

# Critical Thinking

A Realistic Guide to Making it  
Happen in your Classroom

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Happen in Your Classroom

Special Thanks

Scott Day

Tom Smith

Tim Wall

## A note from the Authors...

This booklet has been created by teachers and for teachers. We hope that you find it to be helpful in decoding the often confusing and somewhat overwhelming challenge of teaching critical thinking across the curriculum. What we have learned in the creation of this resource is that critical thinking is not as overwhelming as it may seem. You may want to implement it in projects, but you can also start to use it in individual lessons, lesson openers, or enrichment projects and centers. You don't have to entirely rearrange your current practices, in fact it takes only simple tweaking to turn an ordinary activity into one that engages students at a critical thinking level. In doing so, you are engaging students more deeply in the material and teaching them important life skills. It is really worth the effort!

We want to make clear that none of the ideas in this handbook are entirely our own. We have learned and gathered information from many researchers and pioneers in the field of critical thinking and tried to present it in an accessible way. We encourage you to take this information as a starting point from which to research further and develop your own ideas, methods and philosophies on critical thinking in the classroom.

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## A note from the Authors

The authors of this book are pleased to announce the publication of this book. It is a result of a long and fruitful collaboration between the authors and the publisher. We hope that this book will be a valuable addition to the literature on the subject. The authors would like to thank the publisher for their support and cooperation. We also thank the reviewers for their helpful comments. The authors are grateful to the publisher for their support and cooperation. We also thank the reviewers for their helpful comments. The authors are grateful to the publisher for their support and cooperation. We also thank the reviewers for their helpful comments.

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# Critical Thinking

A realistic guide to making it happen in your classroom

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# What is critical thinking anyway?

The concept of critical thinking is often vague and confusing to many teachers, hindering them from pursuing it in their classrooms.

- What exactly is it we are trying to accomplish in teaching critical thinking?
- How do we know if a lesson is encouraging real critical thinking?
- How do we know when students are thinking critically?

The answers to these questions begin with a definition.

Critical thinking is a quality of thought. It involves thinking through problematic situations and making reasoned judgements about how to act or what to believe. It is thinking that moves beyond opinion to assess or judge the merits of possible options in light of relevant criteria. The word critical is meant in the sense of critique.

It is logical, questioning, open minded, thoughtful, incorporates past knowledge, considers multiple perspectives

It is not, accepting conclusions at face value without assessment of its merits

Does this sound familiar? Critical thinking is often associated or confused with problem solving, decision making, issue analysis and inquiry based learning. These processes are in fact opportunities for critical thinking. Thinking critically is not a new or unique type of thinking, but rather a quality of thinking. When these tasks are completed at a level that requires students to competently pose and solve problems, reach sound decisions, identify and resolve issues, plan and conduct thoughtful inquiry, etc, critical thinking is being taught and achieved. It is therefore not a new type of thinking or teaching, it is a particular way of carrying out tasks you are likely already completing in your classroom.

By tweaking your questions and assignments in simple ways, you can empower your students to think critically.

3 types of questions

Content. One correct answer

Opinion. All answers valued

• Power. Judgement based on relevant criteria

This is critical thinking!

# Why should I bother?

What is all the fuss about? Why is critical thinking so critical to my students?

There are some solid reasons to incorporate critical thinking into your classroom regularly.

## 1. It is an important life skill

Students will be required to make sound decisions throughout their lives. There is little value in making a life decision that is not sensible or reasonable. This is a skill that must be taught, however. In authentic decision making, there is no right or wrong answer waiting to be found, but there are answers that are better than others. This is true to life and teaching this skill to students is empowering them with a valuable life skill.

## 2. It is motivating

It is no mystery that students learn best when engaged in the process of learning and when they know the purpose of the material. When content is presented in the form of an interesting and relevant problem to be solved, students are more highly engaged and motivated to learn.

## 3. It promotes understanding of the content

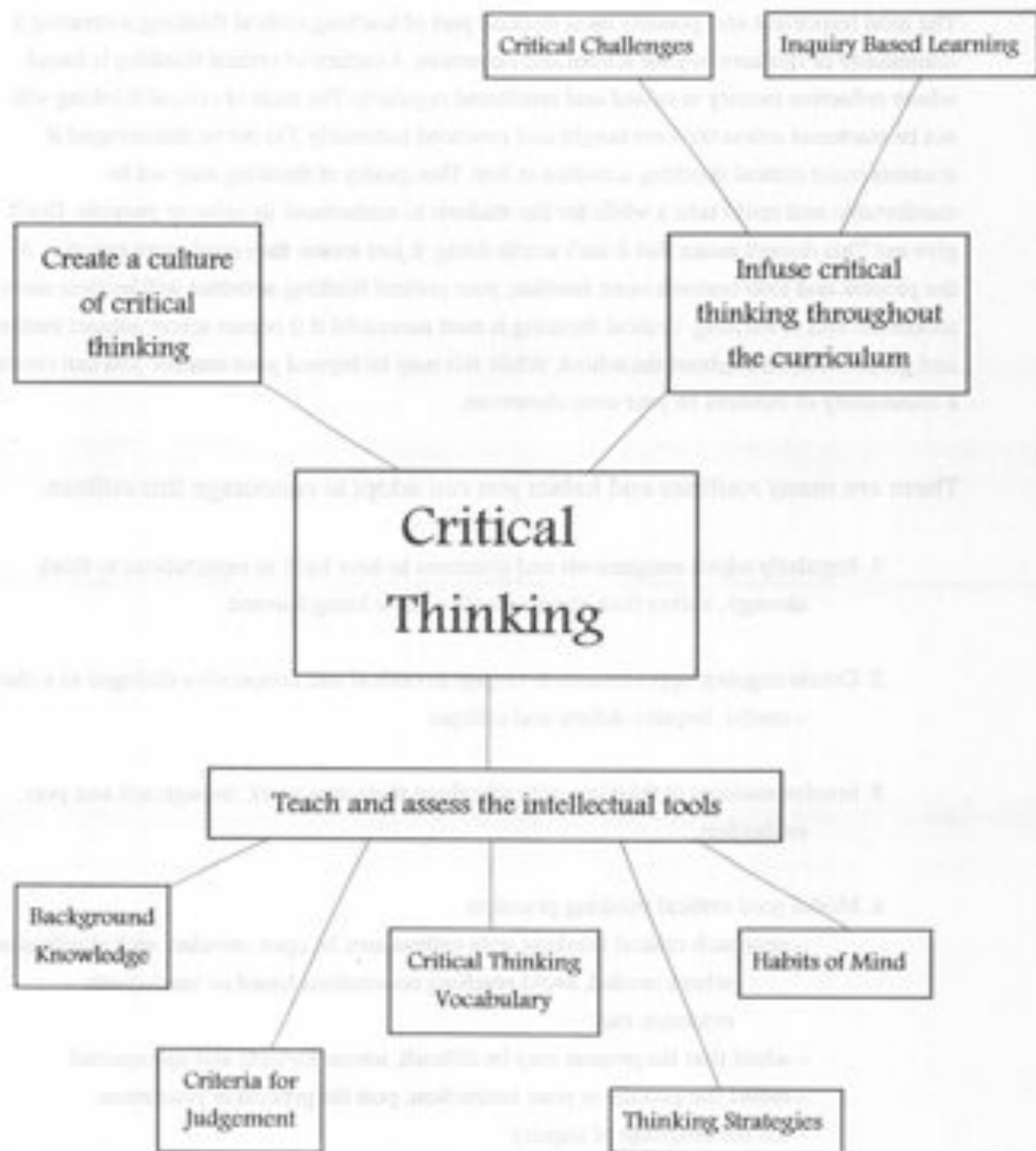
Critical thinking requires that the student truly understand and be able to work with the content required to solve the problem. Framing content in a critical thinking context avoids mere memorization or low level thinking. It requires students to actually work with the material being taught, which is the entire point of teaching it in the first place!

## 4. It supports the key principles of the SS and other programs of study

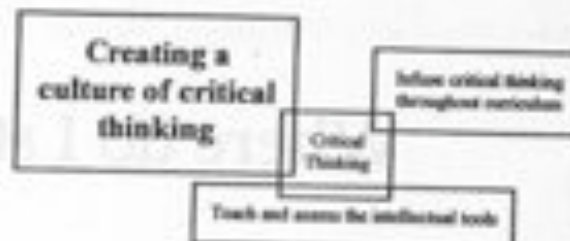
The social studies curriculum is based on active and responsible citizenship. Teaching students critical thinking is empowering them with the ability to fulfill this role. An active, responsible citizen is not a passive consumer of information. In order for this curricular goal to be achieved, the skills to achieve it must be directly taught. Teaching critical thinking achieves this. Critical thinking based outcomes also occur across subject matters and grade levels. The ability to manage information in a critical way is valuable to all subject matters and at all ages. In addition, critical thinking projects are commonly cross-disciplinary and benefit students by reducing the time required to achieve outcomes found in multiple programs of study.



# Where do I start?



## Creating a Critical Thinking Culture



The most important and possibly most difficult part of teaching critical thinking is creating a community of thinkers in your school and classroom. A culture of critical thinking is found where reflective inquiry is valued and reinforced regularly. The tools of critical thinking will not be mastered unless they are taught and practiced habitually. Do not be discouraged if students resist critical thinking activities at first. This quality of thinking may not be comfortable and could take a while for the students to understand its value or purpose. Don't give up! This doesn't mean that it isn't worth doing, it just means they need more practice. As the process and tools become more familiar, your critical thinking activities will become more successful and rewarding. Critical thinking is most successful if it occurs across subject matter and grade level, throughout the school. While this may be beyond your control, you can create a community of thinkers in your own classroom.

There are many routines and habits you can adopt to encourage this culture.

1. Regularly adjust assignments and questions to have built in expectations to think through, rather than simply recall, what is being learned.
2. Create ongoing opportunities to engage in critical and cooperative dialogue as a class - confer, inquire, debate and critique
3. Involve students in thinking critically about their own work through self and peer evaluation.
4. Model good critical thinking practices
  - approach critical thinking with enthusiasm, be open-minded, seek clarification where needed, avoid reaching conclusions based on inadequate evidence, etc.
  - admit that the process may be difficult, uncomfortable and unexpected
  - model the process in your instruction, post the process in your room
  - use the language of inquiry
  - take the role of co-investigator, rather than resident expert, while facilitating the process

Creating a culture  
of critical thinking

Infuse critical thinking  
throughout curriculum

Critical  
Thinking

Teach and assess the intellectual tools

## Teach and assess the intellectual tools of critical thinking

Students can not be expected to think critically without the tools to do so. There are five tools of thinking that will allow your students to become critical thinkers.

1. Background Knowledge
2. Criteria for Judgement
3. Critical Thinking Vocabulary
4. Thinking Strategies
5. Habits of Mind

You must teach and develop competency in each of these tools, however they do not each need to be addressed in every critical thinking lesson. Choose what your focus will be, however, criteria is absolutely necessary for making an informed, reasonable judgement and therefore must be part of every critical thinking activity.

### Assessing the Intellectual Tools

As there is no single answer to be arrived at, assessing critical thinking means assessing whether or not the student exhibited the qualities of a competent critical thinker. Therefore, the intellectual tools of critical thinking become the criteria for assessing student work.

Has the student

- provided adequate and accurate info?
- satisfied relevant criteria?
- revealed understanding of important vocabulary?
- made effective use of appropriate thinking strategies?
- demonstrated the desired habits of mind?

