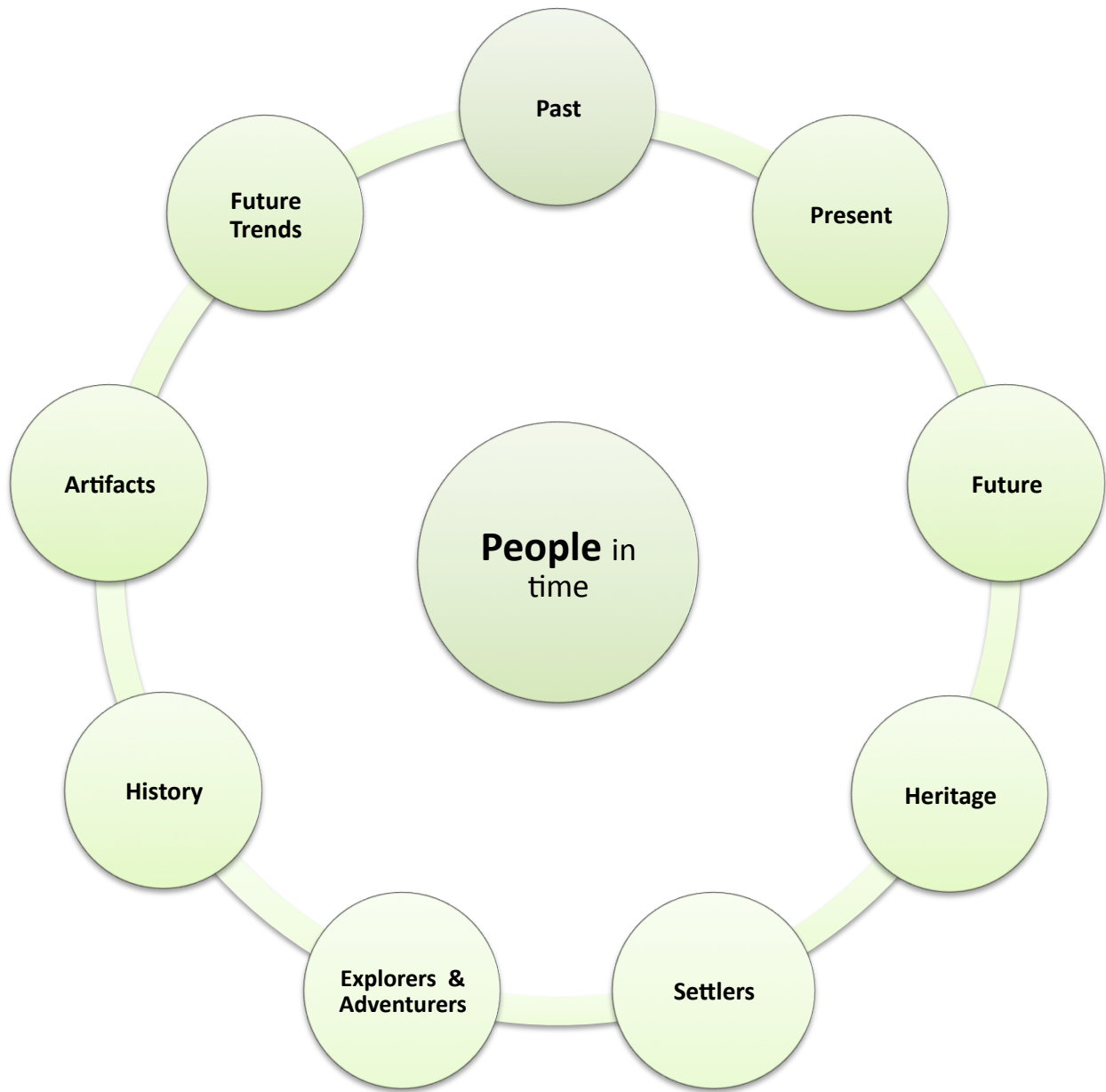
Example #1   Birth Dates   Gr. K–3

What can we learn from our birth dates?

Introduction

Read lots and lots of storybooks about birthdays. Brainstorm for birthday words and activities and build a Birthday word wall. Send home a letter to caregivers informing them of the Birth Date unit and asking for their assistance in helping children gather data about the day they were born. Create a form requesting all the data needed (e.g. date, day, time, location of birth, weight and length at birth etc.) depending on how you plan to analyze the timeline data.

Gather and Sort Data Sets

Group students' birthdays by months of the year or seasons. Provide each student with a *Birth Date Profile* page. Arrange for parent volunteers or older learning buddies to work with students if needed. Instruct students to complete their profile based on the information provided by the caregiver. Have students research to find other data, such as birthstone and flower, famous people born on the same day, etc., needed for the profile. When profiles are completed have groups arrange them in chronological order by birth date to create a timeline.

Place Data on Timeline

Join all group timelines together to create a year-long timeline of student birth profiles. Segment the timeline by month and/or seasons using colored paper for mounting and labeling of months and seasons. (The students could also create their profiles on computer by entering their individual data on a teacher created template and the files could be linked together later to create a slideshow.)

Analyze Timeline

The timeline will now provide a rich database of information ready for analysis. Ask students if they see any patterns or interesting connections in the data and if they have some other ideas for how to use the data. Which month has the most birth dates? The fewest? Which season has most and fewest? How many birthdays are on holidays? What time of the day were most children born? Create graphs to show how many boys and girls were born in each month, season, on each day of the week, etc. Arrange children by height at birth; is the relationship still the same today?

✳ The Big Think ✳

Construct a Visual—Review and chart all the big ideas students have discovered from the timeline. *So What?* Create a class calendar including birthdates and student photos and drawings as well as interesting class trivia gleaned from the analysis of the timeline. (Collect examples of author calendars for students to examine.) *What Next?* Research a famous person born on your birthday. Investigate how children in other countries celebrate birthdays.

Process

Active Discussion—*So What?* How has the timeline helped us to learn about time and each other? How can we use the timeline over the rest of the school year? *What Next?* Create other relevant timelines such as a day at school, their life and/or a grandparent's life.

Birth Date Profile

Birth Date Information for:……………………………………………………………

Date of Birth:………………………………………………………………………

               Day   Month   Date

Time of Birth:………………………………………………………………………

Weight :…………………………………………Length……………………………

Location of birth:……………………………………………………………………

               Address/City/Town   Country

I share my birthday with …………………………………………who is famous

because……………………………………………………………………………

…………baby picture
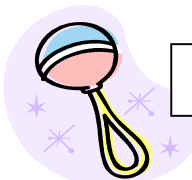
…………………today

Example #2   Growing Up   Gr. 1–3

How much have I changed since I was a baby?

Problem

During the "all about me" unit, students will examine how they have changed over time. Review the concept of change through pictures and discussion. Chart some changes suggested by the children. Introduce the notion of growing up with the popular story by Robert Munsch, *Love You Forever.*

Gathering Facts

Ask students, "What changes occurred in this story?" Sort the changes on a T-chart (Mother's changes, boy's changes) as students recall. Review the story and illustrations as necessary. Have students work with a partner or a small group. Ask students to choose a change in the boy's or the mother's life and create a drawing to illustrate the change. Provide students with drawing materials and a square piece of sturdy paper. Ensure that all major changes have an illustrator.

Creating Timeline

When the illustrations are complete, pin them to a long cord across the classroom, like clothes on a clothesline. This will create a visual timeline of the boy's and the mother's life.

Analysis

Invite students to retell the story. Discuss feelings about growing up from all perspectives: the boy's, the mother's and the listener's.

✳ **The Big Think** ✳

Content

Construct Visuals—Chart the changing feelings of the boy, mother, and listener throughout the story. ***So What?*** Discuss how and why feelings change with different events. ***What Next?*** Students can create a visual timeline of their own growing up years. Send home a letter to families explaining the project. Have each student interview family members to discover important events in their lives (e.g. birth, sitting up, first tooth, swimming lessons, birthdays, parties etc.). Provide students with several copies of the organizer *Growing Up*. Students illustrate the important events in their lives and create a personal pictorial time line.

Process

Active Discussion—***So What?*** How did the clothesline timeline help to retell the story? ***What Next?*** How else can we create timelines?

Growing Up

Example #3   Early Settlers/Pioneers   Gr. 2–4

How do the lives of children today compare with the lives of the children of early settlers?

Reason for Comparison
In order to empathize with early settler children, students need to understand what it was like to be a child in that time. Comparing specific daily activities with those of the early settlers' children is a vehicle for creating that understanding.

Establish Background and Comparison Criteria
Brainstorm and list what makes a typical day for your students. Discuss where their activities take place, what they use at home, at school, after school, on holidays, etc. Identify activities to compare (mealtime, playtime, school, chores). Provide students with *That Was Then, This is Now* worksheet, and in small groups have them discuss and fill in the NOW side.

Gather and Sort Data
Share information from groups and create a master NOW list on a large chart or projection. Ask students to "wonder" about early settler children and create a wonder list of questions to guide the class inquiry. Review picture reading skills
Read several picture books about early settlers that focus on the lives of children. After each reading ask children if they discovered the answers to any of their wonder questions. Chart their responses on the THEN side of the master chart. Read non-fiction books with students and/or share a video to confirm findings from the picture books and add new discoveries to the chart. Continue until the chart is complete.

Compare
Ask students to complete the THEN side of their organizers using text and/or sketches depending on their abilities. When students have completed recording their data, meet as a class group. Restate the big question, *How do the lives of children today compare with the lives of the children of early settlers?* Identify and discuss similarities and differences. Create a large VENN to summarize the analysis.

✳ The Big Think ✳

Content
H.O.T.—Discuss how their day would be different if they had lived as an early settler. ***So What?*** Now ask students to consider which lifestyle appeals to them. In groups complete a That's Good That's Bad chart. ***What Next?*** Create timelines for a day in the life of a child today and a day in the life of an early settler child.

Process
Construct Visuals—Discuss and then create a visual of the steps of the guided process used to compare and contrast children of the two eras. ***So What?*** What new skills did we learn? What new tools did we use to learn? Add these to the visual. ***What Next?*** Examine work during the Settler/Pioneer era and list occupations. Ask students to follow the compare/contrast process to research and compare a pioneer occupation with a modern version on their own (e.g. teacher, farmer, printer, doctor, blacksmith, seamstress, storekeeper, etc.).

That Was Then, This is Now

Then	Now
Meals What do children eat? How are meals prepared? Where do children eat?	**Meals** What do children eat? How are meals prepared? Where do children eat?
School Where do children learn? What do they learn? What tools do they have to help?	**School** Where do children learn? What do they learn? What tools do they have to help?
Play What do children do for fun? Where do they play? What equipment do they have?	**Play** What do children do for fun? Where do they play? What equipment do they have?

Example #4　　　　Early Settlers' Survival　　　　Gr. 2–5
Without a supermarket to shop at how did early settlers feed themselves?

Develop Background
Investigate early settler life to discover how food was prepared. Visit a "pioneer" village, investigate selected websites, watch a video, examine artifacts, read pictures and text in non-fiction picture books about the lives of early settlers. Look for methods of preparation, equipment, sources for ingredients, and methods of measuring.

Develop Questions
Inform students that their task is to make a basic food item that is now available in the supermarket using the methods and ingredients of the early settlers.
Ask students to select a food item to research and prepare (e.g. toast and jam for breakfast). Have students prepare questions about the task to guide their research such as: Which ingredients are needed? What type of equipment was used? Where did they get ingredients and the equipment required? What time of year could they make it? Where could we find recipes from settler times?

Develop a Plan
Gather the ingredients and equipment, or similar substitutes (e.g. If making butter and no churn is available, talk about how a churn works. Select an alternative such as a screw top jar that can be shaken). Make a plan to prepare the food.

Doing
Carry out the plan and prepare the food. Do a taste test. Compare it to the supermarket variety. (Observe proper hygiene and allergy alerts.)

Reflection
How does doing the preparation compare to reading about the preparation or watching a video about it?

✳ The Big Think ✳

Content
H.O.T.—Make a comparison chart to determine the positives and negatives of shopping for meals at today's supermarkets or the settler method of obtaining raw ingredients and preparing food from scratch. *So What?* Consider: How might the settler method affect the time needed to get a meal ready? How might this method affect the taste? Who might do the work? What new problems do we have today? E.g. packaging, safe storage, costs, etc.? *What Next?* Compare ingredients and costs of the store-bought and homemade items. What did you discover? Compare other aspects of the life early settler children to life today.

Process
Active Discussion—*So What?* Which sources of information were the most helpful for this project? Why? *What Next?* Create a pathfinder of best resources for further exploration of early settler life.

Example #5　　　　　　Schools of the Past　　　　　　Gr. 3–6
What was school like for my grandparents?

Introduce the Problem
Read lots of books about contemporary grandparents. Share stories and pictures of grandparents. Pose the focus question: *What was school like for my grandparents?* Ask students what questions they have about school for their grandparents. Chart their questions. Cluster questions by similar topics and create categories. Use these categories for headings to organize student notes and sketches (e.g. classroom, libraries, teachers, materials and equipment, sports, etc.). Note: In the event that this is problematic for some students adjust the focus from 'grandparents' to 'long ago'. .

Gather and Sort Primary and Secondary Evidence
Rotate students though investigations using as many authorities as possible. Have students use the organizer *Solving My Research Mystery*.
Authority 1—Interviews with Grandparents, community elders, and/or staff who are
　　　grandparents
Authority 2—Books about appropriate decades and counties
Authority 3—Class photos of grandparents/community elders and schools
Authority 4—Schoolbooks and other artifacts from the appropriate era
Authority 5—Online and local archives

Compare and Contrast
Pose a second question: Was school for my grandparents the same as my school life? Ask students to examine their notes and think about their school life. Instruct them to highlight with a color 3 things that are the same for them at school and with another color highlight 3 things that are different. Have students meet with a partner and tell their research story.

Evidence Check
Go back to charted questions. Have we answered all our questions? List new questions we now have that we would like to find answers to. Where can we find those answers?

✳ The Big Think ✳

Content
H.O.T.—Identify and chart all the similarities and differences between school in your grandparents' time to now. ***So What?*** Where are the biggest differences? Why? ***What Next?*** How does their experience compare to pioneer or early settler days? What do you think schools of the future will be like?

Process
H.O.T.—List sources used and rank them in order of relevance to the task.
So What? Ask: Where did you find the best information about schools of the past?
What Next? Create an archive of primary and secondary sources to support further study.
.

Solving My Research Mystery

How helpful were your sources?

Information Books	☺	😐	☹
Interviews	☺	😐	☹
Photographs	☺	😐	☹
Artifacts	☺	😐	☹
The Web	☺	😐	☹

3 Discoveries you made:

....

....

....

2 Problems you had:

....

....

1 Questions you have now:

....

....

Example #6   Step In – Step About – Step Out   Gr. 6–8

What was life like for working children in the late 19th and early 20th century?

Select

One hundred and fifty years ago, only the children of the wealthy were educated. Most other children worked at home, in the fields, in mines, and even in factories at a very young age. Collect archival photographs of children at work in various jobs. You could print, reference, and mount them like an old album, or select from archival Internet sites and bookmark them.

Explore

Explore a video about working children to introduce the topic (e.g. *Pit Pony* Produced by Cochran Entertainment or *Chandler's Mill* produced by the National Film Board of Canada). Introduce the guiding question and display the photos. Display *Picture Prompts* to guide their picture reading. Allow all students time to view all the photos and then select a photo they are very curious about.

Research

Invite students to step into the picture and project themselves back in time until they are right there with the child. Ask students to step about inside the photo. What do they see, hear, and smell? Have students use *Step In-Step About-Step Out* to record their findings and then develop lots of questions they want to ask the child in the photo. Have students research in the library to discover as much as possible about the time period, work, and life of children.

Construct

Now ask students to step out of the photo and use their research notes and the photo to reconstruct a day or a series of days in the child's life in the form of diary entries.

Perform

Students create a museum type exhibit with the photo, diary entries, and perhaps an artifact such as a piece of clothing, button, ribbon, or coin.

✸ The Big Think ✸

Content

New Problem or Challenge—Learners do a gallery walk of the museum exhibits and keep notes of their connections to each display on an RVL Connect organizer. In groups have learners share their connections and discuss the hardships for child laborers. ***So What?*** As a class determine the key causes and effects of child labor during this time. ***What Next?*** New Problems: What evidence can you find that indicates child labor is still a problem today? Why has this problem not been solved? How are children protected from child labor today?

Process

Active Discussion—***So What?*** In groups ask learners to discuss how they gleaned information from the visual archival material they had. ***What Next?*** Invite an archivist to conference with the class and discuss the process of preserving history through artifacts.

Step In - Step About - Step Out

Step in to the photograph/picture you have selected. **Step about** and observe your surroundings.

What do you see?	What do you hear?	What do you smell?

Make lists of all the questions you have now about the place you are in.

Step out of the photograph or picture now. How can you find the answers to all your questions? Who can help? Make a plan.
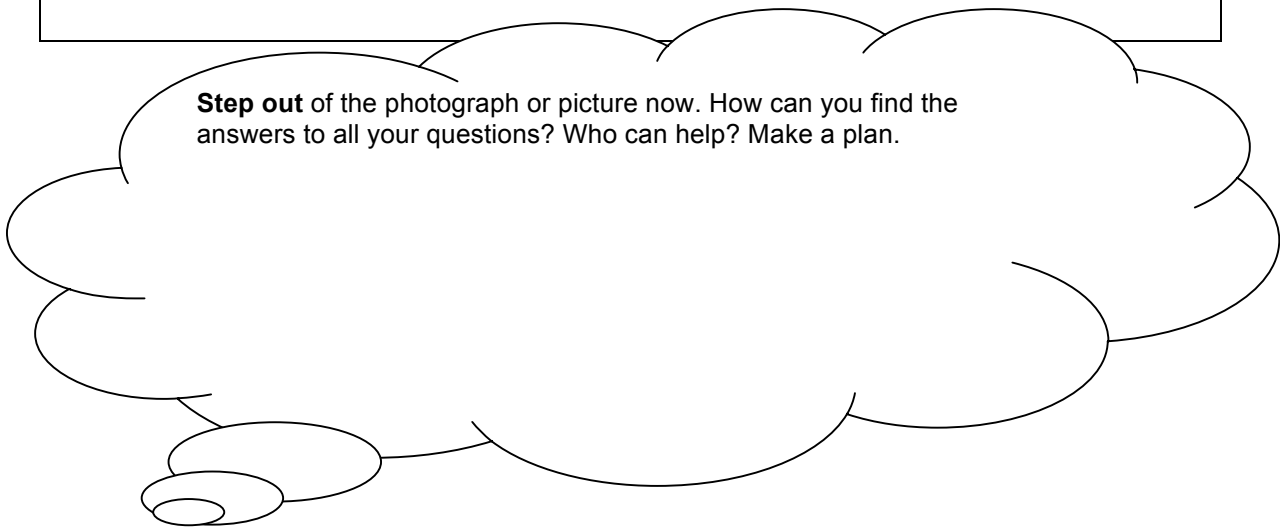
Picture Prompts

Where is this scene located?

What is happening in the picture?

What might have happened just prior to the picture?

What might happen next?

Who do you see in the picture?

Who do you not see that might be involved? Why?

What might happen after the picture?

Example #7   Digging Up History WebQuest   Gr. 6–9

How can history help us in the future?

Introduction

They say that we have to look into the past if we are to plan for the future. If that is true then archaeology must hold a mirror to our future on Earth. There are many different types of archaeology but every specialty follows a similar process of careful and systematic efforts to reveal the truth about the past based on the evidence uncovered.

Task

You are an archaeologist working for Project Future Earth. Working in your specialty team you will dig up discoveries about the past and project these findings into possible implications for our future.

- Historical Sites
- Environment/Geology Sites
- Animal and Plant Sites
- Underwater Sites
- Oral History

Process - History & Mystery Model

The problem you are to solve is this: *How can history help us in the future?*

Gather and Sort Primary and Secondary Evidence Do your research with team members to explore your specialty area. Keep accurate records and reflect on how each discovery might tell us something of our future on Earth.