You may not elect to assess all tools, but rather focus on specific tools in specific assignments, while the other tools are practiced for further learning and to be assessed during a later activity. You may also want to assess aspects of the assignment outside their critical thinking skills to meet alternate curricular goals (ex. writing skills). It is important not to forget to assess the actual thinking skills, however, as that is the focus of the assignment.

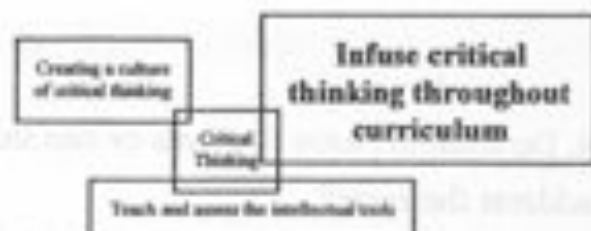
Peer and self assessment are also an effective way of teaching critical thinking as they involve applying criteria to judge yours or another's work. Students are thinking critically about themselves and the assignment. It is an excellent learning and evaluating opportunity and should be practiced regularly.



## 5 Intellectual Tools

<p><b>Background Knowledge</b></p> <p>The information about a topic required for thoughtful reflection</p>	<p>Students can not think deeply about a topic if they know little about it. Two questions to ask in developing this tool.</p> <ol style="list-style-type: none"> <li>1. What background information do students need for them to make a well-informed judgement on the matter before them?</li> <li>2. How can students be assisted in acquiring this information in a meaningful matter?</li> </ol>
<p><b>Criteria for Judgement</b></p> <p>The considerations or grounds for deciding which of the alternatives is the most sensible or appropriate</p>	<p>Critical thinking is essentially a matter of judging which alternative is sensible or reasonable. All judgements are based on criteria of some sort or other. Students need help in thinking carefully about the criteria to use when judging various alternatives. Examples.</p> <ul style="list-style-type: none"> <li>- Is my estimate accurate?</li> <li>- Is the interpretation plausible?</li> <li>- Is the conclusion fair to all?</li> <li>- Is my proposal feasible?</li> </ul>
<p><b>Critical Thinking Vocabulary</b></p> <p>The range of concepts and distinctions that are helpful when thinking critically</p>	<p>Students require the vocabulary or concepts that permit them to make important distinctions among the different issues and thinking tasks facing them. These include the following.</p> <ul style="list-style-type: none"> <li>- inference and direct observation</li> <li>- generalization and over generalization</li> <li>- premise and conclusion</li> <li>- bias and point of view</li> </ul>
<p><b>Thinking Strategies</b></p> <p>The repertoire of organizing devices, models and algorithms that may be useful when thinking through a critical thinking problem</p>	<p>Although critical thinking is never simply a matter of following certain procedures or steps, numerous strategies are useful for guiding one's performance when thinking critically.</p> <ul style="list-style-type: none"> <li>- Making Decisions, models and procedures to guide students through the factors to consider</li> <li>- Organizing Information, graphic organizer, webbing diagrams, ven diagrams, pro/con charts to represent what students know</li> <li>- Role Taking, students putting themselves in others positions and imagine others feelings</li> </ul>
<p><b>Habits of Mind</b></p> <p>The values and attitudes of a careful and conscious thinker</p>	<p>Being able to apply criteria and use strategies is of little value unless students also have the habits of mind of a thoughtful person.</p> <ul style="list-style-type: none"> <li>- open-minded</li> <li>- fair-minded</li> <li>- independent-minded</li> <li>- Inquiring or critical attitude</li> </ul>

## Infuse critical thinking throughout the curriculum



While some have suggested critical thinking be taught as a separate course, the favored approach is to infuse critical thinking in everyday classes. For teachers, this means there is no need to restructure your entire year, or even your units. Making critical thinking a priority means tweaking your favorite questions and assignments to ensure they require the quality of critical thought. Integration is also favorable because it ensures that students will see critical thinking competencies as an integral part of learning, not a separate component and there is less risk of teaching knowledge that is never applied outside the subject area or classroom. In addition it is best taught across subject areas to allow for practice in a variety of contexts.

Regardless of the model you choose, there are 4 questions you can refer to that ensure your activity is a critical thinking activity. These questions can be used as a guide when choosing or designing activities.

### 1. Does the question or task require judgement?

Critical thinking can only occur in the context of a problematic situation where there is no correct answer to be found or all answers are acceptable. It must require the reasonable assessment of plausible conclusions rather than just the retrieval of information, rote application for a strategy, uninformed guessing or assertion of a preference.

### 2. Will the challenge be meaningful to my students?

Critical thinking is much more likely if students find the question interesting. Frame your tasks in a context that they will find meaningful and they are much more likely to be successful.

### 3. Does the challenge address key aspects of the subject matter?

The focus of the critical thinking must be at the heart of the curriculum in order to justify the amount of time spent on it. Ensuring your lessons are curriculum based also allows your students to learn required content within the meaningful framework of a critical issue embedded in the subject matter.



4. Do students have the tools or can they reasonably achieve the tools needed to address the issue?

Is the issue limited enough that students can acquire the information necessary to adequately answer it? Do the students possess the intellectual tools required to address the challenge or will they be taught? For both these questions, it is important that the issue be focused enough to not overwhelm the students.

Two models for designing critical thinking lessons have gained significant attention and can be incorporated into your everyday classroom. The first is the TC Squared Critical Challenges model and the second is Inquiry-Based Learning. Both models will be presented in step-by-step format so they can be used as guides in designing your own critical thinking lessons and projects.

Models for  
teaching  
Critical  
Thinking

Models for  
teaching  
Critical  
Thinking

## The Critical Thinking Consortium (TC Squared)

### Critical Challenges Model

A critical challenge is a learning activity specifically designed to foster critical thinking skills. Critically important information is used to thoughtfully formulate alternative beliefs, strategies or decisions regarding an important issue or problem. Students uncover curricular material with the purpose of solving a problem that provides motivation and context while teaching valuable critical thinking skills.

The following model will assist you in designing your own critical challenges. It has been presented in multiple formats so you can choose the one you find most comfortable.

### A guide to the guide...

#### Step #1.

Identify the outcomes your activity will achieve and/or the skills you students will learn. This is the primary purpose of the challenge and should be kept in mind throughout the process, particularly in terms of assessment.

#### Step #2.

a) What is the problem the students will solve?

The nature of critical thinking requires that students work towards solving a problem, providing a purpose for their learning and reasoning.

b) Ask yourself the 4 questions to determine if your problem is appropriate.

1. Does the question or task require judgement?
2. Will the challenge be meaningful to my students?
3. Does the challenge address key aspects of the subject matter?
4. Do students have the tools or can they reasonably achieve the tools needed to address the issue?

c) Ask yourself which challenge type is best suited to solve your problem.

How will students solve the problem? What will the actual product look like? How will they show you what they have learned and decided?

See our examples of each challenge type to help you understand how they can be used.

## Types of Critical Challenges

Critique the Piece	Assess the merits/shortcomings of a person, product or performance.
Judge the Better or Best	Judging between two or more options, which best meets the identified criteria.
Rework the Piece	Transform a product or performance in light of additional information or an assigned perspective, genre, focus, etc.
Decode the Puzzle	Suggest and justify a proposed solution, explanation or interpretation to a confusing or enigmatic situation.
Design to Specs	Develop a product that meets a given set of criteria/conditions.
Perform to Specs	Perform or undertake a course of action that meets a given set of criteria/conditions.

### Step #3.

- a) All critical thinking decisions must be based on criteria to ensure they are not opinions.

Decide what criteria the decision will be based on and whether that criteria will be teacher or student generated. You may provide the criteria to students, you may choose to brainstorm possible criteria and narrow it down as a class or you may teach and practice generation of criteria and have students individually choose criteria to base their decision on.

- b) What other intellectual tools will the students require in order to solve the problem? How will you teach these tools?

Depending on your problem and challenge type, you may not require any intellectual tools beyond criteria or you may need to teach all the intellectual tools.

See our suggestions, ideas and resources for teaching the intellectual tools

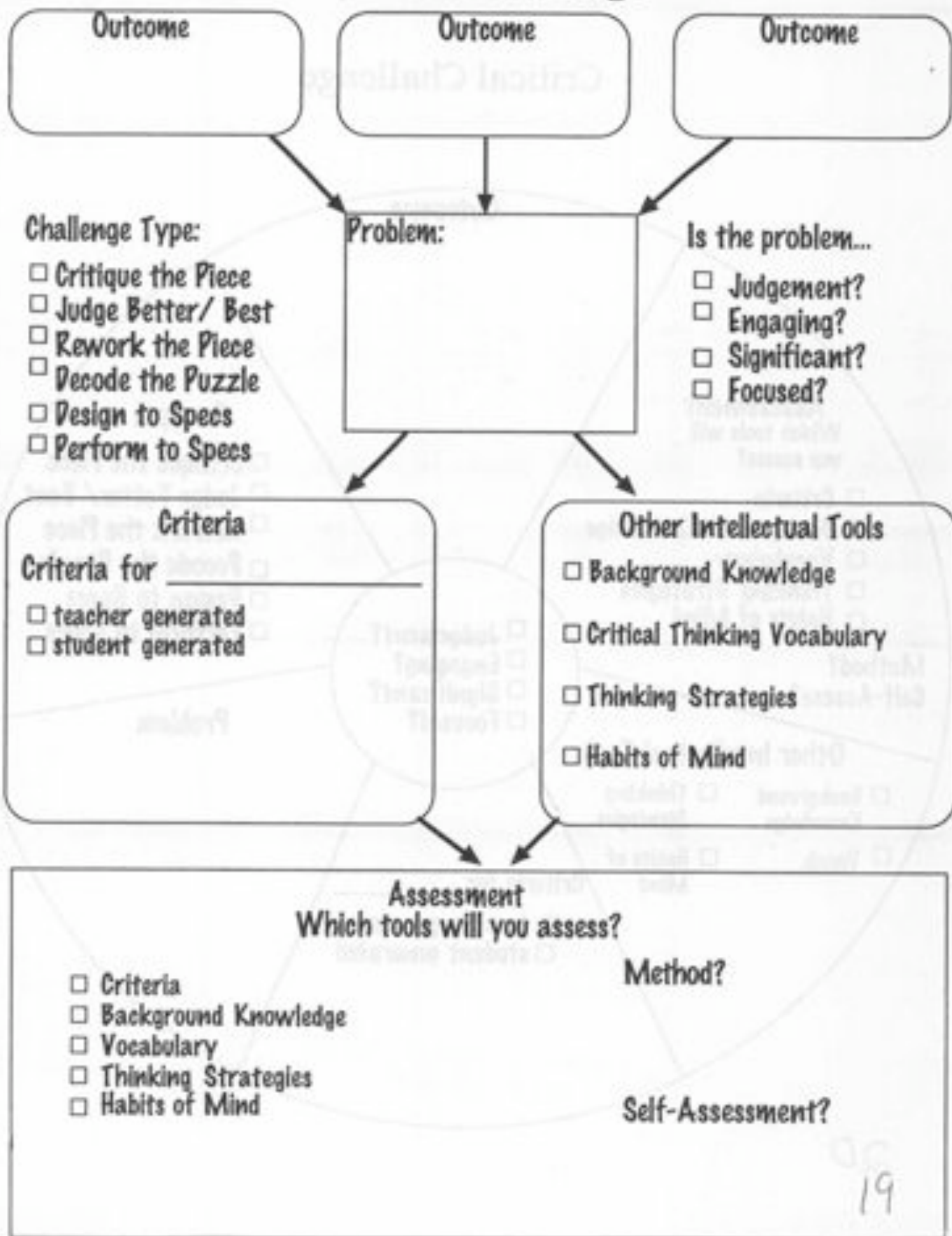
### Step #4.

How will you assess student learning and performance? Will you assess students use of the intellectual tools? Decide how you will assess the final product, which of the intellectual tools you will assess and the method you will use. As assessment of critical thinking can be overwhelming, you may choose to assess one intellectual tool this challenge and others in different challenges at another time.

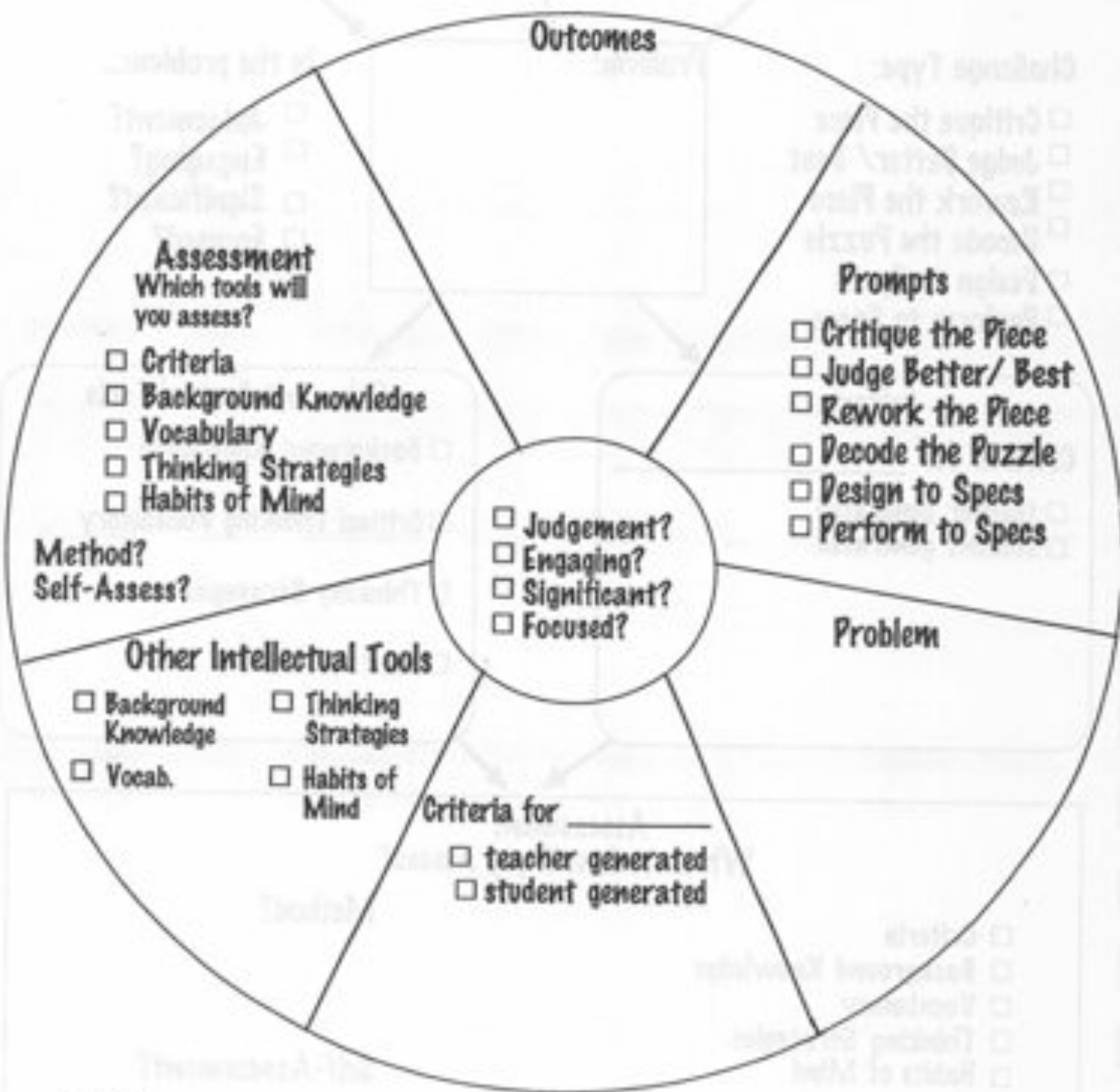
See our suggestions, ideas and resources for assessing critical thinking.



# Critical Challenge



# Critical Challenge



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## The Inquiry-Based Learning Model

Inquiry is a process of collecting and compiling information for the purpose of making a decision about an important issue. When structured and completed correctly, it can be a valuable critical thinking opportunity. Beginning with a problem, students gather relevant material, construct alternate position or solutions, assess their choices and present a case to support their selected option, all the while uncovering valuable curriculum material. The following model will assist you in designing your own critical thinking inquiry projects. It has been presented in multiple formats so you can choose the one you find most comfortable.

### A guide to the guide...

#### Step #1.

Identify the outcomes your activity will achieve and/or the skills you students will learn. This is the primary purpose of the challenge and should be kept in mind throughout the process, particularly in terms of assessment.

#### Step #2.

##### a) What is the problem the students will solve?

The nature of critical thinking requires that students work towards solving a problem, providing a purpose for their learning and reasoning.

##### b) Ask yourself the 4 questions to determine if your problem is appropriate.

1. Does the question or task require judgement?
2. Will the challenge be meaningful to my students?
3. Does the challenge address key aspects of the subject matter?
4. Do students have the tools or can they reasonably achieve the tools needed to address the issue?

#### Step #3.

What background information will students need in order to solve the problem? Where and how will they retrieve this information?

You will select relevant materials and resources, decide what will be directly provided and what students will have to find themselves, decide what assistance students will require and the method or format of gathering the information.



#### Step #4.

Now that students have information on the issue, they will need to process and organize this information in a way that will help them solve the problem. They will also use this information to identify and analyze possible solutions or positions on the issue.

- identify the information relevant to the issue
- use organizers, models, procedures, data charts, webbing diagrams, etc. to track, organize and analyze the information they have found

See our suggestions, ideas and resources for processing information.

#### Step #5.

a) All critical thinking decisions must be based on criteria to ensure they are not opinions.

Decide what criteria the decision will be based on and whether that criteria will be teacher or student generated. You may provide the criteria to students, you may choose to brainstorm possible criteria and narrow it down as a class or you may teach and practice generation of criteria and have students individually choose criteria to base their decision on.

b) What other intellectual tools will the students require in order to solve the problem? How will you teach these tools?

Depending on your problem and challenge type, you may not require any intellectual tools beyond criteria or you may need to teach all the intellectual tools.

See our suggestions, ideas and resources for teaching the intellectual tools

#### Step #6.

Students now choose a position on the issue and present their case.

Their judgement will be based on relevant criteria, and employ the other intellectual tools you have taught.

You also need to decide what vehicle would be best to present information and persuade others of the important issue and facts. What will the final product look like? How will they show you what they have learned and decided?

#### Step #7.

How will you assess student learning and performance? Will you assess students use of the intellectual tools? Decide how you will assess the final product, which of the intellectual tools you will assess and the method you will use. As assessment of critical thinking can be overwhelming, you may choose to assess one intellectual tool this challenge and others in different challenges at another time.

# Inquiry Process

Outcome

Outcome

Outcome

Problem:

Is the problem...

- Judgement?
- Engaging?
- Significant?
- Focused?

Retrieving

Processing

Criteria

Criteria for \_\_\_\_\_

- teacher generated
- student generated

Other Intellectual Tools

- Background Knowledge
- Critical Thinking Vocabulary
- Thinking Strategies
- Habits of Mind

Sharing/ Acting on Ideas

Assessment  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

Method?

Self-Assessment?



# Inquiry Process



# Teaching the Intellectual Tools

Teaching the  
Intellectual  
Tools

## Teaching Criteria

Basing decisions on criteria rather than making baseless judgements is what separates critical thinking from opinion. Using criteria needs to be taught, however. Students will not know how to base their decision on criteria without some practice.

One way to develop the concept of criteria in students minds is to choose examples they are familiar with and can wrap their minds around easily. One way to introduce the ideas is to use marking as an example. We know that we base our students marks on criteria. Every time we give a grade, we are assessing the merits of a piece of work in light of relevant criteria. Students will understand this example. You could take an assignment handed in and start randomly separating it into piles. Announce that one pile is getting an A, the others B and C. Students will obviously object and you can ask them why. In some form, they will reply that you aren't being fair, you aren't basing your decision on anything. You can rephrase their answers to show that you aren't basing your decision in criteria. Put the papers back together and start separating them by handwriting, for example. Ask students if this is better. Again, they will likely say no. Protest that you are using criteria, so why isn't this fair? The answer to guide students to is that the criteria is not relevant. This quick activity will be engaging and demonstrate the importance of basing decisions on relevant criteria. From here you may want to practice the development and use of criteria on simple examples. Have them create criteria for an A on the assignment, describe an excellent birthday party and create criteria from this description, create criteria for a healthy lunch and assess how healthy their lunch was in light of the criteria, etc. As students become more proficient, you could develop and use criteria to choose positions on current event articles and issues. You can have students practice this skill as quick lesson openers or closers until you feel they have the skills to use criteria in a more challenging context.

Students are familiar with criteria, though they may not know it yet. You need to clearly outline what it is and how to use it. As you know, it is important for students to have a clear idea about what is expected from them and it is no different with a critical thinking decision. If the criteria are clear instead of nebulous or arbitrary the students will be more engaged and make better decision, increasing their likelihood of success.



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## Teaching Background Knowledge

Background knowledge is focused information needed to perform the task. Providing background knowledge to students is nothing new. In fact, this occurs everyday in all classrooms. This is your job, you know how to do it, so apply the strategies you already know to be successful. However, when considering how students might approach this process, think about the following.

1. Provide students with the question first and the necessary information later. This strategy sets the context and purpose for learning the material, and therefore students will be more engaged in their own learning.

2. Deliver the information economically. Examples

- a. Point form
- b. Briefing sheets
- c. Visuals

3. Make use of the collective wisdom of the class. Use some of the following.

- a. Brainstorm carousel
- b. Think, pair, share
- c. Placemat activity

Provide students with the information they need to complete the task in whatever way you know to be successful in your classroom. You will be surprised at their increased engagement, however, simply because they have a clear and immediate purpose for acquiring the knowledge you are presenting.

# Teaching Language Knowledge

Language knowledge is a complex and multifaceted concept that encompasses a wide range of skills and abilities. It is not simply the ability to understand and use words, but also the ability to understand and use the rules of grammar and syntax. This knowledge is essential for effective communication and is a key component of literacy.

One of the main challenges in teaching language knowledge is that it is often difficult to measure. Unlike other subjects, there is no single test that can accurately assess a student's language knowledge. Instead, teachers must use a variety of assessment methods, including writing samples, oral presentations, and classroom observations.