Compare and Contrast Jigsaw to meet with other specialists and compare findings. Summarize findings to prepare a presentation of archaeological evidence and inferences made about the future of Planet Earth.

Evidence Check Return to expert groups to check completeness and validity. Refine as necessary. Present your conclusions to Project Future Earth.

Information Sources

- Archaeology for Kids—US Department of The Interior:
  http://www.nps.gov/history/archeology/public/kids/index.htm#
- Canadian Museum of Natural History:
  http://www.civilization.ca/cmc/archeo/ouverte.html
- The Basics—Archaeology: http://www.42explore2.com/archlgy.htm
- Links from the DIG magazine site: http://www.digonsite.com/links.html

Evaluation

- collected relevant, factual data
- identified bias, misconceptions and inaccuracies
- insightful effective comparison
- productive collaboration
- rationalized and confirmed a plausible solution

✷ **The Big Think** ✷

Content

Active Discussion—*So What?* How does archaeology keep history alive? *What Next?* Create a Forecast Almanac for Planet Earth based on presentations. Present forecasts on the school's morning news show. Explore careers in archaeology to see if there is an area that interests you.

Process

Thoughtful Writing—Review process used to validate sources of information. *So What?* Why is an evidence check necessary when building historical truths? *What Next?* How can we do a better job of evaluating sources?

Example #8   Back to the Future   Gr. 7–10

How can digging into past history help us today and tomorrow?

Select

Assemble a collection of excellent time-travel novels at appropriate reading levels and interests. Select novels that travel *back* in time. Introduce the novels and the guiding question. Students select a novel of interest and try it out. If after the first few pages they are not hooked, ask them to try another one until they find the just right book for this project.

Explore

Students read their novels independently. Provide them with sticky notes and ask them to keep track of interesting place names, historical events, dates, and people encountered when the protagonist travels back in time. Arrange meeting times so students can have discussions about the books they are reading and the places and events encountered in the time travel.

Research

When the novel is finished, ask students to create an event line from the data they collected while reading the novel. Arrange for students to have ample time and guidance researching the time period and location their novel travels back to.

Construct

Show students examples of Jackdaws containing primary artifacts about a period of time. Instruct students to create a jackdaw about the time travel in the novel they just read. They can include maps, letters, diaries, photos, sketches music, art, and artifacts all related to the story. The jackdaws can be physical or electronic collections.

Perform

Invite another class(es) to meet with students so they can present their novels through the jackdaws. If the jackdaws are electronic, they can be mounted on the school library web page for all to discover. Ask students to discuss the guiding question after presentations.

✳ The Big Think ✳

Content

H.O.T.—After presentations analyze the novels and chart findings in a matrix using headings such as: time period, location(s) protagonist characteristics etc. *So What?* Are there any similarities between novels, protagonists, issues explored, and catalysts for time travel? *What Next?* Explore other historical periods that would make interesting time travel.

Process

H.O.T.—Assess the strategy of keeping track of events, characters, time periods during the reading process. *So What?* What worked well, what didn't? Why? *What Next?* Invite an author who writes time travel or historical fiction to discuss with learners the process they go through when developing a novel.

Chapter 6

What challenges do we study about PEOPLE?

Global Issues

Health & Desease

Economics

Determination & Perserverence

People and challenges

Hunger & Poverty

Relationships

War & Disasters

Legal & Political
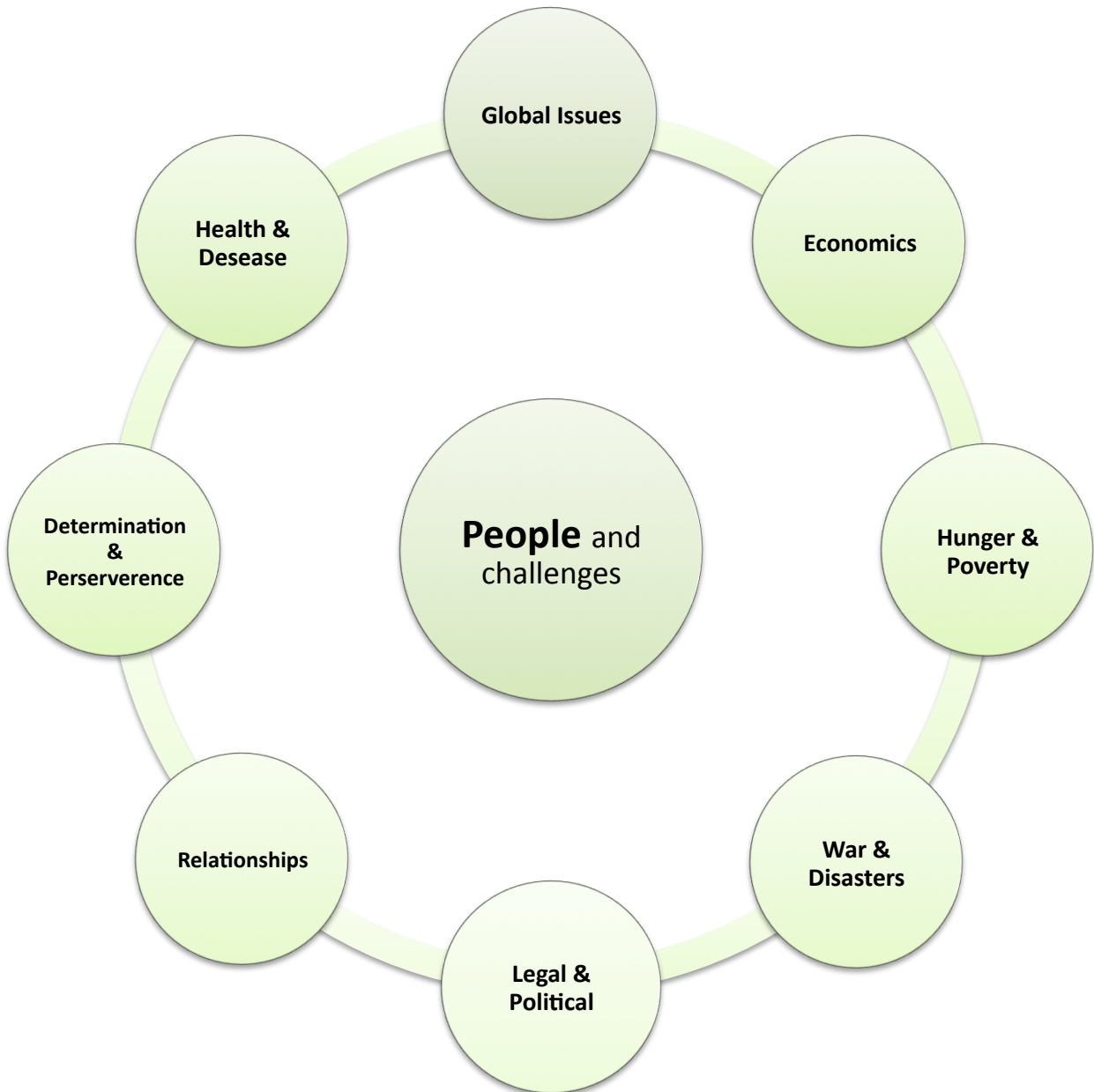
Example #1   Conflict and Peace (ESL)   Gr. 2–12
What does peace look like?

Identify Ideas Not Understood
Teachers want learners to discover the characteristics of a peaceful environment.
Gather Data
1) Have students bring to class newspapers and news magazines in English and their first language if possible. Read a story about conflict such as *Tusk Tusk* by David McKee. Discuss and chart terms and words that are related to conflict. Ask students to scan through the news media and clip any headlines or visuals that illustrate 'conflict'. Spread out the clippings on a large surface. Sort to build categories such as war, family violence, bullying, etc. Mount the clippings on a bulletin board to create a large conflict web. Brainstorm questions they now have about conflict and display these on the bulletin board.
2) Introduce the concept of peace and list how to say peace in various languages. Discuss individual concepts of peace. Read *What Does Peace Feel Like*?, a remarkable book created from the thoughts and feelings of children around the world.
Group students and provide them with the organizer *My Senses*. Have groups brainstorm for what peace would look like, sound like, feel like, taste like, and smell like.

Analyze Relationships
Ask groups to revisit the conflict bulletin board. Think about peace as an alternative to conflict. Review their senses brainstorming worksheet and look for connections in response to the focus question, *What does peace look like?*
Experiment with a Tool
Instruct groups to create a visual representation of peace on a poster. Discuss and show examples of visual tools such as graphic organizers, graphs, charts, maps, cartoons, sketches, or collages. Provide sufficient time and resources for students to experiment with their visualization.
Create and Critique
When assigning the poster, share and explain the *Visualizing Information Checklist* so they can critique their work as they are creating their visualization.

✳ **The Big Think**

Content
Construct Visuals—Display posters and organize a gallery walk. *So What?* In groups of 3 or 4 make a new visual incorporating the most important aspects from the gallery walk. *What Next?* Discuss with students who else should see their posters and develop a plan of action to share them with the broader community. Ask, How does personal experience with conflict affect our definition of peace?

Process
Thoughtful Writing—Chart the learning process. *So What?* Ask learners to write a reflection in their journals stating how the process helped them to build understanding of the concept of peace. *What Next?* List other times when visualizing can help build understanding.

My Senses
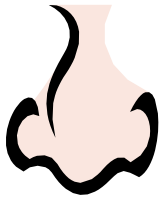
Use each of your senses to help you explore. Record your discoveries.
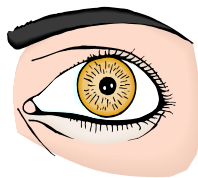
I wonder……

Visualizing Information Checklist

Appearance

☐ Have I made effective use of color and texture?

☐ Have I made effective use of size?

☐ Is the product attractive, neat, and interesting?

☐ Did I achieve visual impact?

Content

☐ Have I shown the aspects of the topic that I intended to focus on?

☐ Does it include enough real information?

☐ Is the information I used reliable and relevant?

☐ Do I have enough variety of material/data/information?

☐ Have I made effective use of sensory information (smell, taste, touch, sound, as well as visual)?

Message

☐ Will the viewer feel the message?

☐ Is my message obvious to the reader/viewer?

☐ Is my message easy for the reader/viewer to understand?

☐ Is the type of visual I chose the best one to illustrate my message?

My assessment comments:

Example #2   Bully WebQuest   Gr. 4–8
How can students take a stand on bullying?

Introduction
Everyone has a right to be respected and the responsibility to respect others.
http://www.bullying.org/public/frameset.cfm
Task
Your principal has appointed your class to investigate bullying and prepare a campaign to combat it.

Process - **Problem Possibilities JigSaw Model**

Problem - How can our school community be more proactive to **prevent** bullying?	
Specialist Teams	**Problem Solving Teams**
You will be working in expert teams to explore a perspective of this problem. Keep accurate notes and references.	Form new teams consisting of one expert from each perspective. Share your findings and keep track of your responses on the *RVL Connect* organizer. Brainstorm solution ideas.
Team 1 – Bully Team 2 – Victim Team 3 – Bystander Team 4 – Mediator Team 5 – Parent/Guardian/ Teacher	Team 12345 Team 12345 Team 12345 Team 12345 Team 12345
Collaborate to Find Best Solutions Look for patterns and categories in the solution ideas. Develop criteria for assessing the best solution ideas and rank the potential solutions using the organizer *Decision Matrix*. Prepare a presentation/report for your principal.	

Information Sources
No Bully for Kids: http://www.nobully.org.nz/kids.htm
First steps to Stop Bullying and Harassment:
http://www.psepc-sppcc.gc.ca/res/cp/bully_12217-en.asp
Bullying.org: http://www.bullying.org/public/frameset.cfm
Bully Beware: http://www.bullybeware.com/

Evaluation
- adequate, accurate and relevant data
- shared and collaborated effectively
- sorted and analyzed data
- generate creative and feasible solutions

✸ **The Big Think** ✸

Content
New Problem or Challenge—*So What?* Now that you have all those great ideas, swing into action. Create the action steps for your anti bullying campaign. *What Next?* Set up a literature circle and read novels that have overt themes of bullying. Ask students to work on the focus questions, What causes kids to act like bullies? How can we work together to act responsibly and build healthy relationships?
Process
Thoughtful Writing—Problem solving using the jig-saw process takes teamwork. *So What?* How did you do? *What Next?* Brainstorm for other places this problem solving model would be effective.

RVL Connect

Problem _____   **Perspective_____**

I didn't know that!	??Questions??

Read
View
Listen
Connect

I wonder…..	I agree/ disagree
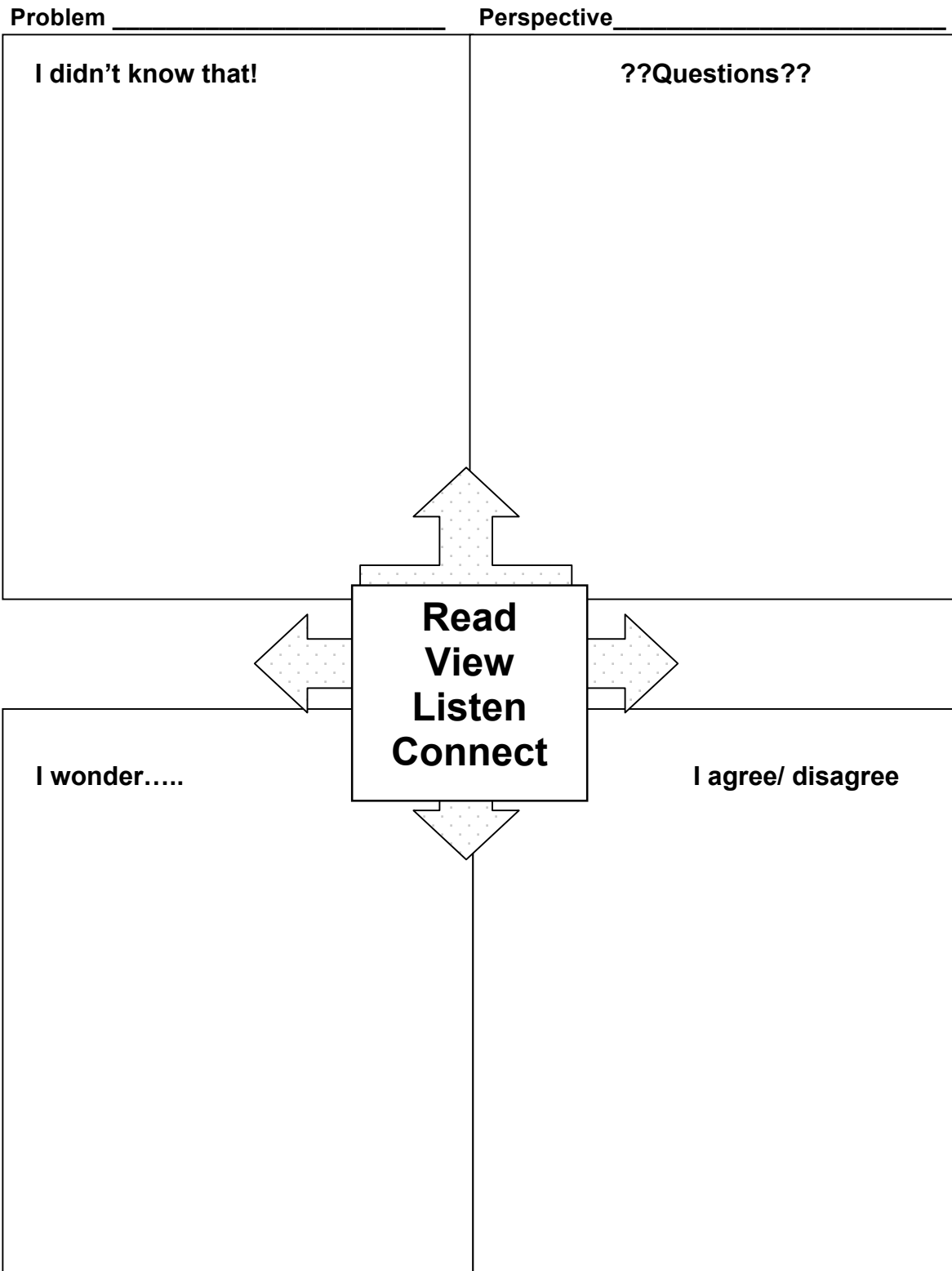
Title of resource………………………………………………………………………………

Kind of resource………………………………………………………………………………

Problems/Possibilities Jigsaw Model

Decision Matrix

Solutions / Criteria for Evaluation								
(Rate out of 5)								
Totals								

The best solution ideas are…..

Because……

Next Steps

Koechlin and Zwaan. Teaching Tools for the Information Age Pembroke Publishers

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Example #3   Safety on the Net—WebQuest   Gr. 6–12

How can we keep safe when using Internet communications?

Introduction
Communicating, playing, and learning with others has been made easy with the Internet. Think about all the ways you connect with others on the net: email, interactive games, mobile phones, video, podcasting, etc. The high use and accessibility of free communication on the net raises the question, "How safe are we on the net?"

Task
Your production company has been hired to produce a series of safety videos for schools. Research teams will each be working on a risk factor (Cyber Bullying, Online Predators, Privacy Invasion, Addiction, or Harmful Content). After each group has researched and analyzed their safety concern, they will conference with other groups to compare their findings and decide on the best approach for production and content for the school safety videos.

Process- *Advice to Action*
Build Background
Research and analyze safety concerns.
Predict
Predict and record the likely information and advice about the safety concern.
Gather and Analyze Expert Advice
Investigate the information sources to seek the advice of experts.
Contact and interview other stakeholders and any local experts (police, teachers, parents, students) using the organizer *Advice to Action.*
Review your predictions then collate and analyze the group findings on a chart.
Conference
Meet with the other groups and compare causes, effects, and tips suggested by experts. Decide on an approach and develop a plan for producing the videos.

Information Sources
- Be Web Aware: http://www.bewebaware.ca/english/default.aspx
- Safety Highway: http://www.media-awareness.ca/english/resources/special_initiatives/ wa_resources/wa_teachers/tipsheets/safety_highway.cfm
- Media Awareness Network On-Line Predators: http://www.media-awareness.ca/ english/teachers/wa_teachers/safe_passage_teachers/risks_predators.cfm
- CyberSmart: http://www.cybersmartkids.com.au/
- Chat Danger: http://www.chatdanger.com/resources/

Evaluation
- selected reliable, relevant and unbiased advice
- identified and understood all relevant perspectives
- understood and interpreted consequences of advice
- collaborated to test advice

✳ The Big Think ✳
Content
Thoughtful Writing—*So What?* Are you now confident that you can be safe on the net? Class question: Should the Internet be filtered or open? ***What Next?*** Produce the video and explore ways to market it to the school community and beyond. Good luck with your video production.

Process
Active Discussion—Chart all the perspectives explored. ***So What?*** Why did we need to look at this issue from multiple perspectives? ***What Next?*** Create a web of perspectives, experts, risks, solutions and tips.

Advice to Action

Topic of Concern: _____

Predictions:

Expert 1	Expert 2	Expert 3
---	---	---

Advice	Advice	Advice

Action Ideas:

Example #4 **Media Influence** **Gr. 7–10**

How do media influence our purchases?

Investigate Problem/Issue and Possible Positions
Have students keep a record of their personal budgets and purchases for a month before starting this unit. Analyze budgets for types of expenditures and percentages spent on each type. Ask students to think about who controls what they spend their money on. Use the 4 corners strategy to help students start to think about who is in control of their personal buying power. Post the words "Myself," "parents/guardians," "friends," and "media," one in each corner of the classroom. Have students consider their own situation and go to the corner that best answers the focus question. Have students, in their groups, discuss why they chose that corner and share discussion points with the class.

Analyze Perspectives, Positions and Impacts
Review the basic concepts of all media. Use the following websites:
www.media-awareness.ca; http://www.medialit.org/
Introduce the critical thinking guide *Deconstructing Media Meanings* and model analysis of several product ads. Form groups according to media product type (e.g. clothing, hair products, snacks, entertainment, technology, etc.). Have students collect print ads for these product types over a period of time and analyze them using *Deconstructing Media Meanings*. To encourage personal responses, ask students to keep track of their analysis individually on the organizer *Making Meaning of Media*.

Take a Position—Prepare Argument
Jigsaw the groups so they can share their analysis and discuss the focus question, *How do media influence our purchases?* Discussion prompts: To what degree or in what way does advertising influence purchasing? Is this good or bad and for whom? Ask students to consider how they can gain more control over their personal spending patterns. Instruct groups to prepare an information pamphlet for other students their age on how to become wise consumers. Remind groups to apply the knowledge they now have of media production to produce an effective pamphlet.

Present the Position
Arrange for groups to take turns, at a school information kiosk, distributing their pamphlets, sharing their analysis of advertisements, and their consumer awareness position.

✷ **The Big Think** ✷

Content
New Problem or Challenge—Have students keep track of their spending over the next month and compare their spending patterns to the first month's record. **So What?** Are there any changes? Why? **What Next?** Investigate how media contributes to the economy. Have students investigate Buy Nothing Day at: http://www.mediaawareness.ca/english/resources/ educational/teachable_moments/buy_nothing_day_TM.cfm

Process
Active Discussion—Review the strategies used to analyze media. **So What?** Why is it important to examine media from all three perspectives: message, audience and production? **What Next?** Develop learning advice, tips and tools for media awareness and post on the Virtual Learning Commons.

Deconstructing Media Meanings

Questions to guide media analysis		
What is it all about? Think about media type, genre, meaning, ideologies, values narrative, and commodity	**Who is the target?** Think about culture, gender, race, age, skills, use, pleasure, choices, needs	**How was it created?** Think about technology, economics, ownership/control, production, institutions, distributions, ethics, and legality
• What kind of media text is this? (e.g. book, video, poster, advertisement, T-shirt, etc.) • What is the message or story? How is it revealed and developed (implicitly and explicitly)? • Who speaks and who is silent? • What is stated overtly? What is inferred? • Are there any stereotypes? • What values are being promoted? How do you know this? •	• Who is the target audience for this text? How can you tell? • Whose point of view do the values represent? • Are your values represented? Why or why not? • Who is not represented? • How do situations portrayed compare to what you know as reality? • Who benefits from this portrayal? • What is the bias in this text? • Do you feel manipulated? How? • Would you buy this item/service? Why? Why not? •	• Who produced this media text and for what purpose? • What production techniques are used? • What special effects are being used and for what purposes? (lighting, camera angle, color, etc.) • How effective are the effects and techniques used? • Who paid for and who profits from this media? • How can you influence the production of this kind of media? • What rules and laws affect the media text (e.g. copyright, running time, trademarks)? •

Inspired by Sheppard, Rick. *A Critical Framework for Media Education* www.media-awareness.ca

Making Meaning of Media

Media Text:…………………………………………………………………………..

What is it all about?

Who is the target?

How was it created?
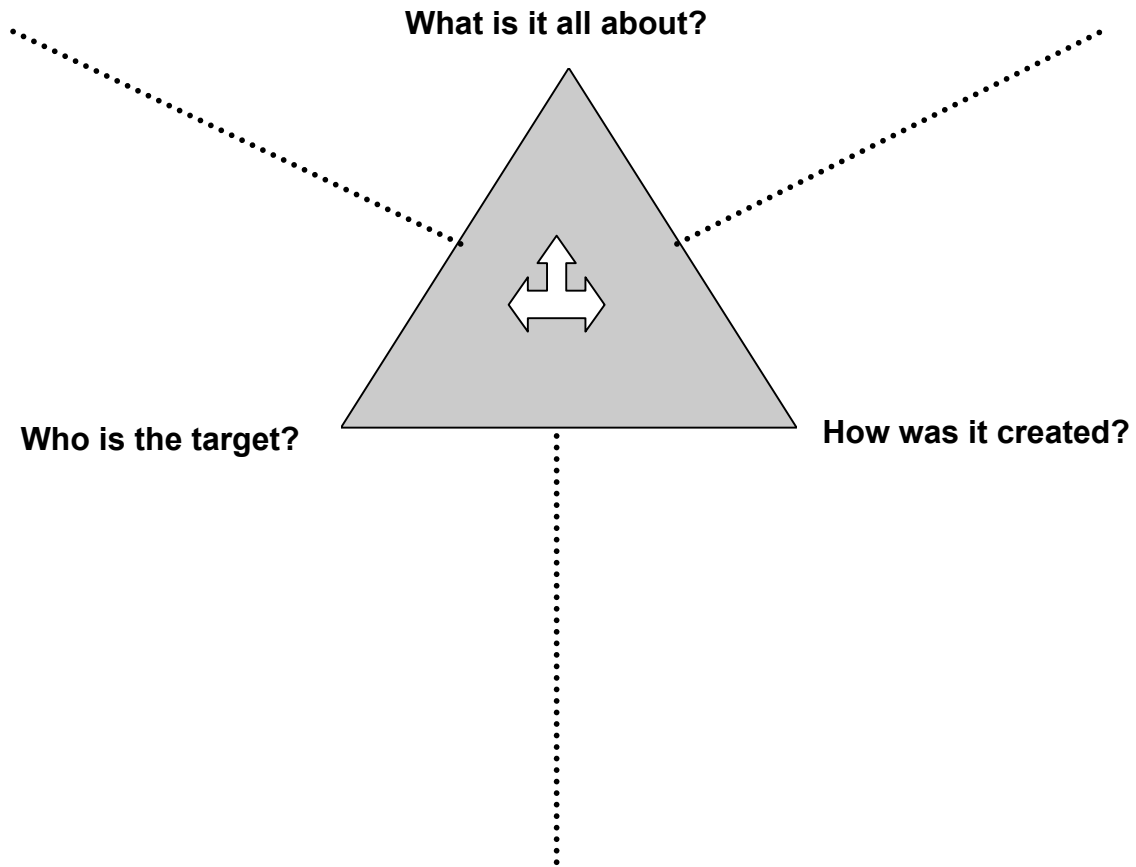
So What?

Example #5   Support for Children at Risk WebQuest Pt.1   Gr. 9–12
How can aid money be best utilized to support needy children?

Information

Pick up a newspaper or turn on the TV and you will be connected with people dealing with war and disaster and all need help—a tsunami ravishes the countries of South East Asia; AIDS kills parents in Africa, leaving children alone; war takes its toll in the Middle East. People are left homeless and struggling to find the necessities of life. Children are particularly vulnerable and we have pledged to provide for all children everywhere.
Convention on the Rights of the Child
http://www.unicef.org/crc/files/Rights_overview.pdf

Task

Your class has decided to act on their concern for other children and plans to raise money for a worthwhile charity but needs to decide on which one to support. Your group has been charged with the task of researching a possible recipient of the money and recommending or rejecting it. The class as a whole will vote on which non-governmental organization (NGO) is to receive your funds, so your careful analysis and informed opinion matter.

Process

Step 1) applies the process as described in the Read View Listen Model
1) Explore some of the many NGOs on the United Nations website and select three to four charitable organizations your group is interested in. Investigate the NGOs and collect specified data.
Steps 2) and 3) apply the process and described in the Matrix Model
2) Prepare a profile for each NGO using the *Profile of an NGO* organizer. Organize data on a large matrix using traits such as mission, vision, target group, sponsors, money matters, roadblocks, achievements, innovative approaches, etc. Analyze the data by examining each criterion across the matrix and extracting the benefits for children.

Investigating the Efficiency of NGOs				
Non-Governmental Organizations	Traits /Questions to Answer			
	Target Group	Sponsors	Money Matters	Achievements
NGO #1				
NGO #2				
NGO #3				

2) Decide on the most favorable organization to support and prepare a brief for the class based on your rationale and the analysis of the matrix data.
3) Present the briefs and compare and contrast findings using Talking Points to guide your discussion. Respond to questions from other groups.

Talking Points for Discussion:
- How cost effective is the effort? Does a substantial amount of donations go to actually solving the problem?
- Is the NGO recognized and rewarded by big names? How? Is this a good thing?

- How well do they deal with the roadblocks?
- How much effort goes into the business of collecting money, realizing the vision?
- What is the actual impact of the NGO?

4) We are now ready for closed ballot voting.

Information Sources
- Alphabetical listing of NGOs affiliated with United Nations http://www.ngo.org/links/list.htm
- Human Rights Watch http://www.hrw.org/
- Global Issues http://www.globalissues.org/HumanRights/

Evaluation
- data is adequate, relevant and accurate
- analysis is logical and insightful
- final decision based on data not predisposition or popularity
- presentation brief is well organized, clear, concise, information rich, and persuasive

✳ **The Big Think** ✳

Content
New Problem or Challenge—Now that your class has decided on which charity best supports children in need you will have to get busy and create an action plan. *So What?* Consider these questions when drawing up your plan: What is your target/goal? How will you achieve it? How will you advertise your events? Who can help you with this project? *What Next?* How can you follow up on your donation?

Process
Active Discussion—Review and chart the stages/steps of the learning journey. *So What?* How did the matrix help in decision-making? *What Next?* Explain how NGOs could make use of the matrix. List other problems that could be solved using the matrix model.

Profile of an NGO

Name of NGO

Mission/Vision (What):

Target Group (Where, Who):

Structure of NGO (paid positions, volunteers....):

Support Base (Who? company sponsors, campaigns, private donors..., How much?):

Visibility (Where? Advertising TV, press, How much?):

Funds Collected Annually:

Allocation of Funds (infrastructure, salaries, advertising, travel expenses...):

Percentage of Collected Money/Goods and/or Services Reaching Children:

Actual Achievements (previous years):

Road Blocks (problems encountered):

Example #5   Support for Children at Risk Pt. 2   Gr.7–12

How can youth contribute in a meaningful way to solutions for global issues related to youth?
Students often feel numbed and powerless by the bombardment of media and entertainment
themes focused on tough global problems.
Develop background knowledge using the Background to Question Model.
Ask students to collect evidence of global youth issues (newspapers, magazines, Internet) in
order to build a bulletin board collage of issues. Have students review these problems, reflect,
and respond using the *Exploring Topics/Issues* organizer.
Using the Problems Possibilities Jigsaw Model investigate the possibilities.

Research Aspects of Problem	Jigsaw to Investigate Possibilities
What are the causes and effects of these global problems? Group students by interest in a global youth issue. Groups will investigate their issue looking for causes and effects of the problem using *Investigating Cause and Effect* for recording their data.	*Why aren't government agencies and NGOs making more progress in solving serious societal issues?* Ask new groups to share information from the Cause and Effect chart for their youth issue and work collaboratively to explore the challenge question.
Group A – spread of aids Group B – child labor Group C – gun violence Group D – poverty Group E – war orphans Expert groups will now find government and non-profit organizations that are working to address the issue. Ask groups to assess the successes of the organizations and summarize the current status. Make copies for each group member.	Group ABCDE Group ABCDE Group ABCDE Group ABCDE Group ABCDE ***Talking Points to guide discussion:*** Examine attempted solutions, successes, and challenges. What isn't working? Why? What worked? Why? How were challenges overcome? Look for patterns and trends, commonalities in successes and challenges. What can we learn from them? How can the successes and innovations of one group be applied to others?

✳ **The Big Think** ✳

Content
New Problem or Challenge—*So What?* Return to Expert Groups. So now that we have all this
information where do we fit in? What can we do that might make a difference? Have each group
devise an initiative/solution/action to pursue. Test ideas with the class; discuss potential and
revise as necessary. *What Next?* Groups develop action plans and launch their ideas with the
wider community.

Process
Active Discussion—Review the note making strategies used in the process. *So What?* How
do graphic organizers help with analysis of data? *What Next?* Start a bank of note making
organizers for the Virtual Learning Commons.

Adapted from http://www.accessola.com/osla/bethechange/webquest/littlebit/index.html

Exploring Topics/Issues

Interesting Facts, Quotes, Observations	Thinking Connections, Inferences, Patterns	Questioning Who? What? When? Where? How? Why? Should? Would? Could?

I have decide to investigate……………………………………………………….because……………………………………………………

……

Investigating Cause and Effect

This organizer will help you to sort out the reasons some things happen as well as the consequences of an event. Use the connector words as clues to uncovering the causes and effects of an event.

Because….. Due to…..
As a result of…Since…
On account of…..
For this reason…
Leading to……

Issue

So… therefore…. Thus….
As a result…..Hence….
Consequently….
Resulting in….
With the result that….

Causes

Effects
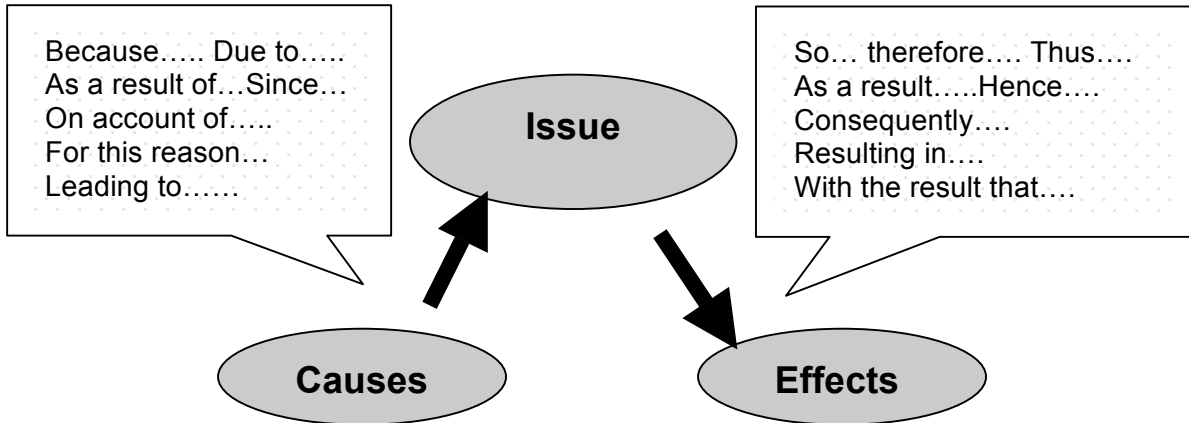
Current Status

Adapted from Build Your Own Information Literate School Koechlin and Zwaan 2004

Example #6 **Mosquito Alert** **Gr. 9–12**
How well are we coping with the threat of West Nile Virus?

Introduction
Ask students to share what they already know about West Nile Virus. Chart this information. Read aloud a short current article about West Nile Virus. Discuss and chart new information. Highlight new terms and vocabulary. Introduce the guiding question. Inform students that they will work in InfoTeams: Data Digger, Wordsmith, Illustrator, Reflector, Questioner. They will explore a variety of sources to help them focus on this question. They will each have a specific role in their team and that role will rotate daily for five sessions. Introduce and model the roles (see *InfoTeamwork* organizers) by returning to the short article and sharing responses for each of the five role tasks.

Read, View, Listen
In groups students use selected current articles, books, videos, news clips, websites and data from science and health organizations selected to represent all relevant players and cross-country perspectives. Assign role schedules and provide copies of *InfoTeamwork* organizers (each team consisting of all five roles). Remind students to focus on the guiding question as they are researching and completing their role tasks. Allow two-thirds of class time for reading and completing role tasks and one-third for the sharing circle. Every day students take on a new role using a new resource. Give students time to review their role worksheets and to complete their *Learning Log for InfoTeamwork.*

Compare
Every day students share the information they discovered through their assigned role. The group then focuses on the guiding question looking for common understandings about the threat of West Nile Virus and the problems and successes of coping with it. As a class, discuss common findings and record on chart paper.

Gathering Evidence of Understanding
o teams collected and recorded relevant information accurately
o information from different roles complimented and supported the findings of others
o students completed their tasks in role
o students compared findings and discovered commonalities

✷ The Big Think ✷

Content
H.O.T.—In groups have learners complete a *That's Good That's Bad* chart based on collective findings. *So What?* How well are we managing this crisis? *What Next?* What more can be done? Who else can we consult? What action can we take?

Process
H.O.T.—Review learning logs. *So What?* Which information processing roles worked best for you? Why? *What Next?* How can you expand your repertoire of approaches to processing information?

Learning Log for InfoTeamwork

Date…………………….…...............…Role……………………………………...
Today's Source:…………………………………………………………………………
Reflections:…………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………

Date…………………….…...............…Role……………………………………...
Today's Source:……………………………………………………………………
Reflections:…………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………

Date…………………….…...............…Role……………………………………...
Today's Source:……………………………………………………………………
Reflections:…………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………

Date…………………….…...............…Role……………………………………...
Today's Source:……………………………………………………………………
Reflections:…………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………

Date…………………….…...............…Role……………………………………...
Today's Source:……………………………………………………………………
Reflections:…………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………

Date:………………………………..
Summary thoughts and new questions:
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………

InfoTeamwork

Name:…………………………………………Team:……………………

Book:……………………………………………………………….

Reading for today is page…………………to page…………………

Today you are the Illustrator.
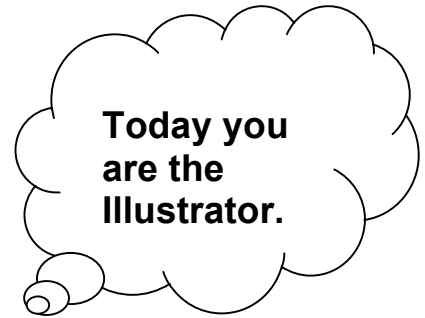
Illustrator: Your job is to read a section of your book and decide how you can share the information you have discovered using a visual interpretation. It can be a picture, cartoon, labeled sketch, graph, etc. Prepare to share with your team.

Adapted from *InfoTasks for Successful Learning,* Pembroke, 2001

InfoTeamwork

Name:…………………………………………Team:……………………

Book:…………………………………………………………….

Reading for today is page…………………to page…………………

<div style="text-align: right">**Today you are the Data Digger.**</div>

Data Digger: Your job is to read a section of your book and find fascinating and significant bits of information. Jot down these gems on your organizer and record why this data is important. Prepare to share with your team.

Interesting Data	Why it is important

Adapted from *InfoTasks for Successful Learning*, Pembroke, 2001

Put a star beside the most exciting data. You want to make sure you share this with your group.

InfoTeamwork

Name:……………………………………………Team:…………………

Book:……………………………………………………………..

Reading for today is page…………………to page…………………

Today you are the Questioner.

Questioner: Your job is to skim through your book, read pictures and graphics, headlines, sidebars and subtitles. As you are skimming, jot down questions you have about things you are discovering. Put a sticky note on the pages you have questions about so you can find them quickly when you are sharing with your team.

Who
What
When
Where
Why
How

Adapted from *InfoTasks for Successful Learning,* Pembroke, 2001

InfoTeamwork

Name:………………………………………….Team:………………….

Book:……………………………………………………….

Reading for today is page…………………to page…………………

> **Today you are the Wordsmith.**
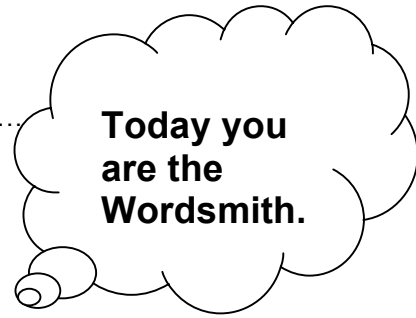
Wordsmith: Your job is to read a section of your book. As you read be watching for new and interesting vocabulary. Record these words and phrases as well as what you think they mean. Use a dictionary to make sure you have the correct meaning. Plan to share your words with the team.

Interesting word/phrase	What it means

The word/phrase of the day is:

Why?