## 2. The Role of Language Knowledge in Literacy

a. Reading

b. Writing

c. Speaking

## 3. The Role of Language Knowledge in Learning

a. Vocabulary

b. Grammar

c. Syntax

Language knowledge is a key component of literacy and is essential for effective communication. It is a complex and multifaceted concept that encompasses a wide range of skills and abilities. This knowledge is essential for effective communication and is a key component of literacy.

## Teaching Critical Thinking Vocabulary

The vocabulary of critical thinking is complex and often foreign to students. Asking a student to recognize bias is useless without teaching them what bias means. Because of this, many critical thinking exercises and activities require a vocabulary lesson. You likely already have some tried and true vocab teaching methods. These will likely work just as well in a critical thinking lesson, but a couple vocabulary teaching methods are included that you may find helpful.

Understanding how memory works can help us recognize and use effective methods of teaching vocabulary. We know that learning new items involves storing them first in short term memory and later into long term memory. Our short term memory is limited, and ineffective in chunks of larger than seven. For teachers, this means we should not attempt to teach more than seven vocabulary chunks in a lesson. We can teach more than seven terms if they are linked, categorized, or "chunked" together, however. When vocabulary knowledge is transferred to long term memory there is no limit on the amount of information it can hold.

4 categories of memory strategies can be applied to effectively teaching vocabulary.

- creating mental connections
  - grouping, associating, placing new words into a context
- applying images and sounds
  - using imagery, semantic mapping, using keywords and representing sounds
- using movement,
  - physical response or sensation, mechanical techniques or actions
- reviewing well, in a structured way
  - word frequency significantly affects storage

Meaningful tasks offer the best answer to vocabulary learning, as they rely on students' experiences and reality to facilitate learning. More meaningful tasks also require learners to analyze and process language more deeply, which helps them retain information in long-term memory. Therefore the use of new terms in a critical thinking activity will facilitate the long term memory and true learning of vocabulary.



## Some vocab lesson ideas.

### Categorizing.

Have students categorize terms to create mental connections between new words and words they already know. These categories can also become a basis for developing criteria.

Example.	closed-minded	opinion	rational
	objective	factual	emotional

1. Students individually categorize these terms after being given their meaning
2. Discuss as a class how they have been categorized and agree on correct categories
3. Individually add a new term to each category
4. Discuss as a class what terms they have added and why they fit

### Actions.

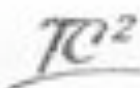
When presenting critical thinking vocabulary, have the students create actions to represent terms. They then teach the actions to the class and everyone participates by doing the actions when you say the words. This is a type of drill practice, but engages kinesthetic learning styles and can be a fun game and review activity. I know it sound like a stretch, but even middle school kids will embrace this if it is presented enthusiastically.

### Writing.

Teach brand new terms using worksheets and organizers like those included. Vocab dictionaries or worksheets should assist students in making connections between terms, giving a context for the term to make it more meaningful and applying images to terms to appeal to multiple learning styles. The process of writing definitions and examples also aides in the storage of information in short term memory.

### Review and Practice.

Review and practice is critical to long term memory and use of new vocabulary. Teach and use the terms more than once. One idea is to use a vocab review game as an opener or closer to each lesson of the critical thinking activity. It is also important to use the words you have taught them when you are speaking and teaching. The more times the terms are used in a meaningful context, the more likely they are to be remembered.



## Sample critical thinking vocabulary

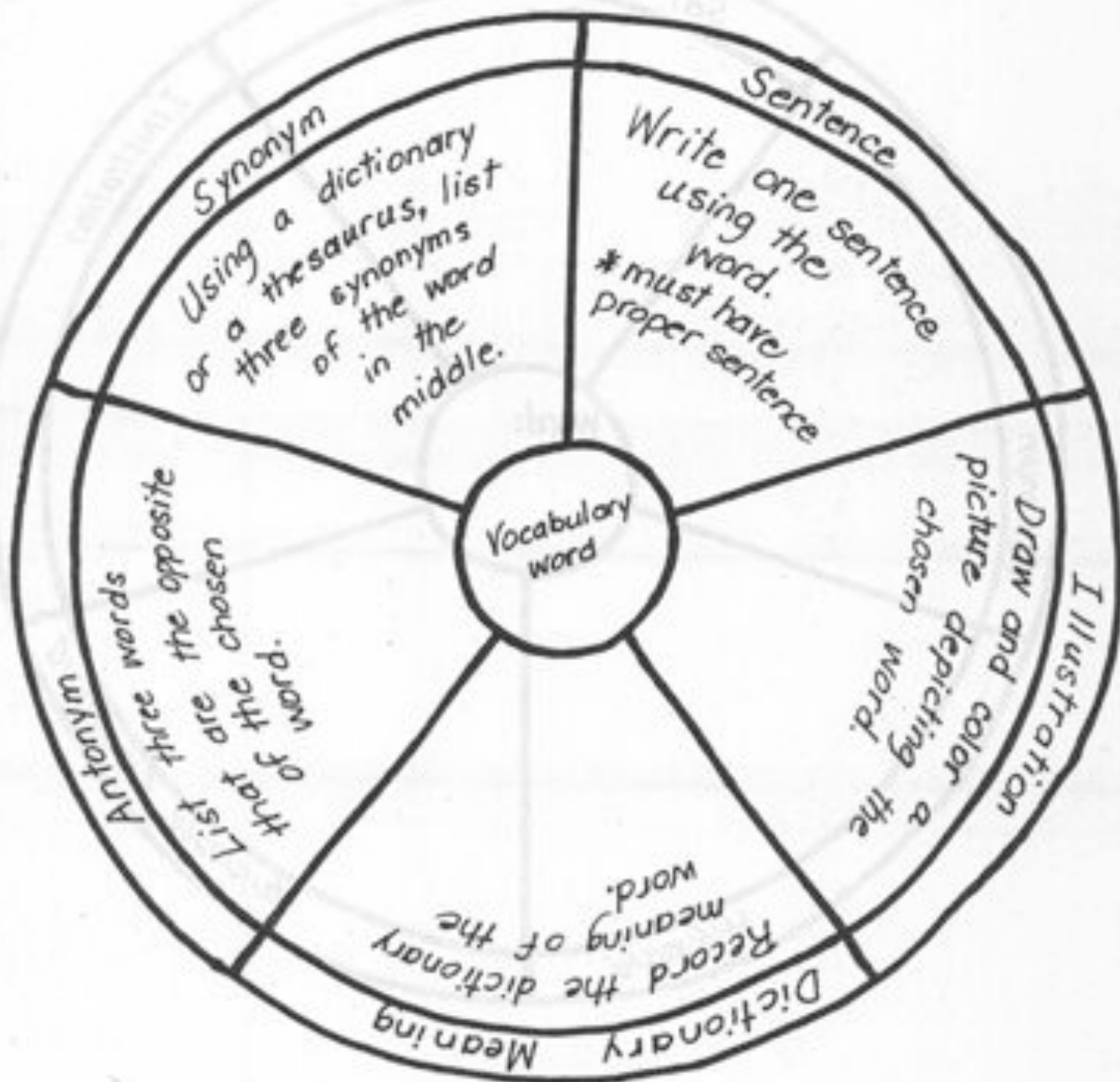
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<b>Accuracy</b>	Striving to be free from errors or mistakes
<b>Ambiguity</b>	A sentence having two or more meanings. Good critical thinking strives to avoid ambiguity and to ensure clarity.
<b>Analysis</b>	Involves looking more deeply at an issue by breaking it up into its parts and examining in detail.
<b>Argument</b>	To give reasons for or against a proposal or an idea. The use of logic and evidence to support or refute a point.
<b>Assumption</b>	To take for granted. A statement that is accepted as true without proof.
<b>Bias</b>	Favouring one view over another, noticing some things rather than others. Also can be a blindness to weaknesses in our own point of view.
<b>Concept</b>	An idea or thought; the generalized idea of a class of things.
<b>Conclusion</b>	A decision made by reasoning. A judgment, decision or belief reached after investigation. A firm answer based on several pieces of evidence.
<b>Consistency</b>	To say and act in a similar manner; to avoid hypocrisy; To act in a manner similar to past actions or beliefs.
<b>Criteria</b>	A set of factors, rules or tests by which something can be measured or judged.
<b>Critique</b>	The objective judging or evaluating of something. Recognizing both strengths and weaknesses for the purpose of revising or recreating.
<b>Egocentric</b>	The habit of viewing everything in relationship to oneself. Using one's own beliefs, values, and desires as the norm for all judgments.
<b>Empathy</b>	The ability to imagine oneself in another's place and understand the other's feelings, desires, ideas, and actions.
<b>Evaluation</b>	To judge or determine quality or worth.
<b>Evidence</b>	The data used to make a judgment or draw a conclusion.
<b>Empirical evidence</b>	Based on direct observation, experiment or experience.
<b>Explicit</b>	Clearly stated leaving no doubt. Being exact, definite and specific.

<b>Fact</b>	What actually happened or what is true and verifiable. Factual claims need to be assessed for their accuracy and relevance to an issue and not blindly accepted.
<b>Fair</b>	Treating all sides in a similar fashion without preference for one's own feelings or interests. Impartial or unbiased.
<b>Hypothesis</b>	A possible answer based on some evidence.
<b>Imply</b>	A claim or a truth which results from others claims or truths. A claim or truth which is suggested by other claims or truths but is not self-evident.
<b>Inference</b>	A conclusion one draws based on assumptions. Inferences can be weak or strong, justified or unjustified and need to be examined.
<b>Interpretation</b>	To explain one's own conception of an idea or issue in light of one's own experience, perspective or situation. All learning involves personal interpretation of evidence.
<b>Judgment</b>	The act of deciding or weighing options based on reasons, evidence and explicit criteria.
<b>Justify</b>	Being able to show beliefs or actions are in line with reason and evidence and are ethically acceptable.
<b>Opinion</b>	A belief usually open to debate.
<b>Perspective</b>	A point of view. A way of seeing a situation based on your experience.
<b>Prejudice</b>	A judgment, belief or point of view formed before the facts are known or in disregard of facts which contradict.
<b>Problem</b>	A question or situation which is difficult to solve or figure out. Often problems cannot be clearly understood without analysis and gathering of evidence place.
<b>Proof</b>	Evidence or reasoning so strong that the truth of a conclusion is beyond doubt.
<b>Reasoned Judgment</b>	A belief or conclusion arrived at through careful thought, reflection and consideration of evidence in light of criteria.
<b>Relevant</b>	Relating to the matter at hand – a close and logical relationship to the matter being considered.
<b>Specific</b>	To define or describe in detail.