Adapted from *InfoTasks for Successful Learning*, Pembroke, 2001

InfoTeamwork

Today you are the Reflector.
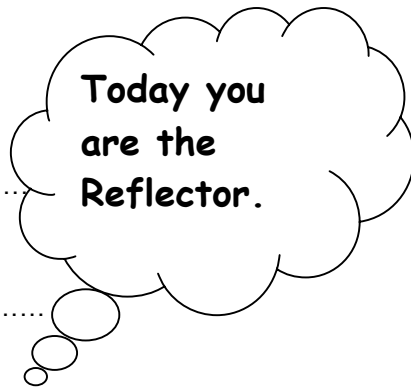
Name:………………………………………Team:……………

Book:……………………………………………………………

Reading for today is page…………………to page…………………

Reflector: Read a section in your book. Use the reflection prompts on your organizer to help you make connections to your new discoveries. Prepare to share with your team.

A main point I discovered: …………………………………………………………………………………………….

……

I can use this information……………………………………………………………………………………………….

……

I was surprised to find out that……………………………………………………………………………………….

………………..because……………………………………………………………………………………………………..

I didn't know that………

……

I think that………

because…….

The most important thing to remember is……………………………………………………………………………….

……

I wonder if………

……

Example #7　　　　　**Women in the Media**　　　　　**Gr. 10–12**

Background
Explore the imaging of women over the ages, in North America, using archival photos, music, art, and video.

Does media affect the imaging of women?			
Specialist Team		**Sharing Team**	
First Question: *How are women portrayed through the media in North American society today?*	**Research:** Organize groups of four. Each Specialist Team researches the imaging of women through a popular cultural medium. Provide students with *Keeping Organized* worksheet for recording their discoveries.	**Concept Forming Question:** *Are there any common patterns or trends in the imaging of women in popular culture today?*	**JigSaw:** One student from each Specialist Team joins the new Sharing Team. Students share their expert information about the cultural medium they researched. Students discuss their findings, look for patterns or trends, and identify any common elements. They record each common element on a card.
Group A - movies		Group ABCD	
Group B - music		Group ABCD	
Group C - sports		Group ABCD	
Group D - advertising		Group ABCD	

✶ **The Big Think** ✶

Content
Thoughtful Writing—As a class discuss the common elements discovered. Post the list in a Web 2.0 space so learners can respond. *So What?* Has the imaging of women changed over time? Why or why not? Do media affect the imaging of women? Why or why not? *What Next?* Develop questions for further independent study.

Process
Active Discussion—*So What?* How did working in specialist groups affect our efficiency and effectiveness? How did JigSawing help to broaden our understanding? *What Next?* Why are group work skills important?

Concep **How are women portrayed in the media in North American society today?**

Keeping Organized

Source :	
Notes	**Quotes**

Source :	
Notes	**Quotes**

Source :	
Notes	**Quotes**

Source :	
Notes	**Quotes**

Example #8　　　　　Drug Safety　　　　　Gr. 10–12
Why should we worry about prescribed drugs?

Develop Background Knowledge
Collect news items about concerns and problems with prescribed drugs. Have students read the news articles and keep track of their thoughts and questions on the *Critical Eye on the News* organizer. Have students meet in groups and discuss their reactions, questions, and inferences. Group students by interest to form the expert groups and work on question#1. JigSaw and pose the 2nd question.

Research Aspects of Problem	Jigsaw to Investigate Possibilities
1st Question Which drugs are in question and why?	2nd Question What are the common problems and concerns?
Expert Groups Group A – doctors Group B – medical journals Group C – health organizations Group D – pharmacists Group E – consumers Remind students to keep accurate notes and to validate all their sources.	**Problem Solving Groups** Group ABCDE Group ABCDE Group ABCDE Group ABCDE Group ABCDE Begin thinking about solution ideas.

Collaborate to Find a Solution
Return to expert groups and discuss possible solutions to the problems from the perspective of each stakeholder. Have groups use the *Problem Synthesis* organizer to keep track of their ideas. Have each group prepare an executive summary of their research and their findings. Invite another class to be reporters and hold a mock press conference to discuss the findings of the expert groups.

✳ The Big Think ✳

Content
Thoughtful Writing—*So What?* Return to the question. *Why should we worry about prescribed drugs*? Have each student write a response paper. ***What Next?*** Write letters of concern to appropriate health officials sharing student findings. What other aspects of Health Care require the consumer/patient to be aware?

Process
Active Discussion—Discuss problems students had finding good sources and how they solved those problems. ***So What?*** Collate problem solving techniques used by students. ***What Next?*** Create a HELP slideshow of tips for effective searches for The Virtual Learning Commons.

Critical Eye on the News

Title:………………………………………………..Author:…………………………….

Journal/Newspaper:……………………………………….Date:………………………….

From the Text	My reactions, questions and inferences
Facts	
Opinions	
Arguments	
Quotes	

.

Problem Synthesis

Use this organizer to explore solutions and solve a **problem** or construct a new **hypothesis.**

Problem	Issues	Reactions

Solution Idea	Solution Idea	Solution Idea	Solution Idea
Strengths	Strengths	Strengths	Strengths
Weaknesses	Weaknesses	Weaknesses	Weaknesses

Considerations	My solution/hypothesis

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Chapter 7

What do we learn about PEOPLE from story?
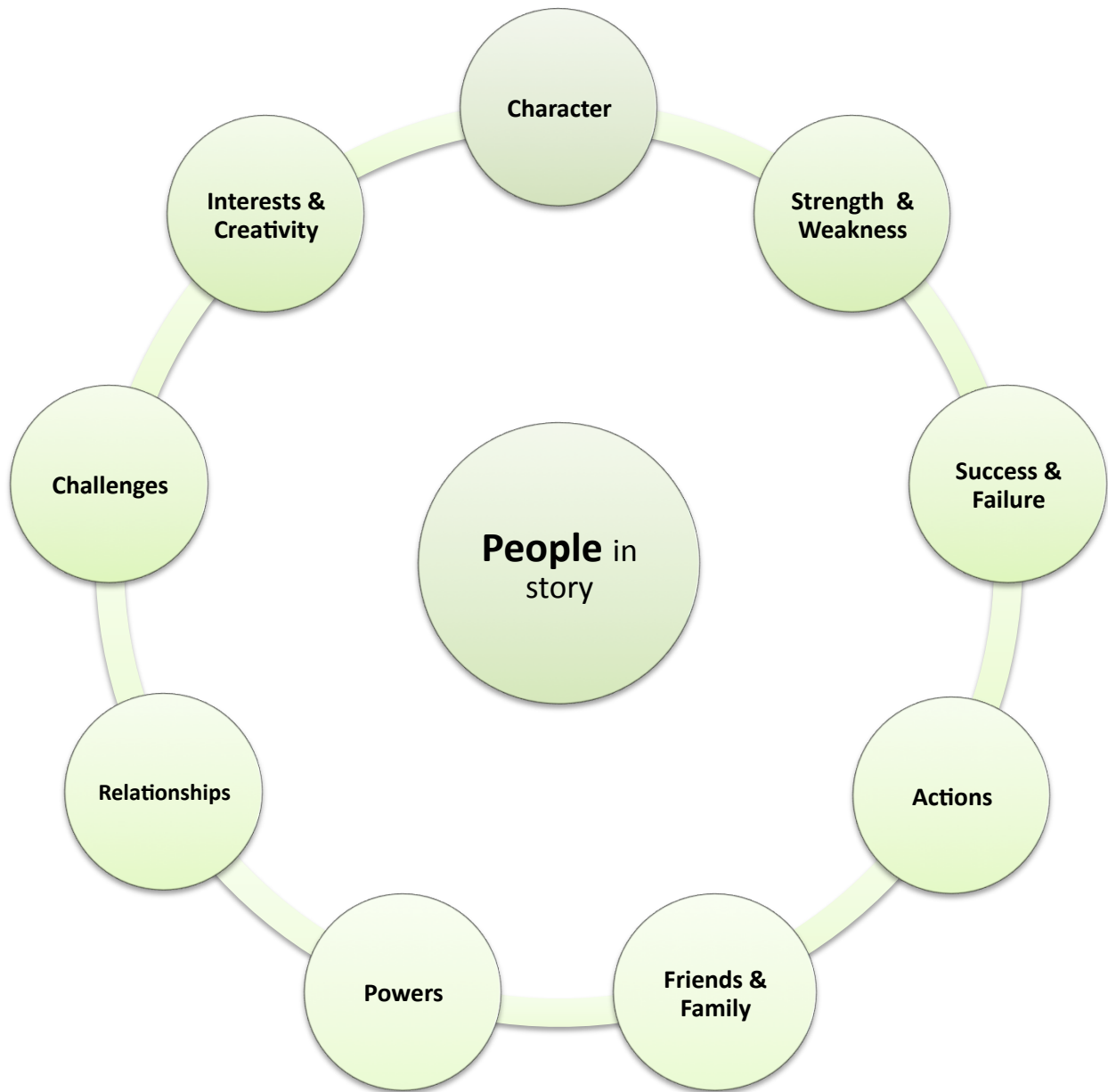
Example #1   Just Like Me   Gr. 1–3

Background

Over a number of days, read aloud carefully selected stories about children of other countries. Show and discuss pictures and videos of children living in other countries. Discuss with your students how these children are the same as they are.

How are we all the same?			
Specialist Team		**Sharing Team**	
First Question: *What is life like for children in another country?*	**Research:** Organize small groups of four. Each of these Specialist Teams will research the life of children in another country. Provide students with *My Research Organizer* on which to record their discoveries. Modify for students with low language acquisition by pairing them up with an adult volunteer or learning buddy and/or having them illustrate their information.	**Concept Forming Question:** *What do the children from these countries have in common?*	**JigSaw:** One student from each Specialist Team joins the new Sharing Team. Students share their expert information about the country they studied in their Specialist Team. Students discuss the life of children from each of the four countries and identify any common elements. They record each common element on a card.
Group A - Country A		Group ABCD	
Group B - Country B		Group ABCD	
Group C - Country C		Group ABCD	
Group D - Country D		Group ABCD	

✷ **The Big Think** ✷

Content
Active Discussion—Post the cards developed by the sharing teams, discuss findings and cluster common elements. ***So What?*** How are we all the same? Develop a list of things common to all children around the world. ***What Next?*** What happens when children do not have basic needs like enough food and water, education, clothing, and shelter? Is there anything other children can do to help?

Process
Active Discussion—Learners self reflect on working in groups and discuss the best and worst things about group work. ***So What?*** How did working in groups help us to learn? ***What Next?*** How can we get better at group work?

My Research Organizer

We want to find out about children in………………..
We used
- ☐ books
- ☐ pictures
- ☐ videos
- ☐ computers

How are we all the same?
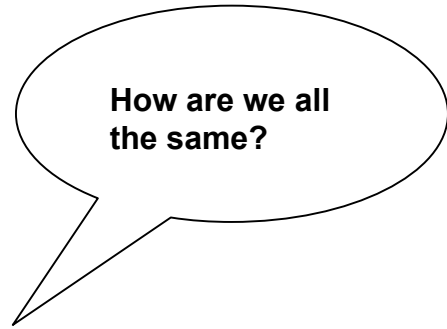
Family Life	School
Playing	**Clothing**
Homes	**Special Days**
Pictures	

Example #2   *Stella Louella's Runaway Book*   Gr. 2–4

How did Stella Louella's library book get lost? How can we find it?

Problem
What clues help the reader discover the title of the book that Louella lost?

Gather Data
Read and enjoy the story *Stella Louella's Runaway Book*. Have students meet in small groups to re-read the story and record the names of the characters on index cards. As the story progresses, ask them to use the other side of the card to record a clue offered by that character.

Analyze Relationships
Ask each group to read *Goldilocks and the Three Bears*. Have students develop index cards (use a different color) for the characters in this traditional story and cards for each major event. Ask students to look for relationships between the characters and events of *Goldilocks and the Three Bears* and the clues in *Stella Louella's Runaway Book*.

Select and Use Effective Tool
Model for students how effective a T-chart is for comparing things such as a tree and a flower.

Create and Critique
Have each group sort the index cards onto a T-chart comparing the two stories. Instruct them to join clues and events with colored string to create a chart that shows the relationships between the clues in *Stella Louella's Runaway Book* and the characters and events in *Goldilocks and the Three Bears*.

✶ **The Big Think** ✶
Content
Active Discussion—Share other stories, such as The Jolly Postman, that are dependent on clues. *So What?* How do the clues make the story interesting? *What Next?* Have small groups work with well known stories or fairy tales to develop a set of clues. Share with other groups and try to guess stories.

Process
Construct Visuals—*So What?* How does the relationship chart help us to see and understand connections in the story? *What Next?* Use a T Chart to show relationships between several new stories.

Suggested Picture Books for this Task
Ernst Campbell, Lisa. *Stella Louella's Runaway Book*. NY: Simon and Schuster Children's Publishing Division, 2001.

Ahlberg, Janet. *Each Peach Pear Plum.* Boston: Little, Brown and Company, 1991.

Ahlberg, Allan and Ahlberg Janet. *The Jolly Postman*. Boston: Little, Brown and Company, 1986.

Ahlberg, Allan and Ahlberg Janet. *The Jolly Christmas Postman*. Boston: Little, Brown and Company, 1991.

Ahlberg, Allan and Ahlberg Janet. *The Jolly Pocket Postman*. Boston: Little, Brown and Company, 1995.

Ernst Campbell, Lisa. *Stella Louella's Runaway Book*. New York: Simon and Schuster Children's Publishing Division, 2001.

Example #3   **Bully Help**   **Gr. 2–4**

How can we help each other to solve conflicts and problems?

Investigate Current Methods
Read *The Grouchy Ladybug* by Eric Carl. Discuss feelings in the story. List the words that describe feelings. Discuss the term "bully". Ask: "Have you ever been bullied? How did you feel? How do you think the bully felt? Why do you think people bully?" Group learners and give them books, at their reading level, that deal with bullying. The following picture books will match several reading levels and interests. There are many more that will work for this theme.
Group1 *Willy the Champ* by Anthony Brown
Group 2 *Goggles* by Ezra Jack Keats
Group 3 *Bootsie Barker Bites* by Barbara Bottner and Peggy Rothman
Group 4 *Arthur's April Fool* by Marc Brown
Group 5 *Berenstein Bears and the Bully* by Stan and Jan Berenstein
Group 6 *Taking Care of Crumley* by Ted Staunton
Learners read the story in their groups then take turns reading the story aloud again, stopping to fill in the columns on the organizer *Bully Help*. Everyone has a of *Bully Help* copy to take to the study group.
Compare /Contrast
Form new study groups with one student from each reading group. Ask students to share charts and examine all the different kinds of resolutions. Groups share different resolutions of conflicts.
Reinvent
Now discuss other ways of solving problems, dealing with frustrations, and dealing with bullies. Ask each group to make up a bully story that illustrates how we can all work toward resolving conflicts. How can we help both the victim and the bully? Give students puppets or have them make sock, finge, or bag puppets so they can dramatize their bully story.
Evaluate
Have each group perform their drama, ask, and respond to questions from the other groups.

✴ **The Big Think** ✴

Content
Thoughtful Writing—Chart all the resolution ideas. *So What?* What big ideas did we uncover about bullying? *What Next?* Who needs to know? How else can we share our bully plays?

Process
Active Discussion—Discuss the process of gathering and sorting information from the readings. *So What?* How did the chart, *Bully Help* assist us with this project? *What Next?* Use the organizer to analyze one of the student dramatizations or another book.

Bully Help
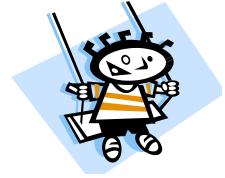
Read your story. Think about the characters and the problems they had. Talk about it and then work with your group to complete this organizer.

Title	**Bully** Who is teasing? Who is being mean? Who is selfish? Who is hurting someone?	**Victim** Who is being hurt? Who is afraid? Who is crying? Who is running away or hiding?	**Resolution** What helped the victim? What helped the bully?	**Ending** How well did the resolution help? Do you have some other ideas to try?
Setting Where does the story happen?				

Example #4   Fairy Tales   Gr. 2–6
How do we know when a story is a fairy tale?

Build Background
Immerse students in a rich variety of fairy tales from many cultures. Invite students to bring their favorite fairy tales from home to reread or retell. Create a display—Fairy Tales We Love. Watch film versions of fairy tales and compare them to print versions. Create stick puppets of characters and dramatize scenes from fairy tales. Pose the focus question: How do we know when a story is a fairy tale?

Gather Data
Create a large matrix on mural paper on a wall surface so there is lots of room for the matrix to grow. Discuss student responses to the focus question and develop traits for the matrix headings (e.g. good and bad characters, magic numbers, etc.). Explain to students that together they will be reading lots of fairy tales and looking for evidence that they are fairy tales. Together you will put the evidence in the appropriate cells. (Use the language of the matrix even with very young students.)

Organize Data in the Matrix
As each fairy tale is read or viewed, complete a row on the matrix.

Looking for Patterns in Fairy Tales				
Title and Author	Traits and Questions to Answer			
	Good Characters	Bad Characters	Are there special numbers?	Is there any magic?

Analyze Matrix
Analyze each row on the matrix looking for similarities and differences. Chart the findings. Some may include: all fairy tales had a character that did or said bad things; in some fairy tales there was more than one bad character: sometimes it was a woman, sometimes a man; etc. What are the patterns that seem to be common to all fairy tales?

✳ The Big Think ✳

Content
New Problem or Challenge—Discuss the essential question, *How do we know when a story is a fairy tale? So What?* What would happen to the story if we changed the pattern? Have students retell a fairy tale, changing a trait from the matrix. *What Next?* Use the pattern to write a new fairy tale.

Process
Active Discussion—Review the learning process for analyzing traits of fairy tales. *So What?* How did the matrix help us to discover a pattern for fairy tales? *What Next?* Use a matrix to discover and map other types of story patterns (e.g. tall tales, legends, fables, mysteries, etc.).

Example #5   Myths and Legends WebQuest   Gr. 4–8

How do we solve a mystery?

Introduction—The Case of Mysterious Happenings

Your Teacher-Librarian gets many questions about the books of Myths, Legends and other unsolved mysteries and wants to finally find the truth about these strange stories.

Task

Your team at Snooper Detective Agency has been commissioned to uncover the truth about a case. In two weeks you must submit a full report including your notes and the evidence gathered. Discuss your findings of this highly sensitive case with only your librarian and members of The Snooper Detective Agency. Double-check all your sources of information to ensure that the data you gather is authentic and valid. Be Alert!

Process – History Mystery Model

1. **Gather and Sort Primary and Secondary Evidence** Snoop around the 00 section in your library and record the names of famous, but still unsolved cases. Decide on the case your group will investigate.
2. Each member of your team will gather data on the case and keep accurate records on the *Confidential Mystery Investigation* organizer. Divide up your workload.
3. Meet to sort data.
4. **Compare and Contrast** the team's data using the *Solving the Mystery* organizer.
5. **Evidence Check** Review your data. Do you need more evidence? Do you have conflicting information? Have you solved your mystery? Do you meet the Evaluation Rubric requirements?
6. Prepare and deliver your report and 3-minute presentation to another team (and theirs to yours).
7. Apply the evaluation rubric to each others' report. What needs to be fixed? Fix it.
8. Jigsaw and present your report to a different team. Apply the Evaluation Rubric again. Make necessary changes so that each team receives a detective badge.

Information Resources

Start with an Encyclopedia search (Online or print) and then check books from your school library collection. Search for your mystery in these websites.
- Monsters, Myths and Mysteries: Great Canadian Legends—CBC Archives: http://archives.cbc.ca/IDD-1-69-1462/life_society/myths_and_legends/
- World Mysteries: http://www.world-mysteries.com/index.html
- The Search for Monsters of Mystery: http://www.nationalgeographic.com/ngkids/9903/monsters/
- Unsolved Mysteries: http://teachers.westport.k12.ct.us/resource/unsolved.htm

Evaluation You will be assessed on how well you have:
- validated your sources of information.
- kept accurate notes.
- analyzed your information.
- summarized and presented your case.

✳ **The Big Think** ✳

Content

Interact with an Expert—Review all cases and list the common elements. *So What?* Prepare questions for a meeting with an expert. *What Next?* Invite a local detective or anthropologist to explain one solved and one unsolved mystery. Share ideas about cases and careers.

Process

Construct Visuals—*So What?* Build a class chart of Steps in Solving a Mystery and Accepted Sources of Evidence. *What Next?* Now that everyone has earned their detective badge, create new class groups. Prepare one or several mysteries for them to solve within a strict time limit.

Confidential Mystery Investigation

Case Code Name: _____

Investigative Team: _____

Possible Clues
-
-
-

Solid Evidence
-
-
-

Source:

Possible Clues
-
-
-

Solid Evidence
-
-
-

Source:

Possible Clues
-
-
-

Solid Evidence
-
-
-

Source:

Solving the Mystery

Evidence confirmed by all team members

-

-

-

-

-

Conflicting Information

-

-

-

-

Confirm or reject this data.

Having considered all the evidence we have determined that ....

Example #6   The Message is…   Gr. 4–12
What are the main themes of this novel?

Introduce and Build Background
Select a novel with a fast tempo or lots of action. Read aloud the first chapter of the book and establish basic information about characters, time period, setting and possible plot or problems. Take the novel apart, literally, by chapter, reserving the last chapter for a final read aloud. (You may need to copy one page in order to complete each chapter.) Group students and give each group a chapter of the novel.

Build Expertise	Combine Expertise to Build New Understanding
What are the main events in this chapter?	What are the main themes of this novel?
Each group reads the chapter, taking turns reading aloud. Discuss and decide on the main events. Group A – Chapter 2 Group B – Chapter 3 Group C – Chapter 4 Group D – Chapter 5 Group E – Chapter 6 Etc. Create a 30 second dramatization that captures the essences of the chapter.	Group ABCDE Group ABCDE Group ABCDE Group ABCDE Group ABCDE Have group members do a do a chapter by chapter "Tell Around". Read aloud the last chapter and discuss major themes of the novel.

✷ The Big Think ✷

Content
Construct Visuals—Ask groups to select a character from the novel and develop a *Character X Ray* by sketching an outline of the character on chart paper and filling it in with words and phrases that describe the emotions, ideas, actions, physical characteristics, and attributes of the character. *So What?* Share *Character X Rays* and discuss how these character traits contribute to major themes. *What Next?* Ask students to identify evidence, from the novel, that shows how their character contributes to the major themes. Record evidence on the space surrounding the character.

Process
Thoughtful Writing—*So What?* Create thought bubbles of the students' reactions to the novel, the characters, and this process for reading a novel together. *What Next?* Add the thought bubbles to the *Character X Rays*. Take the X Ray Characters on tour and present it to other classes.

Note:
This activity is designed to engage reluctant readers. Explore another version at this site.
http://www.turningpts.org/pdf/Novel_in_an_Hour.doc
Books that work well for this activity have short chapters and lots of action such as *Demonkeeper* by Royce Buckingham, *Nightjohn,* and *The Tent* by Gary Paulsen, *The Misfits* by James Howe, *Boot Camp* by Todd Strasser, or *Inside Out* by Terry Trueman
Character X Rays is adapted from Role on the Wall. For many more drama extensions to literacy see *Leap into Literacy* by Kathleen Gould Lundy

Example #7　　　　　The Invention　　　　　Gr. 7–12

How important are visual effects in a live production?

Explore Issue or Event/Build Background
This task provides an instructional pattern for re-creating a visual novel into a live performance (stage play or film). This task example is based on *The Invention of Hugo Cabret* by Brian Selznick. This title lends itself well to a class read aloud or shared reading in a small group. Over half of the novel is a visual story in 284 original pencil drawings. The story is set in Paris in the 1930s in and around a train station. It is a fictional story based on the life of filmmaker George Melies.

Research to Validate Authenticity
Links to sources of information about George Melies and his films are provided in the book credits. Melies collected automata (mechanical machines) and one such machine is central to the mystery solved in the novel. As well as researching the filmmaker and life in Paris in the '30s, it would certainly enrich this task if any of the many famous films mentioned in the novel could be viewed and discussed by the students. Many film stills and some original illustrations are part of the visual text and they are credited so students can research them further. A study of Selznick's excellent use of close-up visuals and other special effects will assist students as they plan their live re-creation. Topics to research for authentication: George Melies, films and film stills in the novel, automata, Paris in 1930, train stations in Paris, costumes, furnishings, music, etc.

Select Format and Construct Re-Creation
To recreate this novel into a performance, students will need to consider length of the play/film, characters, major events and settings, camera, sound and lighting effects. Decisions will need to be made regarding selection of essential scenes and material that can be left unsaid, as the author does in the visual novel. When the script is drafted, it must be storyboarded and then enhanced with sets, props, and music and lighting that compliment the retelling of this unique story. Hold auditions for casting and ensure that all students in the class have role to play in the production. Rehearsals will spawn rewrites and revisions.

Perform
Ensure that the performance or screening is as authentic as possible with tickets, program, credits, media coverage, and reviews written for the school newsletter. Ensure that all permissions are given and credits documented of borrowed and original works.

✶ **The Big Think** ✶

Content
Interact with an Expert—Review the focus question: *How important are visual effects in a live production?* Ask an expert to view the event and join learners in a discussion. ***So What?*** How do the author's drawings contribute to the live performance? Was filmmaking more of an art form in the '30s than it is now? ***What Next?*** Re-create a film into a visual novel.

Process
New Problem or Challenge—List the new skills needed to complete this task. ***So What?*** Identify where you can use these skills again. ***What Next?*** How can we improve these skills?

Example #8   **Healthy Lifestyles**   **Gr. 8–12**
How can teens make informed decisions about leading a healthy lifestyle?

Problem/Issue
In an integrated unit, students are studying healthy lifestyles and reading novels dealing with adolescent issues (e.g. drinking, smoking, AIDS, teen pregnancy, violence, sexual abuse, and performance-enhancing drugs).
Prediction
Ask students to identify the protagonist and the social or health issues they are dealing with in the novel they are reading. Record these on sticky notes and then cluster similar issues. Develop categories for these problems. Group students according to issue/problem and have each group brainstorm and predict possible causes and effects of their issue. Use *Investigating Social and Health Issues* to record ideas.
Background Building
Group members research the issue from a variety of resources available in the school library. Review "evaluating resources." Take notes regarding the possible causes, effects, and solutions for dealing with these adolescent problems.
Expert
Individually, students consult experts (e.g. social workers, physicians, police, agencies, and guidance counselors). Complete the last section of the organizer. Share new information and discuss causes, effects, and solutions in small groups.
Consultation
Use the inner circle outer circle strategy; inner circle are the consultants, outer circle ask questions. Outer Circle moves clockwise three spaces and continues consultation with a new expert. Switch roles and continue consulting process.

✳ **The Big Think** ✳

Content
Thoughtful Writing—Each student writes a letter to the protagonist in their novel with their best advice based on their research of the issue. Post letters in a collaborative space where learners can review and add comments and suggestions. In groups discuss the evidence of common advice given to the book characters. *So What?* What advice can we give all teens about maintaining a healthy lifestyle? *What Next?* What should parents know in order for them to help their children lead healthy lifestyles?

Process
Construct Visuals—Individuals map their learning journey on a timeline noting occasions when they encountered problems or exceeded expectations. *So What?* Share timelines in groups and discuss time management issues. *What Next?* What can we do to manage our time better?

Investigating Social and Health Issues

This organizer will help you make connections between events, their causes, and their consequences. Usually we notice the event first and then have to think backwards to determine what caused it, so fill in the events as you discover them and then use the connector words as clues to uncover the causes and effects of the events.

Problems

Causes

Because….. Due to…..
As a result of…Since…
On account of…..
For this reason…
Leading to……
As a reaction to …..

Effects
So… therefore…. Thus….
As a result…..Hence….
Consequently….
Resulting in….
With the result that….
Reacting to......
Justified by.....

Possible Causes	**Events**	**Probable Effects**

Now I think that....
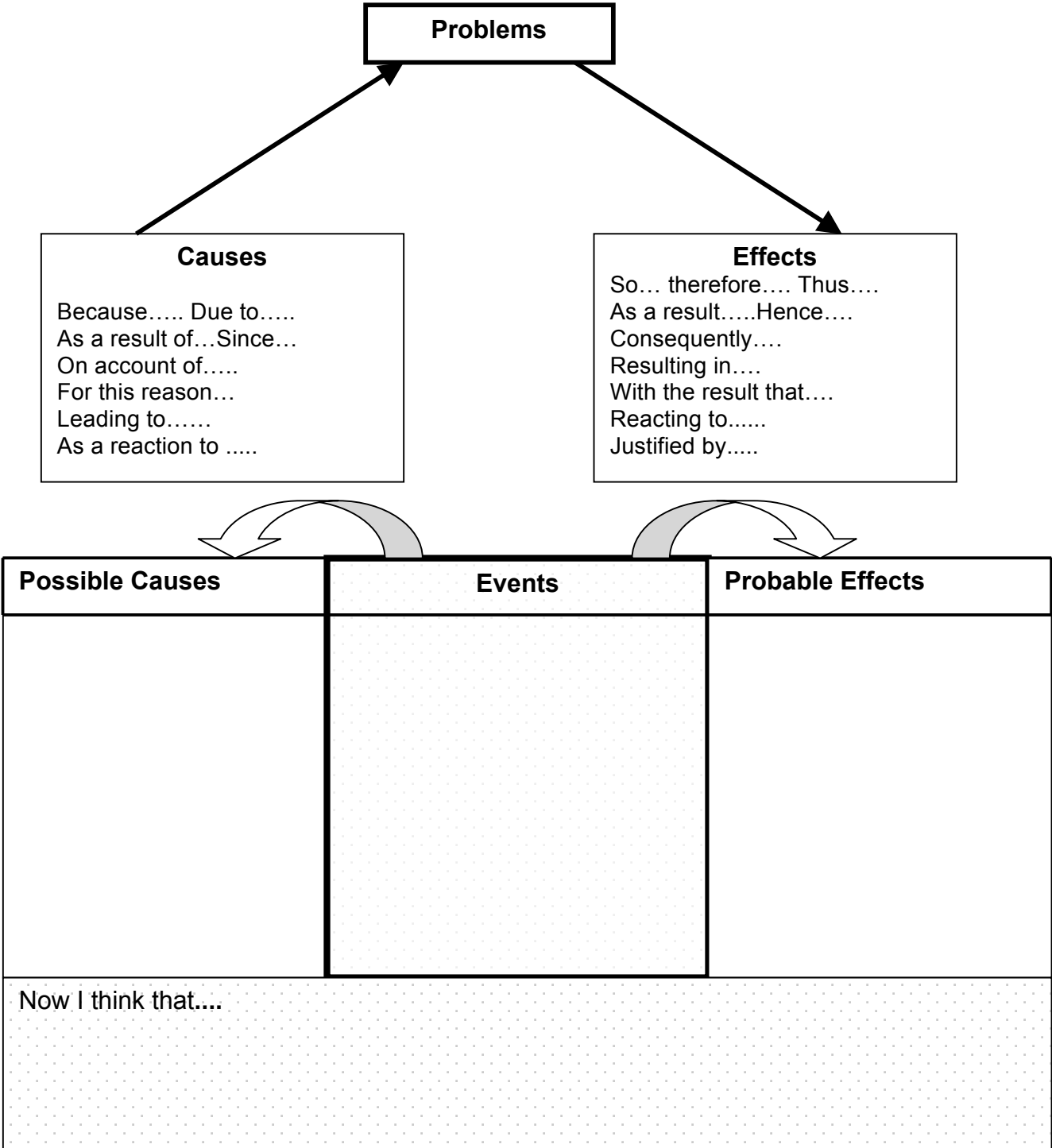
Example #9   **The Power Struggle**   **Gr. 9–12**
How do power struggles in texts engage the reader?

The Read, View, Listen Model
Students will be reading short stories to explore issues of power, how they are developed through narrative, and what impact they have on the reader. Brainstorm with students the kinds of questions they need to ask themselves as they are reading, if they are to uncover the power scenarios in their text.

Who is in control? How do you know?
How do the powerful characters act? How do the powerless characters act?
Whose voice is clearest? Whose voice is not heard?
Is there a hierarchy of power?
Who is mistreated?

Form small groups and provide each reader with a different short story that demonstrates the theme of power struggles. Students read the text and, using sticky notes, identify evidence of power, powerlessness, and the language that describes power.

Compare and Contrast Model
Instruct students to meet in groups to share the power struggles they have discovered in their short stories. Share also the power language they discovered and the characteristics of positions of power and powerlessness.

Sensemaking Model
Once students have analyzed the relationships in their short stories and compared them to those of their peers, they are ready to demonstrate their understanding. Have students create a concept map of their short story that shows visually the power struggles they discovered. Instruct students to experiment with space, medium, colors, shapes, fonts, and graphics to create the most effective re-conceptualization of their story. Share ideas with their peers; critique each other's work; and prepare a final concept map.

✳ **The Big Think** ✳

Content
Active Discussion—Share maps and return to the guiding question. *So What?* Discuss the impact power struggles in narrative have on the reader and the larger community. *What Next?* Write a story that applies the knowledge gleaned from this activity.

Process
H.O.T.—Review and critique the concept maps developed by students. *So What?* Develop criteria for an effective concept map. *What Next?* Add the criteria and a few exemplars to the school library website as well as links to software for creation of concept maps.

Appendix

18 Think Models Reprinted Here for Your Convenience

Model Layout

Planning for the Concept Jigsaw Puzzle Model

Topic or Issue:

Learning Goals	Essential Questions
	Engaging Question:
	Concept-Forming Question:

Consider the Possibilities   **Action Plan**

Critical Thinking and Information Skills
- ☐ select relevant data
- ☐ determine significance
- ☐ collaborate
- ☐ synthesize

Introduce Task and Build Background

Reading for Meaning
- ☐ read widely for perspective and depth
- ☐ interpret data
- ☐ make connections and relationships
- ☐ build expertise about a topic

Engaging Question

Technologies that Feature:
- ☐ effective access to information and ideas
- ☐ the ability to arrange, cluster and organize ideas
- ☐ collaborative extraction and document building
- ☐ presentation tools

Groups Research Aspects of Question

Differentiation
- ☐ use simple to complex information sources
- ☐ use a rich variety of media
- ☐ provide graphic organizers of varying degrees of sophistication
- ☐ give attention to appropriate grouping

Present Higher-Level Question

Assessment Criteria
- ☐ collected adequate, relevant and accurate data
- ☐ summarized effectively
- ☐ shared expertise efficiently
- ☐ constructed new ideas creatively and collaboratively

Combine Expertise to Build New Understanding

THE BIG THINK

So What?
Content
- ☐ Use sharing group expertise to create a whole group concept map.
- ☐ What do we know about the larger topic characteristics?

Process
- ☐ Ask: How does collaboration contribute to efficient and effective learning?
- ☐ Create a list to guide the collaborative process.

What Next?
- ☐ What should happen as a result of this new knowledge?
- ☐ Who needs to know? What action could we take?

Handy Planning Page

Think Model #6: Concept Jigsaw Puzzle

Design Assessment ← Create Essential Questions ← Select Goals

Background Knowledge is Developed	A Question That Requires Research	Individuals or Groups Research Different Aspects of the Question	Present a Second Question Requiring Combined Expertise to Solve	Groups with Combined Expertise Build an Answer	Big Picture; Deep Understanding

Introduction; Background → Engaging Question → Group A / Group B / Group C / Group D → Higher-Level Question → Group ABCD / Group ABCD / Group ABCD / Group ABCD → The Big Think

Critical Information Points

Assessment

Why This Model?

- Develop deep understanding rather than surface knowledge
- Develop group skills including interdependence and accountability
- Two heads are better than one
- Replicate a prototype of the real world of business and industry
- Stimulate each learner into making a contribution
- Use to introduce lots of material quickly
- Encourage divergent thinking

☆ **Life Skill: Questions are the key to understanding.** ☆

Possible Topics:
- Persons
- Places
- Things
- Events
- Ideas
- Movements

Think Model

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THINK Models in Brief

- **Background to Question Model**—where learners build enough background knowledge on a topic to formulate intelligent and engaging questions for themselves

- **Sensemaking Model**—where the learner takes a group of facts, ideas, or opinions and makes sense through visualization, classification, or synthesis

- **Read, View, and Listen Model**—where learners read, view, and listen widely on a topic and combine what they learn with what others know

- **Advice to Action Model**—where learners consult a wide variety of advice and discern what are the wisest courses of action

- **Compare and Contrast Model**—where people, places, ideas, time periods, issues or solutions to problems are analyzed and compared to gain understanding of varying perspectives

- **Concept Jigsaw Puzzle Model**—where groups build expertise on subtopics and then combine their expertise to build a big picture across what everyone has discovered

- **Problems/Possibilities Jigsaw Puzzle Model**—where learners build expertise in various parts of a problem and then combine their expertise to solve the larger problem.

- **Decision Matrix Model**—where learners assemble facts, ideas, or opinions in a spreadsheet-type of matrix that enables them to do a comparative analysis in order to make an informed rather than a subjective decision

- **Patterns & Trends Matrix Model**—where learners assemble facts, ideas, or opinions in a spreadsheet-type of matrix that enables them to look for patterns or trends across the data collected

- **The Timeline Model**—where learners arrange ideas, events, or data in chronological order to enable comparisons, sequences, contrasts, or developments in order to see a larger picture of what is or was happening.

- **History & Mystery Model**—where learners try to determine what happened, really happened, or find explanations to mysterious happenings

- **Take a Position Model**—where learners take positions based upon careful study rather than upon whim

- **Re-Create Model**—where learners create authentic reproductions whether literary, real, artistically, or creatively

- **Reinvent Model**—where learners try to invent new ways of doing things, processes, environmental systems as close to the real world as possible

- **Learn By Doing**—where learners create apprenticeships, experiments, mockups, or performing tasks in the real or simulated world

- **Teacher-Directed Quest Model**—where learners do research projects under the teacher and learning specialist's direction such as:
    - Online Quest Projects
    - The Report
    - The Research Paper
    - The WebQuest as a Research Model

- **Learner-Directed Quest Model**—where learners take the initiative with adult shadowing of research projects:
    - Hero's Journey
    - Become an Expert
    - I Search

- **Mix It Up! Model**—where learners mix and match any of the models above

Planning for the Background to Question Model

Topic or Issue:

Learning Goals

Essential Questions

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ use search strategies
- ☐ skim, scan and consider
- ☐ develop questions
- ☐ define a research topic

Reading for Meaning
- ☐ read, view and listen widely
- ☐ read for an overview
- ☐ build vocabulary
- ☐ discover concepts and ideas

Technologies that Feature:
- ☐ efficient search features
- ☐ surf, scan, fast forward capabilities
- ☐ overview of resources
- ☐ manipulatives for brainstorming

Differentiation
- ☐ use abundant materials at different levels
- ☐ provide a rich variety of media
- ☐ provide adequate time
- ☐ use buddies; small groups

Assessment Criteria
- ☐ navigated sites efficiently and effectively
- ☐ engaged in relevant exploration
- ☐ made connections and discovered relationships
- ☐ sparked interest in personal research questions

Action Plan

Build Background

Connect to Old and New Learning

Build Questions

THE BIG THINK

So What?
Content
- ☐ Students share and analyze individual questions to develop an umbrella question(s) for study.

Process
- ☐ Ask: What is a good question?

What Next?
- ☐ Pursue the question(s).