# Vocabulary Wheel





# Vocabulary Wheel



36

# VOCABULARY

Name \_\_\_\_\_

Class \_\_\_\_\_ Date \_\_\_\_\_

## VOCABULARY

Vocab. Word

(Term)

Definition

dictionary meaning

Examples

use the word in a sentence that gives an idea of the meaning of the word

Draw a picture

anything that helps that remember what word means

(Term)

Definition

Examples

(Term)

Definition

Examples

**VOCABULARY**

VOCABULARY

Name \_\_\_\_\_

Class \_\_\_\_\_ Date \_\_\_\_\_

**VOCABULARY**

(Term)

Definition \_\_\_\_\_

Examples \_\_\_\_\_



(Term)

Definition \_\_\_\_\_

Examples \_\_\_\_\_



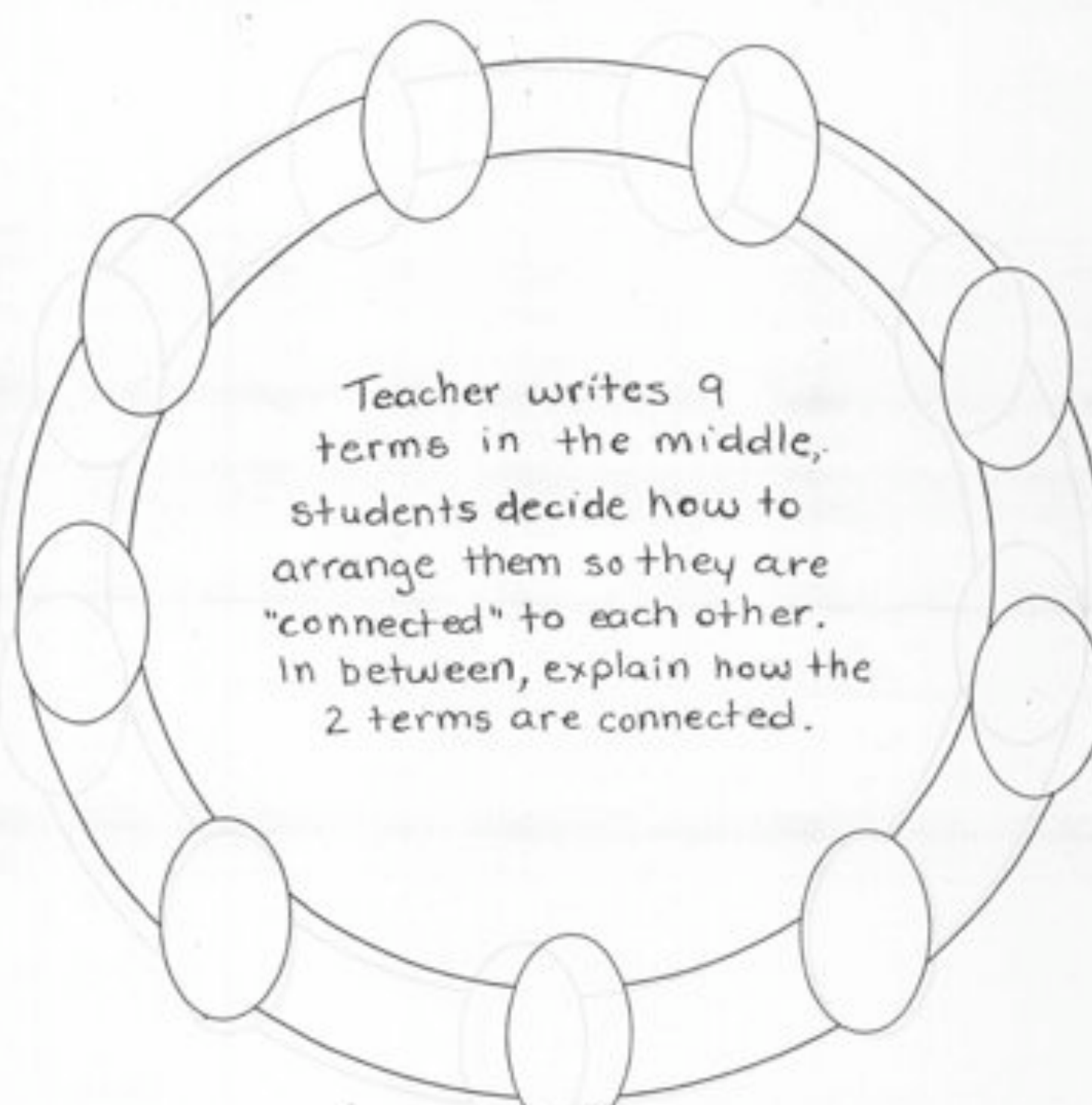
(Term)

Definition \_\_\_\_\_

Examples \_\_\_\_\_



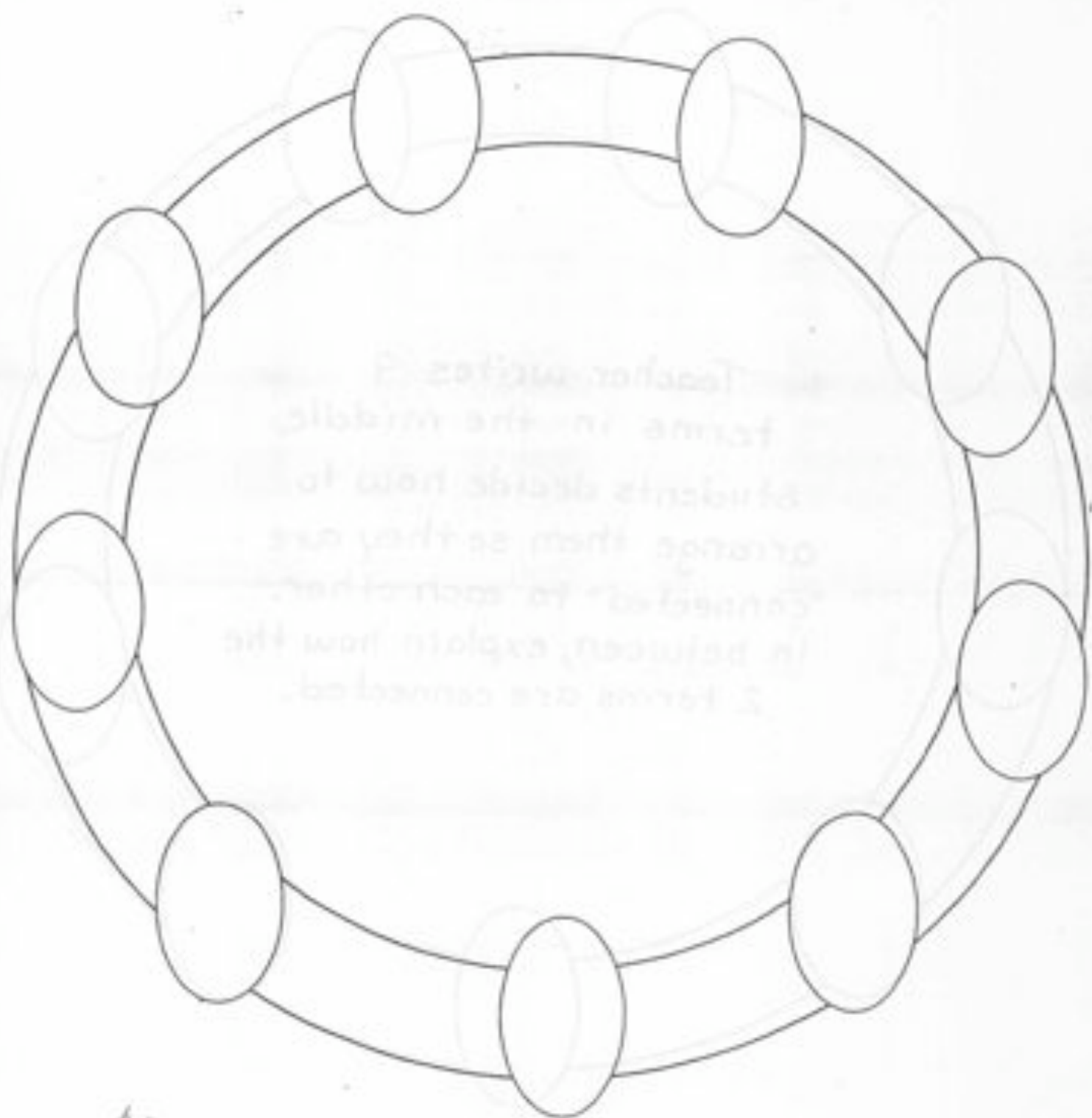
## Word Cycle



Teacher writes 9 terms in the middle, students decide how to arrange them so they are "connected" to each other. In between, explain how the 2 terms are connected.



## Word Cycle



## HOW WELL DO YOU KNOW THESE WORDS?

Directions: Write the words from the bottom of this page in the column that best describes what you know about each one.

This is a new word for me. I don't know it's meaning.	I have seen this word, but I don't know it's meaning.	I think I know the meaning.	I know a meaning.


# HOW WELL DO YOU KNOW THESE WORDS?

Directions: Write the word from the column to the right in the column that best describes how well you know it.

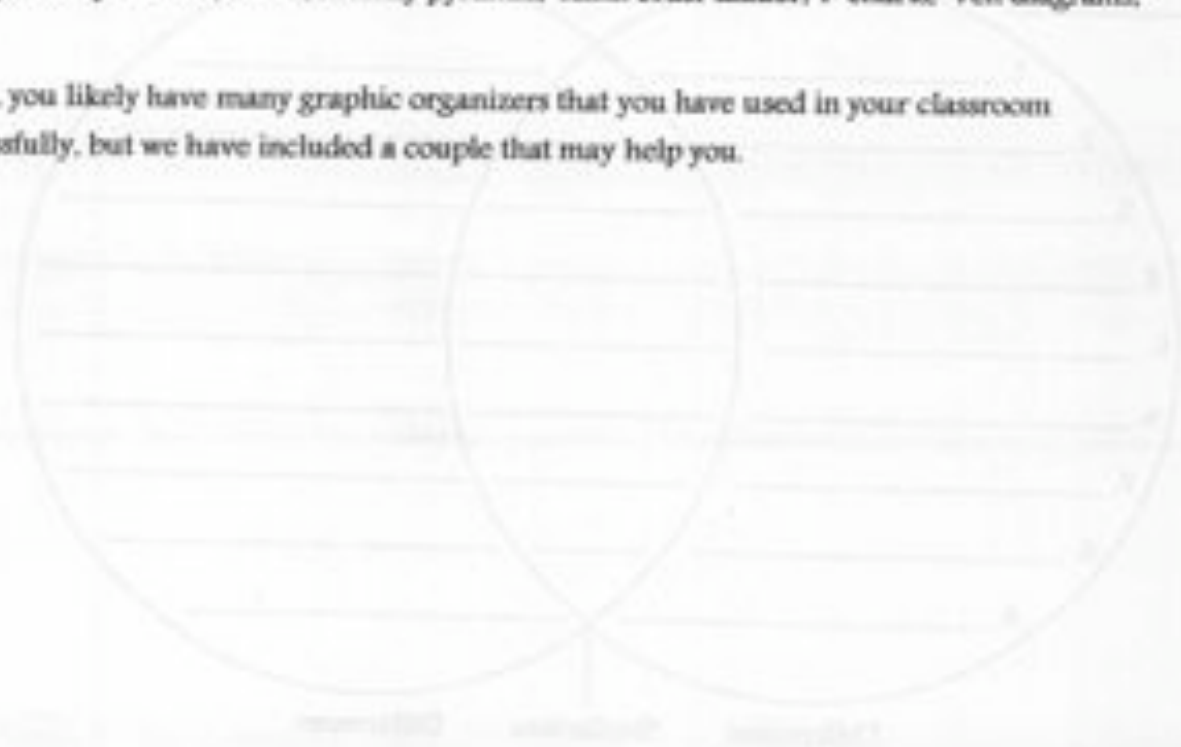
I know a word I recognize	I think I know the meaning	I have used this word, but I don't know its meaning	This is a new word for me. I don't know its meaning


## Teaching Thinking Strategies

Where possible, frame the acquisition of background knowledge and the processing of this information in graphic organizers. Students likely do not have the skills to organize and process new information in their heads, and yet this process is essential to critical thinking. Providing them with concrete materials to organize their thoughts and evidence on paper will aid them in completing the task successfully and developing the skills to eventually process and organize mentally.

Examples may include, 5 W's, Priority pyramid, Rank order ladder, T-charts, Ven diagrams, etc.

Again, you likely have many graphic organizers that you have used in your classroom successfully, but we have included a couple that may help you.



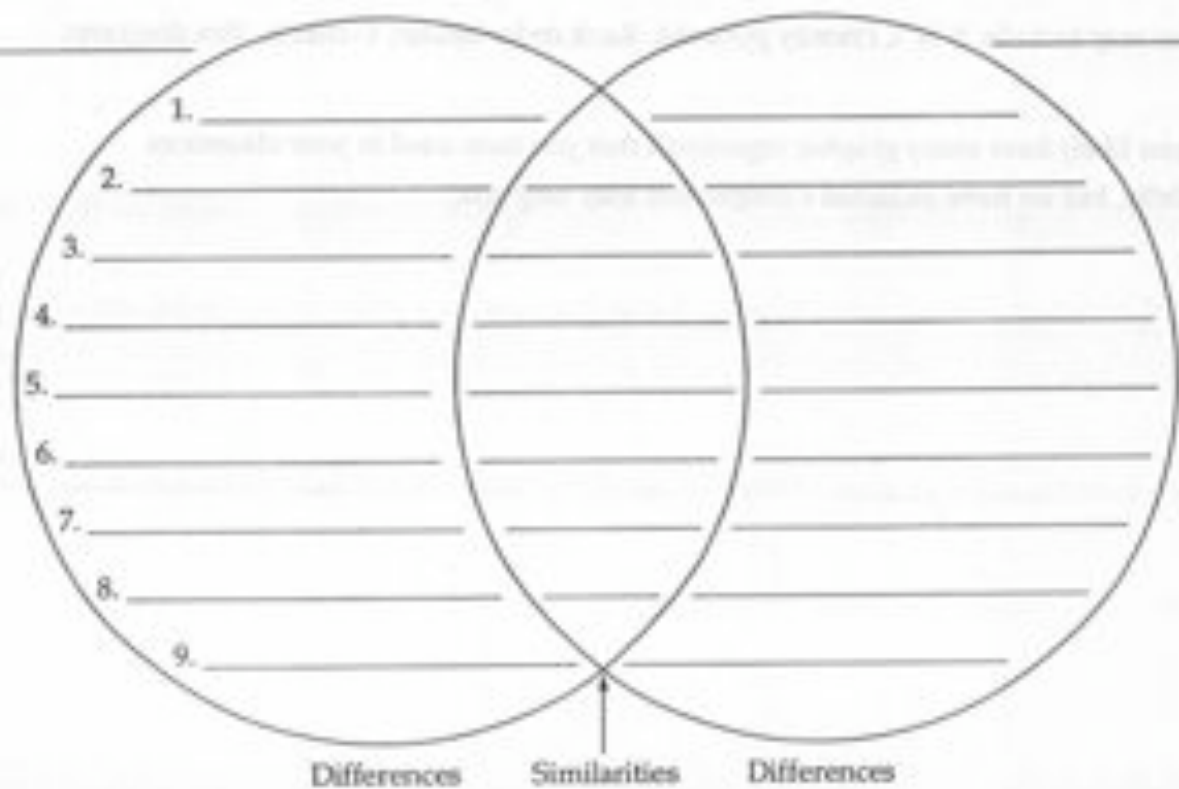


## Venn Diagram



Name \_\_\_\_\_

Date \_\_\_\_\_





Name \_\_\_\_\_

Date \_\_\_\_\_

Title/Topic: \_\_\_\_\_

Looks like:

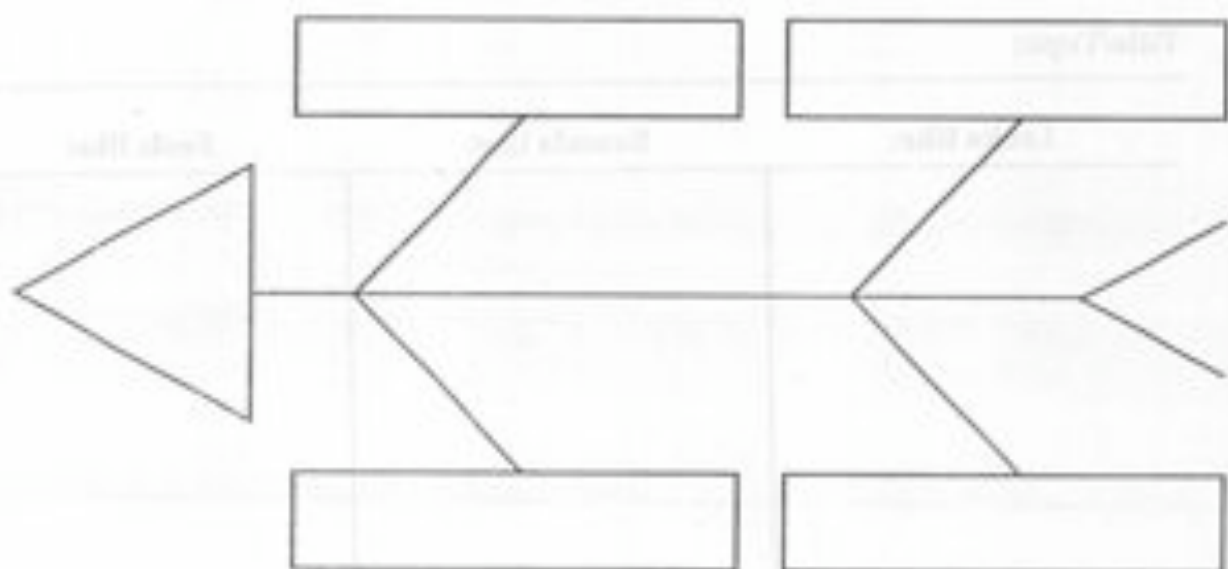
Sounds like:

Feels like:



Name \_\_\_\_\_

Date \_\_\_\_\_



## Influences on Decision Making



Name \_\_\_\_\_

Date \_\_\_\_\_



Questions you need to ask to help you make this decision

_____	_____
_____	_____
_____	_____
_____	_____

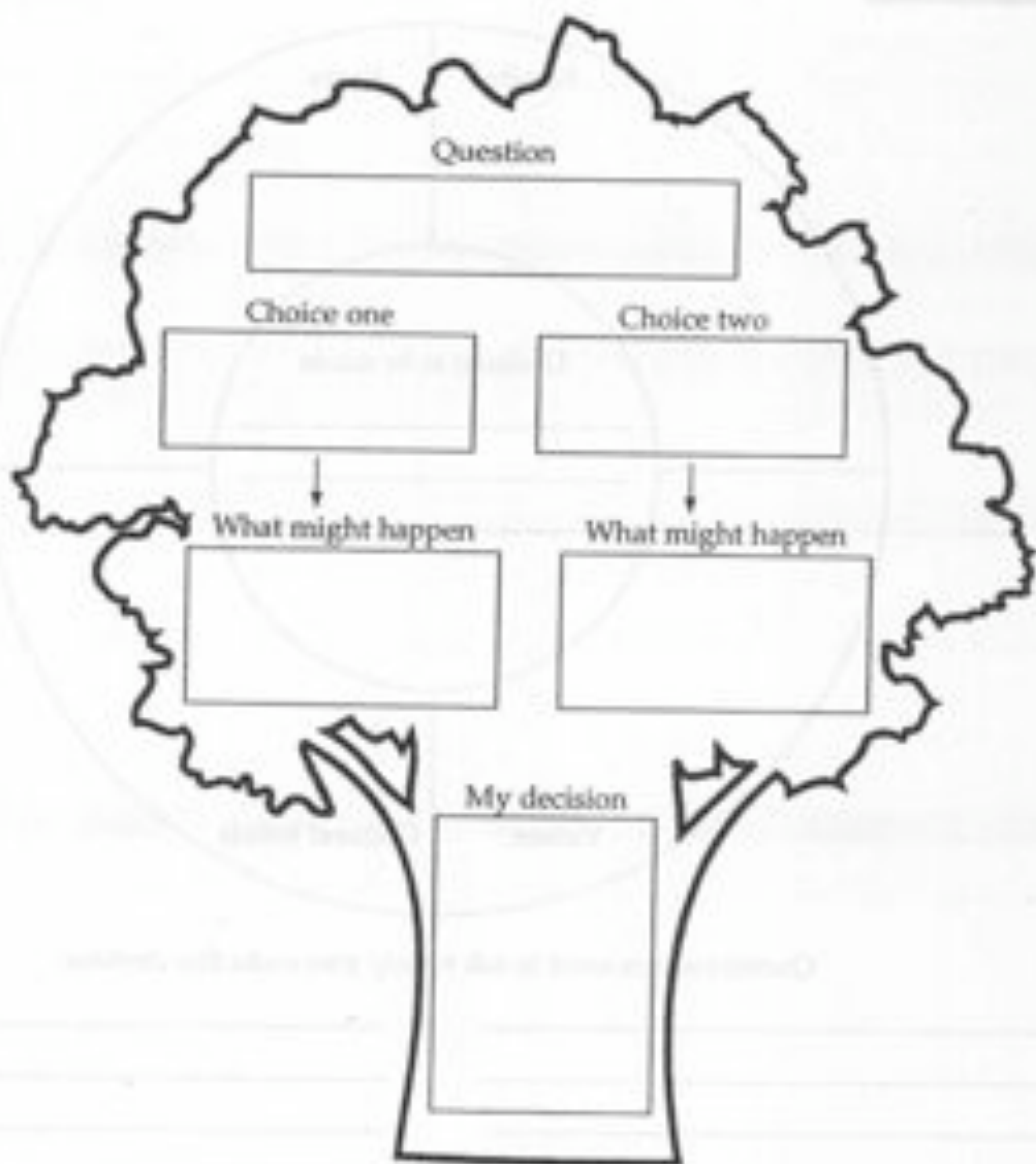
Adapted from Alberta Learning, *Kindergarten to Grade 9 Health and Life Skills Guide to Implementation* (Edmonton, AB: Alberta Learning, 2002), p. C.39.





Name \_\_\_\_\_

Date \_\_\_\_\_



From Alberta Education, *Social Studies, Grades 1-3: Teacher Resource Manual* (Edmonton, AB: Alberta Education, 1989), p. 12.

# Rubric Template

---



Student Name \_\_\_\_\_

Task \_\_\_\_\_

Date \_\_\_\_\_

## *Standard of excellence/outstanding evidence*

- 
- 
- 
- 
- 

## *Well on the way/strong evidence*

- 
- 
- 
- 
- 

## *Good start/some evidence*

- 
- 
- 
- 
- 

## *Just beginning/little evidence*

- 
- 
- 
- 
-



Name \_\_\_\_\_

Date \_\_\_\_\_

<p>Why is this an important question?</p> <p>(Rationale)</p>	<p>What is my critical question?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>How can I show my learning?</p> <p>(Product/format)</p>
<p>Where can I look for information and answers?</p> <p>(Sources)</p>	<p>When will I do what?</p> <p>(Timeline)</p>	
<p>Who ...</p> <p>... has information?</p> <p>... will review and discuss my project?</p> <p>... will be my final audience?</p>		



Name \_\_\_\_\_

Date \_\_\_\_\_

Topic: \_\_\_\_\_

Plus	Minus	Interesting Information

What do I think? Why?