Think Model #1: Background to Question

Design Assessment ← Create Essential Questions ← Select Goals

Curriculum Topic and Objectives

Explore
• Read
• View
• Listen
• Survey
• More is better
• Skim
• Scan

Connect New and Old Learning
• Brainstorm
• Reflect
• Question
• Sort
• Infer

Build a Question
• Narrow and focus a topic
• Build a quest

Plan a Project
• Goals
• Timeline
• Resources
• Strategies

Topic or Issue → Build Background, Explore → Make Connections → Build a Question → The BIg Think

Critical Information Point

Assessment

Why This Model?
• Capture the learner's interest
• Build a basic vocabulary of the topic
• Compensate for uneven prior knowledge
• Use when prior knowledge is skimpy
• Help learners build engaging questions when they seem to lack interest
• Provide an opportunity for a "topic to select a learner"
• Use when the textbook is insufficient
• Help learners narrow a topic when struggling with generalities
• Turn a library orientation into an exploration

Possible Topics:
• Environmental issues
• Genetics
• Health and safety issues
• Political ideologies
• Types of music
• Science fair projects
• Pet care and needs
• Media influence on behavior
• Marine biology
• Rain forests
• Middle Ages
• Middle East
• Early settlers
• Ecosystems

☆ **Life Skill: The more you know, the better questions you ask.** ☆

Planning for the Sensemaking Model

Topic or Issue:

Learning Goals

Essential Questions

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ evaluate sources
- ☐ sort and classify
- ☐ create and use organizers
- ☐ transform data to visual representations

Reading for Meaning
- ☐ read and select key data
- ☐ recognize patterns
- ☐ make connections
- ☐ sequence, interpret and visualize data

Technologies that Feature
- ☐ a wide variety of graphs, charts, spreadsheets and databases
- ☐ integration of audio and video, still images, animation
- ☐ transformation assists
- ☐ collaboration and podcasts

Differentiation
- ☐ use manipulative and kinesthetic assists
- ☐ use a variety of simple to complex information sources and media
- ☐ provide graphic organizers at a variety of levels
- ☐ provide simple to complex software and technologies for representation
- ☐ accept representations at a variety of levels

Assessment Criteria
- ☐ used adequate, relevant and accurate data
- ☐ demonstrated logical sorting and classifying
- ☐ produced instant clarity of message
- ☐ made connections and developed conclusions

Action Plan

Identify Data/Ideas Not Understood

Collect and Validate Data

Find Connections

Analyze Relationships

Experiment with Tools

Create and Critique Visualizations of Data

THE BIG THINK

So What?
Content
- ☐ Gallery Walk: What do the data pictures mean? Do different pictures of the same data mean different things? Why?
- ☐ Group comparison of visuals of same data with class developed criteria. (e.g. clarity, effectiveness, creativity)

Process
- ☐ Ask: Where else in school and life can I use visualization to improve my understanding?

What Next?
- ☐ What are the implications of these findings?
- ☐ What should happen as a result of this knowledge?
- ☐ Who could benefit from these visuals?

Think Model #2: Sensemaking
Visualizing / Re-Conceptualizing

Design Assessment	←	Create Essential Questions	←	Select Goals

Concepts, Ideas, or Data Either Not Understood or Misunderstood	Collect & Validate Data	Find Connections • Sort • Classify • Patterns • Missing Data?	Use Graphic Tools to Assist in Visualization	Create • Re-Work • Re-Think	Share and Defend New Understanding

Data / Ideas Not Understood → Gather Data → Find and Analyze Relationships → Experiment with Tools → Create and Critique → The Big Think

Critical Information Points

Assessment

Why This Model?

• Helps ESL and language limited Learners demonstrate understanding
• Take advantage of the addage that a picture is worth a thousand words
• Take advantage of learners who have high visualization abilities
• Add one more dimension to text and explanations
• Use when data cannot be understood in their raw form
• Try several visualizations of the same ideas
• Clarify concepts where misconceptions abound

Possible Topics:

• Popular misconceptions
• Data in any discipline
• Large amounts of data
• Population patterns
• All types of maps
• Ideas and their connections
• Cause / Effect
• Environmental / Social issues
• Difficult concepts

☆ **Life Skill: Visualizing information and data builds new perspectives.** ☆

Planning for the Read, View, Listen Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ use pre-reading techniques
- ☐ read, view, listen, manipulate
- ☐ read visuals
- ☐ compare; contrast
- ☐ note-making strategies

Introduce the Topic

Reading for Meaning
- ☐ skim, scan and consider
- ☐ identify main ideas
- ☐ make text to text comparisons
- ☐ develop vocabulary and key concepts

Read, View, Listen, Work

Technologies that Feature:
- ☐ visual and auditory information
- ☐ pause and playback
- ☐ note-making and classifying assists
- ☐ collaborative extraction and document building
- ☐ citation tracking

Differentiation
- ☐ use materials and media at different levels
- ☐ provide adequate time
- ☐ use buddies; small groups
- ☐ pay attention to appropriate grouping

Compare and Contrast

Assessment Criteria
- ☐ identified main ideas
- ☐ discovered commonalities and discrepancies
- ☐ contributed to building group knowledge
- ☐ spoke the language of the topic

THE BIG THINK

So What?
Content
- ☐ Individual followed by group synthesis.
- ☐ Main ideas; big ideas discussion/reflection/conclusion

Process
Ask
- ☐ How do I become an expert?
- ☐ How can groups help each member master large amounts of information?

What Next?
- ☐ Use this knowledge as background for a main event learning project.
- ☐ Follow new curiosities and questions sparked during the process.

Think Model #3: Read, View, Listen

Design Assessment ← **Create Essential Questions** ← **Select Goals**

| **Introduce the Topic(s) and Objectives; Focus Points** | **Groups or Individuals Read, View, Listen, and Work with Information** | **Compare/ Contrast Items on Theme Elements** | **Summary/ Synthesis Activity** |

Source 1

Source 3

Introduction → **Topical/ Theme Elements** → **Compare; Contrast** → **The Big Think**

Source 2

Source 4

Critical Information Points

Assessment

Why This Model?

• Experience many literary/written works rather than a single text
• Allow all skill levels or backgrounds to concentrate on the theme rather than the difficulty of the text
• Concept map the big ideas across texts
• See big picture across cultures, authors, governments, time periods, ideas
• To compensate when you can't afford a textbook but have a library

Possible Topics:

• Literary themes across books
• Similar literary themes across cultures
• Causes of wars across combatants
• News reporting across international newspapers & TV
• Teen angst across teen novels
• Comparison of cultures around the world at the same time period
• Lives of rich and poor—same time, same locale

☆ **Life Skill: The more you "read" and think, the more you know.** ☆

Planning for the Advice to Action Model

Topic or Issue:

Learning Goals

Essential Questions

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ use primary sources
- ☐ evaluate sources
- ☐ identify fact and opinion
- ☐ interpret, infer, predict
- ☐ determine cause and effect

Reading for Meaning
- ☐ make text to self connections
- ☐ identify perspective
- ☐ sort and analyze data
- ☐ create effective questions

Technologies that Feature
- ☐ location and delivery of a wide range of ideas and authorities
- ☐ dependable and current resources
- ☐ rearranging and classifying assists
- ☐ real time interactive communication

Differentiation
- ☐ provide needed contacts for advice
- ☐ access advice givers at different levels
- ☐ provide appropriate organizing tools
- ☐ use buddies, small groups, counselors

Assessment Criteria
- ☐ selected reliable, relevant and unbiased advice; recognized poor advice
- ☐ identified and understood all relevant perspectives
- ☐ understood and interpreted consequences of advice
- ☐ collaborated to test advice

Clarify Problem or Issue Needing Expert Advice

Predict Advice

Build Background

Gather, Sort and Analyze Expert Advice

Conference

THE BIG THINK
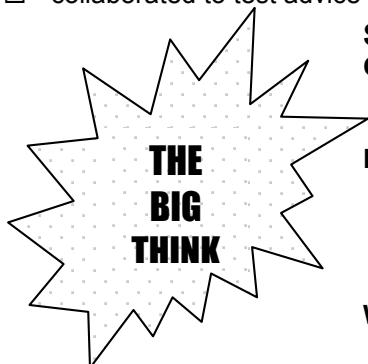
So What?
Content
- ☐ Consider evidence and make a plan
- ☐ Analyze likely consequences of following different advice. What's best?

Process
Ask:
- ☐ What is good advice? Who is saying what to me for what reasons?
- ☐ When in real life might I use the advice to action process?

What Next?
- ☐ Carry out a plan of action.

Think Model #4: Advice to Action

Design Assessment	←	Create Essential Questions	←	Select Goals

An Engaging Problem or Issue Needing Expert Advice	Predict / Guestimate Possible Advice from Experts	Build Background of the Issue	Gather, Sort, and Analyze Expert Witnesses and Advice	Test Ideas with Others; Compare to Value System	Decide on a Course of Action

| Problem or Issue | → | Predict | → | Background Building | → | Gather Expert Advice; Analyze | → | Conference | → | The Big Think |

Assessment

Why This Model?

• To solve real problems
• Judge between good and poor advice
• Affect behavior—judging the difference between personal wishes and prudence
• Understand the consequences of taking advice
• To understand how historical events were shaped by advice both good and poor
• Make important life decisions

Possible Topics:

• Healthy lifestyles
• Selecting a college or career
• Succeeding in school
• Preventing, controlling forest fires
• Urban sprawl
• Safe drinking water
Vending machines in schools
• School fundraising initiatives
• School safety issues
• Helping the homeless

☆ **Life Skill: Advice is plentiful. Good advice is rare.**
Knowing how to identify the best advice is priceless. ☆

Planning for the Compare and Contrast Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ explore to establish criteria
- ☐ make accurate notes
- ☐ compare and contrast
- ☐ analyze

Reading for Meaning
- ☐ make connections to prior knowledge
- ☐ read for detail
- ☐ understand concepts
- ☐ read visual information

Technologies that Feature:
- ☐ the ability to arrange cluster and organize facts and ideas
- ☐ graphic organizer creation and templates
- ☐ organization and storage of data
- ☐ data analysis and presentation assists

Differentiation
- ☐ provide criteria and concentrate on the comparison
- ☐ use a variety of resources and media at different levels
- ☐ encourage simple to complex comparisons
- ☐ use buddies; small groups

Assessment Criteria
- ☐ provided appropriate criteria set
- ☐ used adequate, accurate and relevant data
- ☐ sorted similarities accurately
- ☐ noted differences
- ☐ produced instant clarity of message

Identify Reason for Comparison
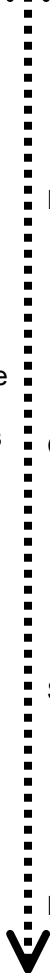
Establish Background and Comparison Criteria

Gather Data

Sort Data Based on Criteria

Make Comparison

THE BIG THINK

So What?
Content
- ☐ Group comparison based on individual and small group comparisons.
- ☐ Use results to draw conclusions.

Process
- ☐ When does comparing and contrasting get us in trouble?
- ☐ When is it helpful to apply the Compare and Contrast Model?

What Next?
- ☐ Continue exploration by applying another model.

Think Model #5: Compare and Contrast

Design Assessment	←	Create Essential Questions	←	Select Goals

Introduce Topic and Identify Purpose	Identify Important Characteristics for Comparison	Use Quality Information Sources; Gather Data	Do the Sort with Tech Assists if Needed	Analyze the Result	See the Big Picture
Reason for Comparison →	Establish Criteria for Comparison →	Gather Data →	Sort Based on Criteria →	Make the Comparison →	The Big Think

Critical Information Points

Assessment

Why This Model?

- Teach a much-researched and powerful teaching technique
- Stress quality information to achieve an accurate comparison
- Teach reason over subjectivity
- Ensures tough critical thinking
- Is the basis for sound decision making
- Provides the foundation for many other teaching techniques with large or small data sets, facts, or ideas

Possible Topics:

- Ideas
- Events
- Persons
- Cultures
- Governments
- Life skills
- Seasons
- Animals
- Plants
- Music
- Literature

☆   **Life Skill: Comparing and contrasting is the basis for sound judgement.**   ☆

Planning for the Concept Jigsaw Puzzle Model

Topic or Issue:

Learning Goals

Essential Questions

Engaging Question:

Concept-Forming Question:

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ select relevant data
- ☐ determine significance
- ☐ collaborate
- ☐ synthesize

Reading for Meaning
- ☐ read widely for perspective and depth
- ☐ interpret data
- ☐ make connections and relationships
- ☐ build expertise about a topic

Technologies that Feature:
- ☐ effective access to information and ideas
- ☐ the ability to arrange, cluster and organize ideas
- ☐ collaborative extraction and document building
- ☐ presentation tools

Differentiation
- ☐ use simple to complex information sources
- ☐ use a rich variety of media
- ☐ provide graphic organizers of varying degrees of sophistication
- ☐ give attention to appropriate grouping

Assessment Criteria
- ☐ collected adequate, relevant and accurate data
- ☐ summarized effectively
- ☐ shared expertise efficiently
- ☐ constructed new ideas creatively and collaboratively

Action Plan

Introduce Task and Build Background

Engaging Question

Groups Research Aspects of Question

Present Higher-Level Question

Combine Expertise to Build New Understanding

THE BIG THINK

So What?
Content
- ☐ Use sharing group expertise to create a whole group concept map.
- ☐ What do we know about the larger topic characteristics?

Process
- ☐ Ask: How does collaboration contribute to efficient and effective learning?
- ☐ Create a list to guide the collaborative process.

What Next?
- ☐ What should happen as a result of this new knowledge?
- ☐ Who needs to know? What action could we take?

Think Model #6: Concept Jigsaw Puzzle
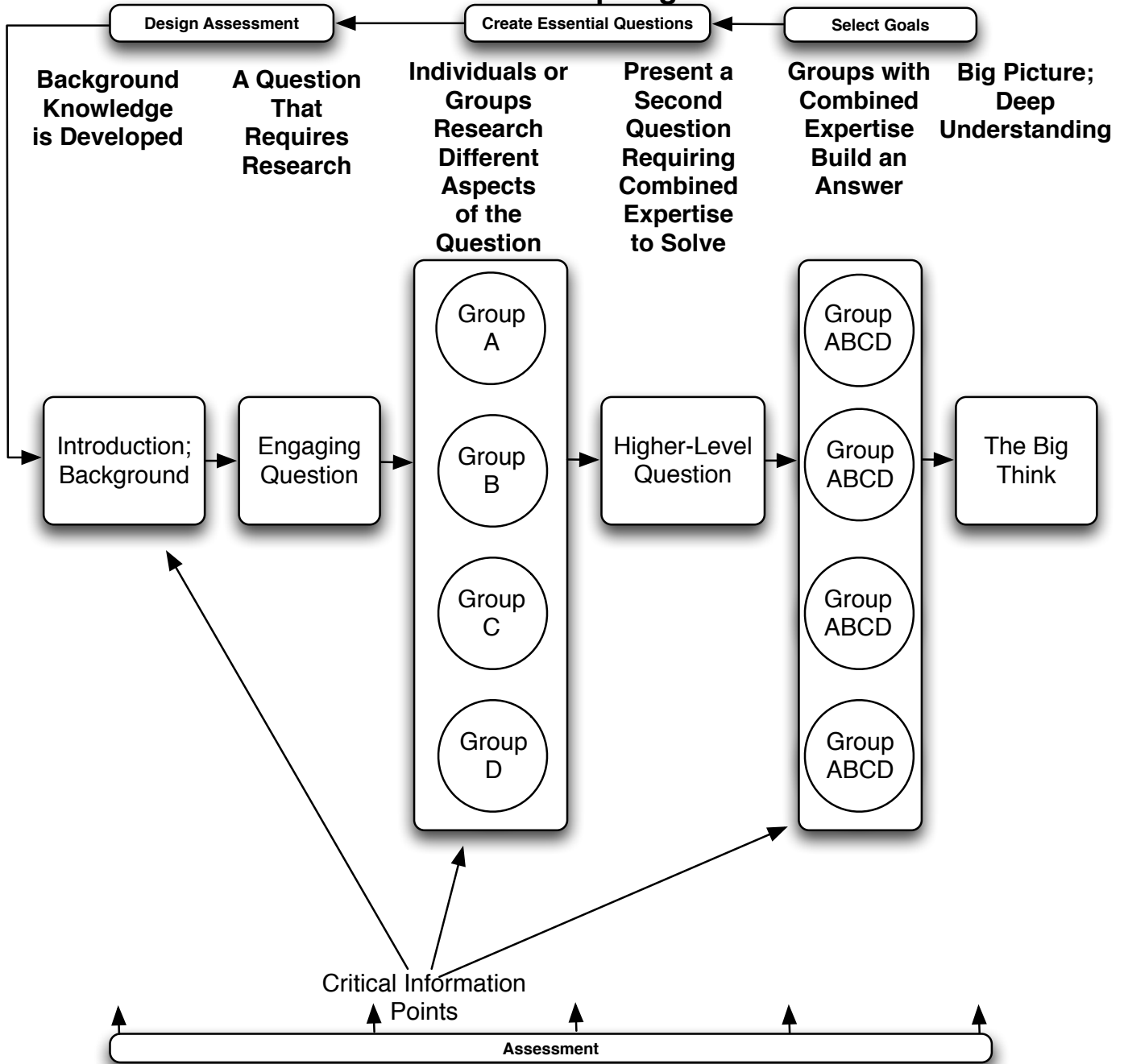
Design Assessment ← Create Essential Questions ← Select Goals

| Background Knowledge is Developed | A Question That Requires Research | Individuals or Groups Research Different Aspects of the Question | Present a Second Question Requiring Combined Expertise to Solve | Groups with Combined Expertise Build an Answer | Big Picture; Deep Understanding |

Introduction; Background → Engaging Question →

Group A
Group B
Group C
Group D

→ Higher-Level Question →

Group ABCD
Group ABCD
Group ABCD
Group ABCD

→ The Big Think

Critical Information Points

Assessment

Why This Model?

• Develop deep understanding rather than surface knowledge
• Develop group skills including interdependence and accountability
• Two heads are better than one
• Replicate a prototype of the real world of business and industry
• Stimulate each learner into making a contribution
• Use to introduce lots of material quickly
• Encourage divergent thinking

Possible Topics:

• Persons
• Places
• Things
• Events
• Ideas
• Movements

☆ **Life Skill: Questions are the key to understanding.**☆

Planning for the Problems/Possibilities Jigsaw Puzzle Model

Topic or Issue:

Learning Goals	**Essential Questions**
	Engaging problem:
	Challenge:

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ sort and organize data
- ☐ collaborate
- ☐ synthesize (deductive and inductive thinking)
- ☐ stimulate creative problem solving

Reading for Meaning
- ☐ read for detail
- ☐ make connections
- ☐ identify main ideas and supporting information
- ☐ make inferences

Technologies that Feature:
- ☐ word processing
- ☐ spreadsheets
- ☐ presentation tools
- ☐ organizing and data management assists
- ☐ collaboration, telecommunication
- ☐ online sources and blogs
- ☐ manipulatives for tests and retests
- ☐ simulation of change and its effect

Differentiation
- ☐ experience vicarious background building
- ☐ provide appropriate graphic organizers to sort, analyze and test solutions
- ☐ give attention to grouping
- ☐ distinguish group roles

Assessment Criteria
- ☐ provided adequate, accurate and relevant data
- ☐ shared and collaborated effectively
- ☐ sorted and analyzed data
- ☐ generated creative and feasible solutions

Develop Background Knowledge

Introduce Problem

First Groups Research Aspects of Problem

Second Challenge Problem

Jigsaw to Investigate Possibilities

THE BIG THINK

So What?
Content
- ☐ Expert groups share solution possibilities and as a class decide on solutions to pursue/develop.

Process
- ☐ Ask: What are the indicators of an effective team?
- ☐ Where can the problems/possibilities model be applied?
- ☐ What are the characteristics of a good solution or possibility?

What Next?
- ☐ Develop selected solutions.

Think Model #7: Problems/Possibilities Jigsaw Puzzle

Design Assessment ← **Create Essential Questions** ← **Select Goals**

| **Develop Background Knowledge** | **An Engaging Problem Requires Research** | **Individuals or Groups Research Different Aspects of the Problem** | **A Challenge is Issued to Find Solutions to the Original Problem or a More Complex One** | **Groups with Combined Expertise Build a Solution** | **Big Picture; Alternatives; Solution** |

Introduction; Background → **Problem** →

Group A

Group B

Group C

Group D

→ **Likely Alternatives or Solutions** →

Group ABCD

Group ABCD

Group ABCD

Group ABCD

→ **The Big Think**

Critical Information Points

Assessment

Why This Model?

• Learn real world problem-solivng skills
• Build group problem-solving skills
• Replicate a prototype of the real world of business and industry
• Stimulate each learner into making a contribution
• Encourage investigation, determination, and perserverence

Possible Topics:

• Problems encountered at home, school, community, nation
• Society problems such as poverty or health care
• Real problems created from learning experiences or projects

☆ **Life Skill: The more great ideas you have, the better the problem solving.** ☆

Planning for the Decision Matrix Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ evaluate resources
- ☐ select relevant data
- ☐ use information legally and ethically
- ☐ identify and investigate patterns

Reading for Meaning
- ☐ use features of text to target information
- ☐ read for facts and ideas
- ☐ read critically
- ☐ ask questions to make connections and relationships

Technologies that Feature:
- ☐ storage and manipulation of facts
- ☐ organization of facts
- ☐ data analysis and presentation assists
- ☐ collaborative matrix building

Differentiation
- ☐ use teacher provided or class developed categories
- ☐ vary the size of matrix
- ☐ provide data; concentrate on analysis
- ☐ provide simple to complex data sources

Assessment Criteria
- ☐ data was adequate, relevant and accurate advice
- ☐ analysis was logical and insightful
- ☐ final decision based on data not predisposition or popularity
- ☐ sources cited accurately

Action Plan

Introduce Decision to be Made

Gather Data

Organize Data on Matrix

Analyze Matrix and Examine Results

THE BIG THINK

So What?
Content
- ☐ Make a decision and create a plan of action.

Process
- ☐ Change the problem and apply the same process.
- ☐ As a class create a model of the decision-making process.

What Next?
- ☐ Carry out plan of action.

Think Model #8: Decision Matrix

Design Assessment ← Create Essential Questions ← Select Goals

Introduce an Engaging Problem Requiring Data Across Subjects

Each Group Studies a Subject to Supply Data on Each Trait

Data are Placed on a Large Matrix or Spreadsheet for Comparison

Data is Analyzed, Contrasted, Computed

The Answer/ Decision/ Conclusions

Problem

- Group 1
- Group 2
- Group 3
- Group 4
- Group 5

	Trait 1	Trait 2	Trait 3
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data

Analysis of Data

The Big Think

Critical Information Points

Assessment

Why This Model?

- Promote accurate data gathering
- Organize data for better decision making or understanding
- See the dangers of bad data in any cell
- Teach complex issues; solve complex problems

Possible Topics:

- Pick a pet for the classroom
- Are there weapons of mass destruction?
- Comparison of possible new highways
- Comparison of candidates for office

☆ **Life Skill: Informed decision making is a key to success.** ☆

Planning for the Patterns & Trends Matrix Model

Topic or Issue:

Learning Goals	Essential Questions

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ evaluate resources
- ☐ select relevant and accurate data
- ☐ identify repeated patterns
- ☐ discover tendencies and trends
- ☐ identify and investigate patterns and trends
- ☐ notice change over time; rates of change

Reading for Meaning
- ☐ use features of text to target information
- ☐ read for facts and ideas
- ☐ read critically
- ☐ ask questions to make connections and relationships

Technologies that Feature:
- ☐ storage and manipulation of facts
- ☐ organization of facts
- ☐ data analysis and presentation assists
- ☐ collaborative matrix building

Differentiation
- ☐ use teacher-provided or class-developed categories
- ☐ vary the size and complexity of matrix
- ☐ provide data; concentrate on analysis
- ☐ provide simple to complex data sources

Assessment Criteria
- ☐ data was adequate, relevant and accurate advice
- ☐ analysis was logical, thorough, insightful
- ☐ conclusions based on patterns or trends
- ☐ sources cited accurately

Introduce the Problem

Establish Data Set for Study

Gather Data

Organize Data on Matrix

Analyze Matrix and Examine Results

THE BIG THINK
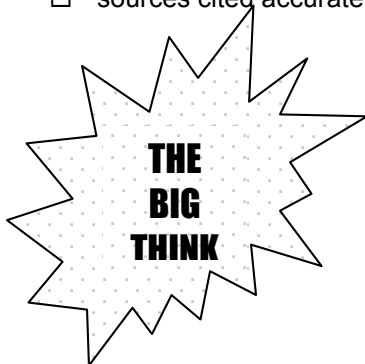
So What?
Content
- ☐ Interpret the significance of the patterns and trends in the matrix.
- ☐ Build generalizations based on the analysis.

Process
- ☐ Change the problem and apply the same process.
- ☐ As a class create a model for analyzing patterns and trends.

What Next?
- ☐ What is the significance of the analysis? Who should know about it?
- ☐ What action should be taken?

Think Model #9: Patterns & Trends Matrix

| Design Assessment | Create Essential Questions | Select Goals |

Introduce an Engaging Problem Requiring Data Across Topics

Each Group Studies a Subject to Supply Data on Each Trait

Data are Placed on a Large Matrix or Spreadsheet for Comparison

Data is Analyzed, Contrasted, Computed

The Under-standing of Pattern/ Trend

Problem

Group 1
Group 2
Group 3
Group 4
Group 5

	Trait 1	Trait 2	Trait 3
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data
Subject	Data	Data	Data

Analysis of Patterns

The Big Think

Critical Information Points

Assessment

Why This Model?

• Promote accurate data gathering
• Organize data for better understanding
• See the dangers of bad data in any cell
• Teach complex issues; solve complex problems
• Facilitate a look at patterns and trends
• Enable predictions

Possible Topics:

• Preparing for any major disaster
• Impact of eating habits
• Comparison of candidates for office
• What's happening in fashion
• Cultural trends
• Weather pattern changes
• Population patterns
• Organizational or governmental patterns

☆ **Life Skill: Discerning patterns helps you see both the forest and the trees** ☆
and determining how to manage them.

Planning for the Timeline Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ read, view, listen
- ☐ select and sort relevant data
- ☐ identify discrepancies and inaccuracies
- ☐ analyze to identify and interpret patterns and trends
- ☐ develop perspective

Reading for Meaning
- ☐ read for detail
- ☐ interpret information
- ☐ make text to text connections
- ☐ sequence events

Technologies that Feature:
- ☐ organization and storage assists
- ☐ efficient search mechanisms
- ☐ dependable current and/or historic sources
- ☐ timeline creation

Differentiation
- ☐ provide exemplars
- ☐ provide data collection organizers
- ☐ establish categories/increments for sorting
- ☐ provide resources in a variety of media and levels

Assessment Criteria
- ☐ collected relevant, factual data
- ☐ identified and solved discrepancies and inaccuracies
- ☐ made relationships and connections
- ☐ investigated and interpreted patterns and trends insightfully
- ☐ timeline provided instant clarity

Action Plan

Identify and Clarify Task

Gather and Sort Data Sets

Place Data on Timeline

Analyze Timeline

THE BIG THINK
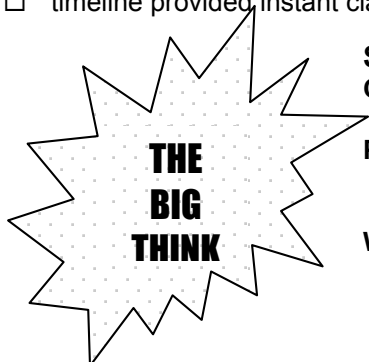
So What?
Content
- ☐ Compare and layer group or class timelines to uncover critical concepts.

Process
- ☐ Ask: What kinds of problems and issues are best analyzed with a timeline?

What Next?
- ☐ Challenge students to portray their findings creatively through story, skit, music, poetry, etc.
- ☐ Use the timeline model to prepare for an investigation of impact.

Think Model #10: Timeline

Identify an Event, Movement, or Mystery	**Gather of Facts and Dates**	**Place on Timeline**	**Analyze Meaning/ Solution**	**Big Picture**

Problem →

Fact Group A
Fact Group B
Fact Group C
Fact Group D

→ **Main Event**

Related Events

Related Events

Related Events

→ Study Timeline:
• Trends
• Patterns
• Relationships
• Discrepancies
• Surprizes

→ The Big Think

Critical Information Point

Assessment

Why This Model?

• Show changes over time
• Determine why something developed the way it did
• Understand how inaccurate information will distort the analysis of sequencing
• Make comparisons of the past and the present
• Put some events in a larger perspective
• Trace the background to explore cause and effect
• Understand sequence
• Visualize sequential patterns
• Identify trends
• Make connections between events and developments

Possible Topics:

• Chart a political election
• Study a catastrophic event
• Compare various disciplines during a time period
• Reconstruct the events of a crime or event
• Chart the Middle East conflict
• Study the rise of terrorism as warfare
• Chart the plot of a novel or story
• Study the structure of a symphony
• Put a a period of art into its environment
• Study what made landing on the moon possible
• Chart the immigration of a family to the U.S.

☆   **Life Skill: Sequencing is often the key to understanding.**   ☆

Planning for the History & Mystery Model

Topic or Issue:

Learning Goals	Essential Questions

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ interpret primary and secondary sources
- ☐ take accurate notes
- ☐ validate and cite information and sources
- ☐ determine fact, opinion, perception
- ☐ compare data

Reading for Meaning
- ☐ read for detail
- ☐ make text to text connections
- ☐ develop questions
- ☐ make inferences

Technologies that Feature:
- ☐ organization and storage assists
- ☐ efficient search mechanisms
- ☐ surf, scan, and fast forward
- ☐ location and deliver of a wide range of dependable current and/or historic sources
- ☐ presentation and editing features

Differentiation
- ☐ allow adequate time
- ☐ provide data collection organizers
- ☐ establish categories for sorting
- ☐ provide resources at a variety of levels

Assessment Criteria
- ☐ collected relevant, factual data
- ☐ identified bias, misconceptions and inaccuracies
- ☐ made insightful effective comparisons
- ☐ stimulated productive collaboration
- ☐ rationalized and confirmed a plausible solution

Action Plan

Introduce the Problem

Gather and Sort Primary and Secondary Evidence

Compare and Contrast

Evidence Check

THE BIG THINK
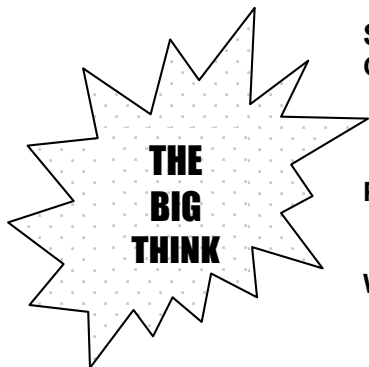
So What?
Content
- ☐ Challenge students to portray their findings creatively through story, skit, music, poetry, etc.
- ☐ After investigating, what happened? What really happened?

Process
- ☐ Establish rules for a historical investigation.
- ☐ What was the "tipping point" that affected the outcome?

What Next?
- ☐ Talk to an expert about why there are differing explanations of history.
- ☐ Explore more unsolved mysteries.

Think Model #11: History & Mystery

Design Assessment ← Create Essential Questions ← Select Goals

Build a Case for Solving the History/Mystery Problem   **Study Primary/Secondary Evidence**   **Compare/ Contrast Activity**   **Check Evidence**
· New Evidence Available?
· Reject Some Data?
· Meaning; Perception   **Resolution**

The Problem

Authority 1

Authority 2

Authority 3

Authority 4

A1
A2 A3
A4

Final Check

The Big Think

Need more?

Critical Information Points

Assessment

Why This Model?

To Determine:
· When, where, and what appears to have happened?
· What really happened?
· Why did it happen?
· What could have prevented it from happening?
· What can we learn based on what happened and why?

Possible Topics

· Causes of war
· Change in government
· Natural catastropies
· Advances in technology
· Influence of artists/authors
· Development of art forms and genres

☆   **Life Skill: Mistakes of the past need not be repeated.**   ☆

Planning for the Take a Position Model

Topic or Issue:

Learning Goals	Essential Questions

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ interpret primary and secondary sources
- ☐ take accurate notes
- ☐ identify discrepancies and inaccuracies
- ☐ identify and differentiate fact, opinion, perception and propaganda
- ☐ identify and understand perspectives
- ☐ develop an opinion

Reading for Meaning
- ☐ read for detail
- ☐ interpret and compare information
- ☐ make text-to-text connections and comparisons
- ☐ make text-to-self connections

Technologies that Feature:
- ☐ organization and storage assists
- ☐ access to a wide variety of sources and authorities both primary and secondary
- ☐ dependable and current sources
- ☐ real time conferencing capabilities

Differentiation
- ☐ provide data collection organizers
- ☐ use resources in a variety of media and levels
- ☐ create visual representations of stakeholder groups and perspectives (position line)
- ☐ role play

Assessment Criteria
- ☐ collected relevant, factual data
- ☐ investigation was complete, careful, and detailed
- ☐ identified bias, misconceptions and inaccuracies
- ☐ made insightful effective comparisons
- ☐ presented a strong plausible position

Action Plan

Identify Issue and Investigate Possible Positions

Analyze Perspectives, Positions and Impacts

Form an Opinion; Take a Position; Prepare Argument

Present the Position

THE BIG THINK
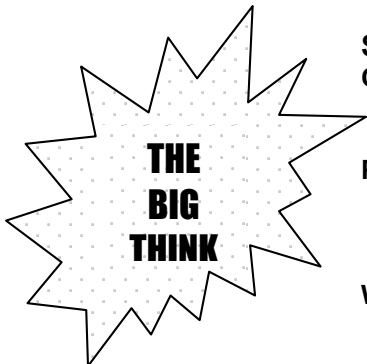
So What?
Content
- ☐ Create a physical position line with students. Hold a debate or a mock press conference.

Process
- ☐ What is the difference between an opinion and a supported position?
- ☐ How does passion affect our ability to form and reason a solid position?
- ☐ Where in real world negotiations could this process be applied?

What Next?
- ☐ Plan to take action on the position (e.g. letters, campaigns, presentations, further research).

Think Model #12: Take a Position

Identify Issue(s)	Investigate Possible Positions	Analyze Feasible Positions	Form an Opinion; Take a Position; Prepare an Argument	Present the Position	So What?

Problem → Investigate → Analyze → Prepare → Present → The Big Think

Critical Information Points

Assessment
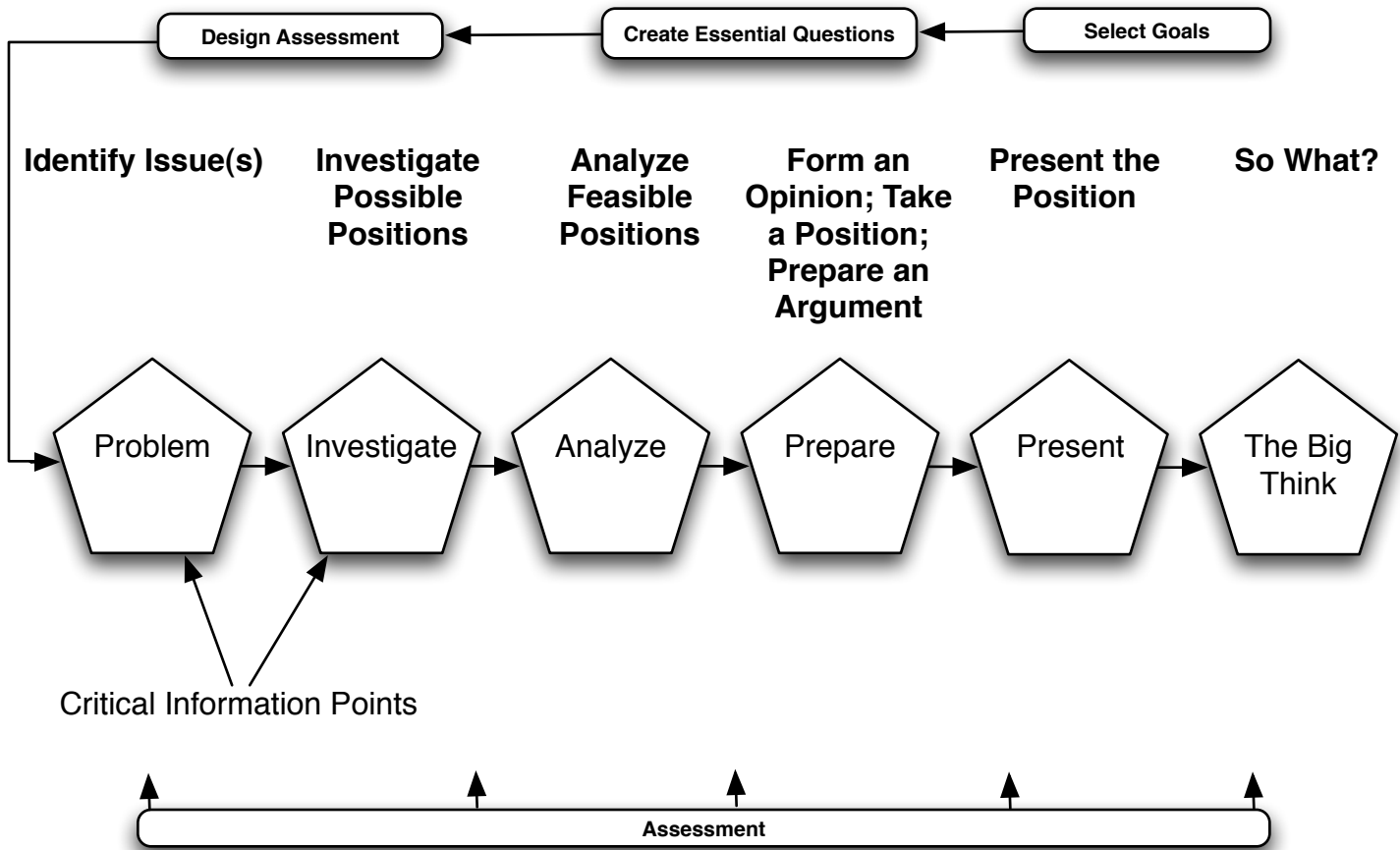
Why This Model?

• Learn to take positions on sound ideas rather than on snap judgments
• Learn how to understand ideas much different than your own
• Develop critical analysis skills in the face of propaganda
• Build empathy for all positions, even as you take a stand
• Learn to articulate and defend a position taken
• Build skills for living and participating in a democratic society
• Build strategies for successful relationships with family and friends

Sample Products:

• Position paper
• Persuasive speech
• Video presentation
• PowerPoint presentation
• Debate
• Panel discussion
• Switch positions, then present
• Action plan

Sample Topics

• Political issues
• Controversial science problems
• Historical issues
• Moral issues
• Community problems
• School problems
• Literary critical issues

☆   **Life Skill: We build a stronger position with integrity when we know all the facts.**   ☆

Planning for the Re-Create Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ interpret primary and secondary sources
- ☐ take notes
- ☐ identify discrepancies and inaccuracies
- ☐ compare data
- ☐ make text-to-self connections

Reading for Meaning
- ☐ read for detail
- ☐ read pictures
- ☐ make inferences
- ☐ make text-to-text connections and comparisons
- ☐ respond to text

Technologies that Feature:
- ☐ access to a wide variety of sources and authorities, both primary and secondary
- ☐ dependable, historic and current sources
- ☐ organization, storage and manipulation of data
- ☐ video and still photography with editing

Differentiation
- ☐ allow adequate time
- ☐ use resources in a variety of media and levels
- ☐ form supportive groupings

Assessment Criteria
- ☐ collected relevant, factual data
- ☐ research was complete, careful, and detailed
- ☐ detected and corrected inaccuracies and discrepancies
- ☐ re-creation was accurate and imaginative
- ☐ re-creation demonstrated understanding of ideas and concepts

Action Plan

Identify, Clarify and Explore Issue or Event

Research to Validate Authenticity

Select Format and Construct Re-Creation

Perform

THE BIG THINK
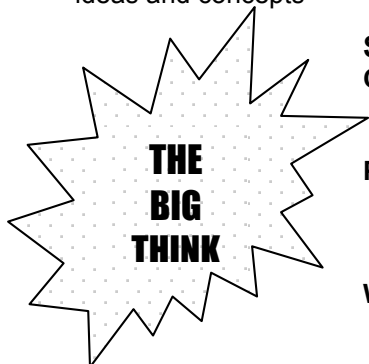
So What?
Content
- ☐ Compare re-creations and extract main concepts.
- ☐ Was the presentation accurate?