Now that I have considered all the information, my thoughts on this topic are:





Name \_\_\_\_\_

Date \_\_\_\_\_

Topic: \_\_\_\_\_

Goal \_\_\_\_\_ Time limit \_\_\_\_\_ minutes

**Why am I doing this?**

- |  |  |
|--|--|
| <input type="checkbox"/> to generate ideas         | <input type="checkbox"/> to make decisions     |
| <input type="checkbox"/> to assess prior knowledge | <input type="checkbox"/> to review information |

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

**Reflect and revise**

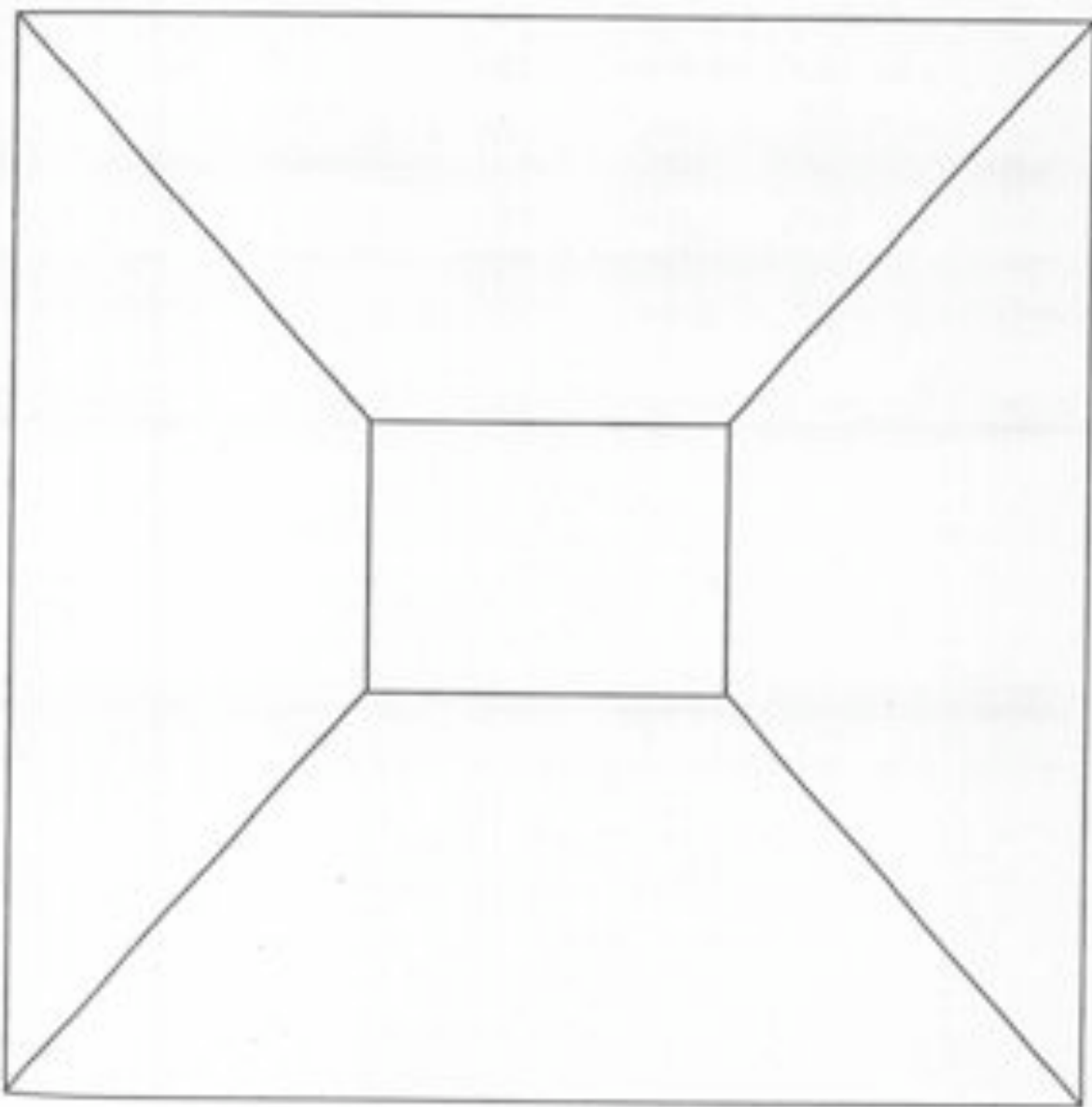
- Are any ideas similar? If yes, combine similar ideas.
- Do all ideas fit the topic? If no, cross out ideas that don't fit.
- Star your three ideas.

Reproduced with permission from Edmonton Public Schools, *Thinking Tools for Kids: Practical Organizers* (Edmonton, AB: Edmonton Public Schools, 1999), p. 167.



Name \_\_\_\_\_

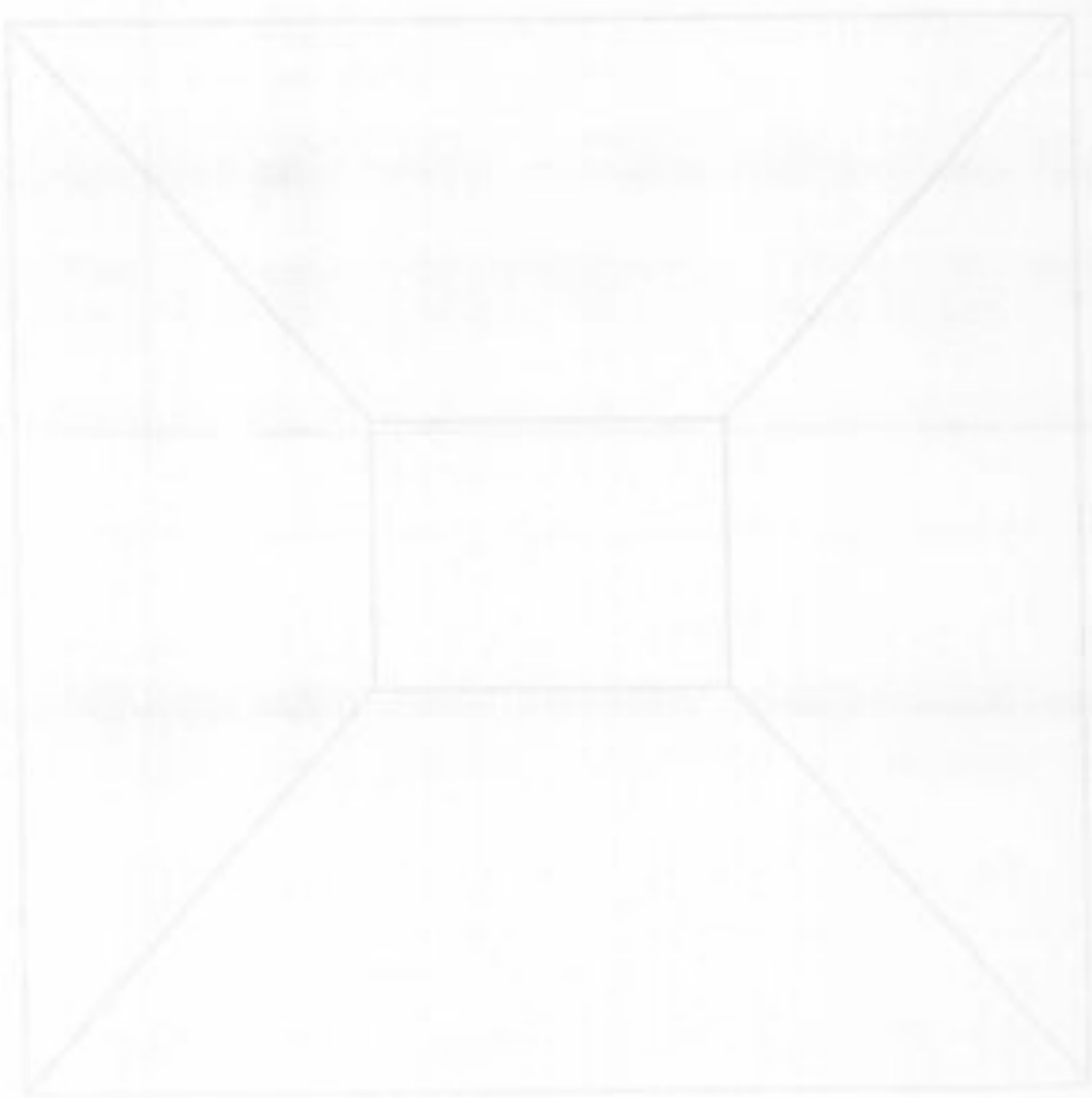
Date \_\_\_\_\_



Place Mat



\_\_\_\_\_



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## Teaching Habits of Mind

As previously referenced in the subsection "Creating a Critical Thinking Classroom", nurturing the appropriate Habits of Mind is vital to the development of critical thinking for students. Classrooms should promote values and attitudes of careful and conscientious thinking. This ongoing process should encourage students to think openly, fairly, and independently. As well, students need to be encouraged to support, clarify and justify their beliefs and values.

Now you're saying, sound great but how can you make this happen? What activities might a teacher use? Here's a few ideas.

1. Taking a Stand—Student decides upon a point of view on any given issue. The assignment is to argue the opposite point of view to practice seeing an issue from an alternate perspective or approach and argue a position based in an assigned perspective. Example, debates

2. Priority Ladder—Research two sides of an issue, person, product. List the arguments, for and against, on the priority or rank ladder in order of importance to the student. On the left, check the pros to support the argument, on the right check the cons to support the argument. Prepare a defense based upon which side, left or right, has the majority of checks. This provides practice at weighing evidence and basing decisions on concrete information.

3. Enhancing the Environment. Create visual aids in the classroom posing the questions listed in the "Habits of Mind" section (refer to previous chart). As the students move through curriculum in any given subject, their attention can be directed periodically to the questions. The visual aids remind students that these habits of mind transfer and apply to different topics and problems.

4. Teacher as Role Model. Take the opportunity to be the "Devil's Advocate" and argue an opposing perspective respectfully. Demonstrate to students that it is alright to disagree with the group. As well, teachers can reinforce respect towards other perspectives by modeling the phrase, "I respectfully disagree..." when presenting an alternative view, and insisting that students couch their counterpoints with the phrase. Explain that taking on an opposing



perspective also allows you to better understand the view of the opposition, possibly strengthening your own arguments.

5. **\*Fair\* Assessment.** This simple example will demonstrate to students the principle of **\*fair\***. Tell the students they will be instructed to complete a test using only the materials provided by the teacher. Proceed to pass out materials for the test. Students will receive either.

- i. Paper and sharpened pencils or
- ii. Paper and unsharpened or broken pencils or
- iii. Paper only or
- iv. Pencils only or
- v. Any combination of the above.

Students who cannot complete the test because of lack of materials will likely complain that this is not a **\*fair\*** situation. The teacher can then use this scenario as an analogy to approaching how to be open-minded and fair throughout in their approach to the critical thinking process.

Habits of mind are modeled, demonstrated and taught continuously and must be nurtured in students long term. This is an ongoing process and cannot be accomplished in a single lesson. It is different than some of the other Intellectual Tools as it can not be taught in a single deliberate lesson to support a specific activity. Consciously infuse habits of mind in everyday activities and discussions to empower students with this tool.