Process
- ☐ Ask: How did this process affect your understanding of the issue/event?
- ☐ How does re-creation help us in the real world? For example, in criminal investigations?

What Next?
- ☐ Share with a wider audience.
- ☐ "Test" their understanding of your main message.

Think Model #13: Re-Create

Design Assessment ← Create Essential Questions ← Select Goals

| Identify Event, Issue, Era | Explore Event/ Drama | Research Every Possible Aspect to Ensure Authenticity | Select Format and Construct | Perform as: • Drama • Event • Diary • Newspaper • Picture • Painting • Story | Big Picture |

Select → Explore → Research → Construct → Perform → The Big Think

Critical Information Points

Assessment

Why This Model?

• Why things, seemingly strange, make sense in context
• Discover what kinds of persons contribute or distract while a major event is unfolding
• Learn from the unfolding of major events
• Demonstrate how excellence in the reconstruction of an event helps to understand that event
• Develop empathy for people in their time and place
• Walk in someone else's shoes
• Judge the difference between fiction and realistic fiction
• Enable self to text connections

Possible Topics:

• Life in a place/time
• Historical event
• Perform a play that requires authenticity
• Pioneer life
• Slavery
• Interview historical personality

✮   **Life Skill: It helps to walk a mile in someone else's moccasins.**   ✮

Planning for the Reinventing a Better Way Model

Topic or Issue:

Learning Goals

Essential Questions

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ use primary sources
- ☐ compare data
- ☐ brainstorm
- ☐ define problems and test ideas
- ☐ reflect, transfer and apply

Reading for Meaning
- ☐ read view and listen to stories of invention
- ☐ sort, order ideas
- ☐ make connections
- ☐ comprehend and analyze data

Technologies that Feature:
- ☐ ability to organize, rearrange and classify
- ☐ 3D modeling and animation
- ☐ manipulatives for tests and retests
- ☐ simulation of change and its affect
- ☐ real-time conferencing capabilities

Differentiation
- ☐ include prior experience with inventing
- ☐ consult with experts
- ☐ provide techniques, strategies and experiences to nurture creativity
- ☐ present problems at varying levels of complexity
- ☐ allow adequate time

Assessment Criteria
- ☐ complete, careful, detailed investigation
- ☐ insightful comparison
- ☐ logical analysis
- ☐ creative solutions

Select a System; Clarify; Investigate Current Methods

Compare and Contrast

Reinvent

Test and Evaluate

THE BIG THINK

So What?
Content
- ☐ Create action plans to launch ideas into action.

Process
- ☐ Ask: What is invention, out-of-the-box thinking, trial and error versus serendipity?
- ☐ Is invention and creativity a skill or a gift you were born with?

What Next?
- ☐ Apply the reinvention.
- ☐ Ask: Who is this important to? How might this affect me, my friends, my family, my community, the world?
- ☐ Is there a commercial application of our ideas?
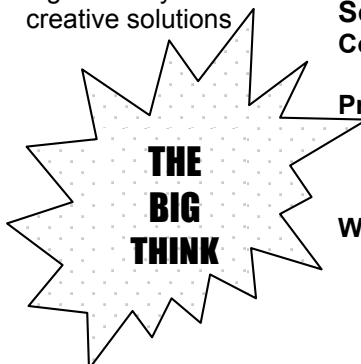
Think Model #14: Reinventing a Better Way
(Systems Analysis)

Design Assessment **Create Essential Questions** **Select Goals**

Select a System for Study **Investigate Current Methods** **Compare/Contrast Activity** **Evaluate**
- Test
- Try
- Reflect
- Market?

Reinvent
- Retool
- Refine
- Fine Tune
- Streamline

Problem

Group A

Group B

Group C

Group D

A

B   C

D

Differences   Similarities

Reinvent a Better Way

The Big Think

Critical Information Point

Assessment

Why This Model?

- Improve the efficiency of our economy
- Prepare for competitions (best ideas)
- Re-create products, marketing plans and patents
- Stimulate creativity
- Simulate authentic problems
- Build group work skills
- Save time, money, natural resources, energy

Possible Topics:

- New ways to handle school problems
- Living within a family's means
- Ways to save money, time, effort
- Create a labor-saving device
- Solving a pesky real-life problem

☆   **Life Skill: Creativity and invention stimulate progress.**   ☆

Planning for the Learn By Doing Model

Topic or Issue:

Learning Goals	Essential Questions

Consider the Possibilities

Critical Thinking and Information Skills
- ☐ develop questions to direct data gathering
- ☐ interpret primary sources
- ☐ take notes & make sketches
- ☐ make text to self connections

Reading for Meaning
- ☐ use features of text to target information
- ☐ read for facts and instructions
- ☐ interpret information & make predictions
- ☐ read manuals and pictures

Technologies that Feature:
- ☐ simulation—software and online tours
- ☐ communication—cell phones, email
- ☐ collaboration—video conferencing, podcasts, online projects
- ☐ planning—flow charts
- ☐ recording—audio, video and photography

Differentiation
- ☐ provided planning flow charts
- ☐ concentrate on doing and big think
- ☐ design tactile experiences
- ☐ learning buddies

Assessment Criteria
- ☐ questions guided effective and efficient searching
- ☐ data was adequate, relevant and accurate
- ☐ plan was detailed, logical and doable
- ☐ action was successful
- ☐ connections and conclusions were meaningful

Action Plan

Investigate and Predict

Develop Questions

Develop Skill and Action Plan

Real Experience, Simulation or Vicarious Experience

THE BIG THINK

So What?
Content
How did a real experience with this topic help you to build understanding?
Process
What skills did you learn during this process? How will those skills be useful to you in the future?
What Next?
Teach someone else how to do what you did.

Think Model #15: Learn By Doing

Design Assessment ← **Create Essential Questions** ← **Select Goals**

Preliminary Investigation and Prediciton	What Could Experience Teach Us?	What Skills Will Make the Experience Doable; Beneficial?	Real Experience, Simulation, or Vicarious Experience	What Have We Learned?	See the Big Picture

Build Back-ground → Develop Questions → Develop Skill and Action Plan → Doing → Reflecting → The Big Think

Critical Information Points

Assessment

Why This Model?

• Experience is often the best teacher
• Simulation and vicarious experience can substitute when real experiences are dangerous or unethical
• Expertise, local resources are available
• When learners need a dose of reality to spur understanding

Possible Topics:

• Scientific Experiments
• Field trips to local museums, industries, art galleries, or any other local organization where hands-on experiences are possible
• Service projects for school, community, state, nation, or world

✫ **Life Skill: Experience is often the best teacher.** ✫

Planning for the Teacher-Directed Quest Model

Topic or Issue:

Learning Goals

Essential Questions

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ understand the research process model
- ☐ formulate questions
- ☐ evaluate sources
- ☐ analyze and synthesize
- ☐ communicate new knowledge

Build a Question(s).

Reading for Meaning
- ☐ identify main ideas
- ☐ make connections with text
- ☐ interpret, infer and predict
- ☐ identify perspective

Plan, Explore, and Mobilize the Research Process

Technologies that Feature
- ☐ location and delivery of a wide range of ideas and authorities
- ☐ dependable and current resources
- ☐ online collaborative workspace
- ☐ productivity and presentation software

Work, Work, Work

Differentiation
- ☐ select resources appropriate to skill level
- ☐ vary product and presentation format
- ☐ provide collaborative support
- ☐ design flexible timelines

Assessment Criteria
- ☐ formulated a clear focus for inquiry
- ☐ used and documented quality sources
- ☐ kept accurate, organized notes
- ☐ processed data critically and creatively
- ☐ demonstrated deep understanding

Conclude, Share, Think

THE BIG THINK

So What?
Content
- ☐ Ask: How do my discoveries mesh with the findings of others?
- ☐ Compare findings and extract key concepts.

Process
- ☐ Self Evaluate: process, effort, learning—skills, knowledge, attitude
- ☐ Set goals for improvement.
- ☐ Ask: How did this process help me to become a better researcher?

What Next?
- ☐ Teach someone else the research process.
- ☐ Extend learning to make new inquiries
- ☐ Create your own research model

Think Model #16: Teacher-Directed Quest
(The Well-Designed Research, Experiment, or Project)

Design Assessment ← Create Essential Questions ← Select Goals

Decide on an Engaging Problem, Scenario, or Mission to Accomplish	**Plan Division of Labor or Tasks; Assign Roles**	**Research to Stimulate Work; Advance Toward Goal**	**Answer the Question; Attain the Mission or Goal**	**Reflect; Debrief**
Mission; Goal →	Plan and Mobilize →	Work, Work, Work →	Conclude and Share →	The Big Think

Critical Information Point

Assessment

Why This Model?

• Capture realism; Build expertise
• Build responsibility and independence
• Prepare for college or a profession
• Build a sense of achievement
• Capitalize on natural curiosities
• Make the curriculum relevant
• Develop deep understanding

Possible Projects:

• Formal research paper
• Web Quest
• I-Search paper
• Simulation game
• Scientific challenge/competition
• Senior paper
• Independent study
• Recital

☆ **Life Skill: Research is the foundation of knowing and progress.** ☆

Planning for the Learner-Directed Quest Model

Topic or Issue:

Learning Goals	**Essential Questions**

Consider the Possibilities

Action Plan

Critical Thinking and Information Skills
- ☐ understand the research process model
- ☐ formulate questions
- ☐ evaluate sources
- ☐ analyze and synthesize
- ☐ communicate new knowledge

Build a Question(s).

Reading for Meaning
- ☐ identify main ideas
- ☐ make connections with text
- ☐ interpret, infer and predict
- ☐ identify perspective

Plan, Explore, and Mobilize the Research Process

Technologies that Feature
- ☐ location and delivery of a wide range of ideas and authorities
- ☐ authoritative and current resources
- ☐ online collaborative workspace
- ☐ productivity and presentation software

Work, Work, Work

Differentiation
- ☐ select resources appropriate to skill level
- ☐ vary product and presentation format
- ☐ provide collaborative support
- ☐ design flexible timelines

Assessment Criteria
- ☐ formulated a clear focus for inquiry
- ☐ used and documented quality sources
- ☐ kept accurate, organized notes
- ☐ processed data critically and creatively
- ☐ demonstrated deep understanding

Conclude, Share, Think

THE BIG THINK

So What?
Content
- ☐ Ask: How do my discoveries mesh with the findings of others?
- ☐ Compare findings and extract key concepts.

Process
- ☐ Self Evaluate: process, effort, learning—skills, knowledge, attitude
- ☐ Set goals for improvement.
- ☐ Ask: How did this process help me to become a better researcher?

What Next?
- ☐ Teach someone else the research process..
- ☐ Extend learning to make new inquiries
- ☐ Create your own research model

Think Model #17: Learner-Directed Quest

Design Assessment ← Create Essential Questions ← Select Goals

Critical Incident, What Next? Curiosity Problem Decesion	**Encourage Listen Talk It Out Review Flight Plan**	**Open Timetable Safe Environment Conducive Conditions**	**Stand Back Be Available Cheer!**	**Space Place Audience Action**	**Student Growth, Satisfaction**
Student Inspriation →	Support →	Open Doors →	Let Them Go →	Set the Stage →	The Big Think

Critical Information Point

Assessment

Why This Model?

- Extends content learning
- Student ownership
- Build learning to learn skills
- Take action on a cause
- Solve a problem
- Make a decision
- Answer student-generated questions
- Pursue burning issues
- Follow inspiration
- Application of learned skills andmodels
- Utilize student strengths
- Plagiarism not an issue

Possible Projects:

- Local concerns
- Global issues
- Environmental stewardship
- Design and technology
- Political action
- Health issues
- Support for a cause
- Initiating change
- Citizenship
- Media creation

☆ **Life Skill: With a spark you can light a fire.** ☆

Think Model #18: Mix It Up!
(Be Creative in Combining/Modifying All the Models)

Design Assessment	←	Create Essential Questions	←	Select Goals

Appetizers:

Background to Question Model
Sensemaking Model
Read, View, Listen Model
Advice to Action Model
Compare and Contrast Model

The Main Course:

The Concept Jigsaw Puzzle Model
The Problems/Possibilities Jigsaw Puzzle Model
The Make a Decision Matrix Model
The Patterns & Trends Matrix Model
The Timeline Model
The History & Mystery Model
Take a Position Model
The Re-Create Model
The Reinventing a Better Way Model
Learning by Doing Model
The Teacher-Directed Quest Model
The Learner-Directed Quest Model

Assessment

Examples:

• Do a major Background to Question study before a Quest
• Do a Matrix before having to Take a Position
• Sensemake a problem before trying to Reinvent it
• Compare and Contrast as a History/Mystery Model unfolds
• Begin with a Jigsaw and then culminate with a Matrix
• Do a Background study before Learning by Doing

✩   **Life Skill: I can learn anything I need to know, do, or understand.**   ✩

Examples by Model

Model	Example Title	Grade Level	Page
Advice to Action Model	Authors Have the Last Word	3–6	62
	Resume Writing	7–12	70
	Financial Planning	10–12	75
	Healthy Lifestyles	8–12	139
Background Question Model	Famous People WebQuest	6–10	14
	European Explorers Trek to North America	4–6	10
	All That Jazz	7–11	17
	Community Workers	1–3	60
Compare and Contrast Model	Natural Designers	4–8	64
	Themes and Schemes	8–10	71
	Grading Schools	10–12	77
	Early Settlers/Pioneers	2–4	86
Concept Jigsaw Model	Positive Imaging of Teens	7–12	27
	Immigration to Canada/US	6–10	52
	Global Citizens	8–10	54
	Women in the Media	10–12	122
	Just Like Me	1–3	128
	The Message is…	4–12	137
Decision Matrix Model	Select a Candidate	10–12	41
History and Mystery Model	Philosophy Rules	10–12	40
	Mayan Mysteries	4–6	44
	Schools of the Past	3–6	89
	Digging Up History WebQuest	6–9	94
	Myths and Legends WebQuest	4–8	134
Learn by Doing Model	My Personal Space	7–12	22
	Celeb Trends	7–12	23
	Early Settlers' Survival	2–5	88
Mix it Up Model	Grad Trip	6–8	50
	Support for Children at Risk WebQuest Pt. 1	9–12	109
	Support for Children at Risk Pt. 2	7–12	112
	The Power Struggle	9–12	141
Patterns and Trends Matrix Model	Trading Partners	4–8	46
	Marketing to Teens WebQuest	10–12	57

	Hurricane Watch	7–12	67
	Higher Education	10–12	79
	Fairy Tales	2–6	133
Problems/Possibilites Jigsaw Model	Responsibility	1–4	8
	Bully WebQuest	4–8	101
	Drug Safety	10–12	124
Re-Create Model	Quotation Marks	7–12	26
	Model Parents	9–12	31
	National Leaders	2–5	34
	Voices in History	6–8	35
	The Power of Native Art	6–9	51
	Step In -Step About - Step Out	6–8	91
	Back to the Future	7–10	95
	The Invention	7–12	138
Read, View, and Listen Model	Author Biographies	4–8	66
	Mosquito Alert	9–12	115
	Sports Trivia—ESL WebQuest	5–8	48
Reinventing a Better Way Model	Faster, Higher, Stronger	9–12	28
	Too Long	5–8	47
	Bully Help	2–4	131
Sensemaking Model	Population Patterns	9–12	56
	Conflict and Peace (ESL)	2–12	98
	Stella Louella's Runaway Book	2–4	130
Take a Position Model	Candidate Candor	7–12	37
	Media Influence	7–10	106
Timeline Model	Clockwork	1–4	6
	Government Achievements	7–12	36
	Birth Dates	K–3	82
	Growing Up	1–3	84

Examples by Grade Level

Grade Level	Title	Model	Page
K–3	Birth Dates	Timeline Model	82
1–3	Community Workers	Background to Question Model	60
	Growing Up	Timeline Model	84
	Just Like Me	Concept Jigsaw Model	128
1–4	Clockwork	Timeline Model	6
	Responsibility	Problems/Possibilites Jigsaw Model	8
2–4	Early Settlers/Pioneers	Compare and Contrast Model	86
	Stella Louella's Runaway Book	Sensemaking Model	130
	Bully Help	Reinventing a Better Way Model	131
2–5	National Leaders	Re-Create Model	34
	Early Settlers' Survival	Learn by Doing Model	88
2–6	Fairy Tales	Patterns and Trends Matrix Model	133
2–12	Conflict and Peace (ESL)	Sensemaking Model	98
3–6	Authors Have the Last Word	Advice to Action Model	62
	Schools of the Past	History and Mystery Model	89
4–6	European Explorers Trek to North America	Background to Question Model	10
	Mayan Mysteries	History and Mystery Model	44
4–8	Trading Partners	Patterns and Trends Matrix Model	46
	Natural Designers	Compare and Contrast Model	64
	Author Biographies	Read, View, and Listen Model	66
	Bully WebQuest	Problems/Possibilities Jigsaw Model	101
	Myths and Legends WebQuest	History and Mystery Model	134
4–12	The Message is…	Concept Jigsaw Model	137
5–8	Too Long	Reinvent Model	47
	Sports Trivia—ESL WebQuest	Read, View, Listen Model	48
6–8	Voices in History	Re-Create Model	35
	Grad Trip	Mix it Up Model	50
	Step In -Step About - Step Out	Re-Create Model	91
6–9	The Power of Native Art	Re-Create Model	51

	Digging Up History WebQuest	History and Mystery Model	94
6–10	Famous People WebQuest	Background Question Model	14
	Immigration to Canada/US	Concept Jigsaw Model	52
7–10	Back to the Future	Re-Create Model	95
	Media Influence	Take a Position Model	106
7–11	All That Jazz	Background to Question Model	17
	Themes and Schemes	Compare and Contrast Model	71
7–12	My Personal Space	Learn by Doing Model	22
	Celeb Trends	Learn by Doing Model	23
	Quotation Marks	Re-Create Model	26
	Positive Imaging of Teens	Concept Jigsaw Model	27
	Government Achievements	Timeline Model	36
	Candidate Candor	Take a Position Model	37
	Hurricane Watch	Patterns and Trends Matrix Model	67
	Resume Writing	Advice to Action Model	70
	Support for Children at Risk Pt. 2	Mix it Up Model	112
	The Invention	Re-Create Model	138
8–10	Global Citizens	Concept Jigsaw Model	54
8–12	Healthy Lifestyles	Advice to Action Model	139
9–12	Faster, Higher, Stronger	Reinvent a Better Way Model	28
	Model Parents	Re-Create Model	31
	Population Patterns	Sensemaking Model	56
	Support for Children at Risk WebQuest Pt. 1	Mix it Up Model	109
	Mosquito Alert	Read, View, and Listen Model	115
	The Power Struggle	Mix it Up Model	141
10–12	Philosophy Rules	History and Mystery Model	40
	Select a Candidate	Decision Matrix Model	41
	Marketing to Teens WebQuest	Patterns and Trends Matrix Model	57
	Financial Planning	Advice to Action Model	75
	Grading Schools	Compare and Contrast Model	77
	Higher Education	Patterns and Trends Matrix Model	79
	Women in the Media	Concept Jigsaw Model	122
	Drug Safety	Problems/Possibilities Jigsaw Model	124