# Samples and Examples

How we have taught critical thinking in our classrooms

samples and

Examples

How we have taught critical thinking in our classrooms

## Inquiry-Based Learning

### The Milk River Dam

Social Studies, Grade 8

As a culminating project to the geography unit, my grade 8 class completed an inquiry project on a geographic issue. Currently, there is a debate in our town over whether to build a dam on the river. This question became the basis of our project. Before the issue was even presented, the class had been taught critical thinking vocabulary and practiced through exercises on perspective, bias and development/use of criteria. I used the issue of global warming as a topic to teach these skills. They then put them into practice in this individual project. The entire process of inquiry was taught to the class as we began so they understood the process we would work through and what they were working towards. Background knowledge was obtained in a number of ways. For starters, through collaboration with another teacher, the subject of dams in general was taught in science class during their unit on water. I retrieved resources as the issue was quite specific and organized them into centers the students worked through. At one center, they had to find their own source. This format allowed students to work together with peers to understand articles and government documents they may have had difficulty with. Finally, a local lobbyist for the dam came in to speak to our class. The students had some background knowledge by this time, so we prepared questions to ask him in advance. Once the collection of information was complete, we processed the information we had found. As a class, we identified the primary arguments about the dam on the board. Students then used a priority pyramid to identify the most important arguments on the dam. We then identified whether their most important arguments were for or against the dam. We created criteria for a rational, objective decision based on vocabulary lessons completed earlier. Using this criteria and their priority pyramids, students made a decision as to whether the dam should be built. Students then organized their arguments and evidence into position papers. This was an extensive process we worked through in a guided note package and as a group with peer conferencing at various stages. I assessed students based on a one-on-one conference I had with each of them where we discussed the issue and how their decision was made. In terms of intellectual tools, I assessed their knowledge and use of vocabulary, recognition of bias and knowledge of the issue. I also assessed their final product according to a checklist students had while writing the papers.



## Knowledge

### Outcome

Understand that people constantly interact with environment to meet their needs

- resource development
- consequences
- environmental limitations

## Skill

### Outcome

- compare info from multiple sources  
- determine values underlying a position  
- identify + evaluate alternative solutions to issue

## Attitude

### Outcome

- Appreciate consequences of people's interaction with the environment  
- Critical stance towards decision making

### Problem:

Should a dam be built on the Milk River?

### Is the problem...

- Judgement?
- Engaging?
- Significant?
- Focused?

- centers: groups, resources at each
- one center: find own source

### Retrieving

- Guest speaker (dam lobbyist)

- Complete resource note package

### Processing

- priority pyramid
- argument worksheet

### Criteria

Rational, Criteria for objective decision

- teacher generated
  - student generated
- based on vocab. lessons*

### Other Intellectual Tools

- Background Knowledge *Science class*
- Critical Thinking Vocabulary *lesson*
- Thinking Strategies *Graphic org. worksheet*
- Habits of Mind *open-minded, thoughtful, non-judgemental*

### Sharing/ Acting on Ideas

Position Paper

- writing workshop, peer editing

### Assessment

Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

### Method?

- Rubric
- \* conference with each student individually
- Self-Assessment? writing

Grading Scale: Paper writing

access to meet 55 outcomes, outside critical challenge

Name: \_\_\_\_\_

Put on your Critical Thinking cap...

## **Should a dam be built on the Milk River?**

Your answer will be an objective decision based on the facts of the issue, although you may come up with different conclusions than your peers.

### **How you will make your decision:**

1. Identify the issue
2. Gather Information
3. Process Information
4. Choose your position
5. Share your decision

Title:

Author:

Date Written:

What is it? Ex: Website, book, article, Interview, etc.

Notes:

Booklet:  
one page for  
each source  
used

Title:

Author:

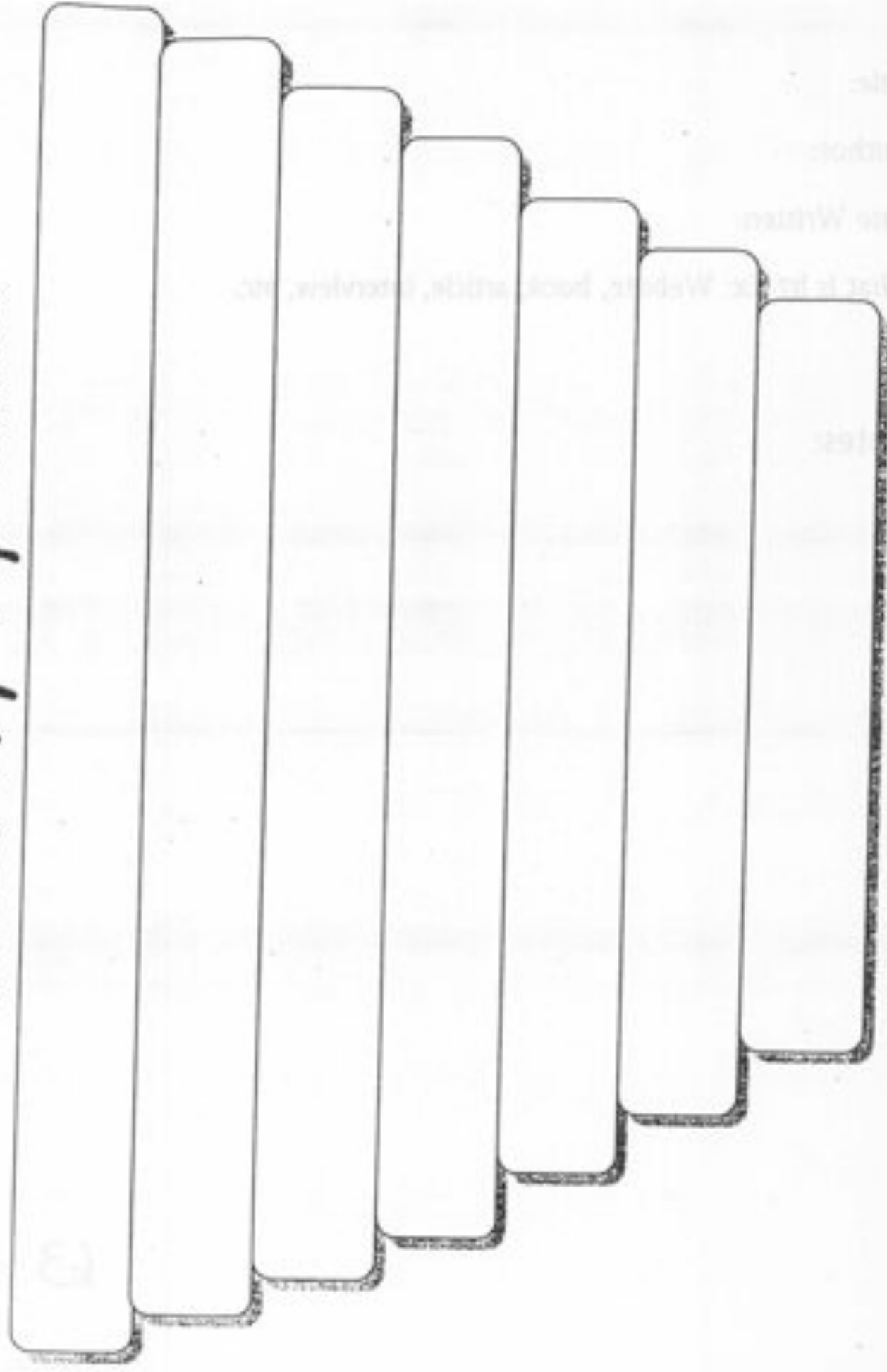
Date Written:

What is it? Ex: Website, book, article, interview, etc.

Notes:



# Priority Pyramid



What is the most important?

You Decide!

**Criteria:**

**My Decision:**

**4 best arguments to support my position:**

**#1:**

**Evidence/Facts:**

**#2:**

**Evidence/Facts:**

**#3:**

**Evidence/Facts:**

**#4**

**Evidence/Facts:**

# Position Paper

## Should a dam be built on the Milk River?

Using the evidence you have gathered, you will make an argument either for or against the dam in proper essay format.

It is your job to convince the reader that your position on the issue is the correct one. You will give several reasons for your decision, each supported by facts from your research.

Use the following format:

### Introduction: 1 paragraph

- Explains the issue you will be discussing (give both sides).
- Thesis Statement: Sentence stating your position on the issue. Ex: A dam should not be built because \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- Summary of what will be in the rest of your paper.

Notes of what you will write in your introduction:

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66

### Body: 4 paragraphs

You have identified a number of arguments to support your position on the issue. Each of these arguments becomes a paragraph in your essay.

- Start each paragraph with a sentence explaining what you will talk about in that paragraph (topic sentence).

Ex: The dam should be built because it will provide a recreation area for residents and tourist. This is a significant benefit because...

Ex: Those in favor of the dam argue that it will not significantly reduce land habitat. This argument is wrong because...

- In the paragraph, give facts and explanations to support your argument.

Notes of what you will write in the body:

Argument 1 Topic Sentence:

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Supporting facts:

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**Argument 2 Topic Sentence:**

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**Supporting facts:**

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**Argument 3 Topic Sentence:**

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**Supporting facts:**

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### 3. Conclusion: 1 paragraph

Explain again the issue you have discussed (give both sides).

Re-state your position on the issue (thesis).

Summarize what you have said in the rest of you paper.

Notes of what you will write in your conclusion:

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**Congratulations!**

You are ready to write an outstanding position paper.

I can't wait to read it.

# Peer Conferencing

Author \_\_\_\_\_

Introduction Editor _____	Body Editor _____	Conclusion Editor _____
<p>What did the author write to describe both sides of the issue?</p>	<p>Write the author's 4 topic sentences:</p>	<p>What did the author write to describe both sides of the issue?</p>
<p>What is the author's thesis statement?</p>	<p>Write one piece of evidence given for each argument:</p>	<p>What is the author's thesis statement?</p>
<p>What will you be reading in the rest of the paper?</p>	<p>Write one source used for each argument:</p>	<p>What has this paper been about?</p>



# How will I be graded?

## Critical Thinking:

3	2	1	0	Score
Demonstrated openness to alternative perspectives	Some resistance to alternative perspectives, largely open to different points of view.	Very little openness to alternative perspectives.	No consideration for alternative perspectives.	
Formed firm opinion based on conclusive evidence.	Formed firm opinion based on somewhat conclusive evidence.	Formed opinion with only some supporting evidence.	Formed firm opinions without conclusive evidence.	
Recognized bias and perspective in sources. Sought further evidence to support or contradict information	Inconsistent recognition of bias and perspective. Sought further evidence to support or contradict information.	Little recognition of bias or perspective, did not pursue supporting or contradictory information.	No recognition of bias or perspective in sources.	
Formed and argued a clear and consistent position on the issue, well supported by evidence.	Clear position taken on the issue. Argument largely clear and supported.	Position on the issue somewhat unclear. Argument somewhat ambiguous or poorly supported.	No clear position on the issue taken. Argument inconsistent and ambiguous.	

Total Score / 12 = %

## Position Paper

Check these things off as you complete them and you'll be sure of a fantastic mark.

Clear introduction includes:

- explains both sides of the issue
- clear thesis statement
- summary of the rest of your paper

/6

Strong body includes:

- 4 distinct arguments are made in 4 distinct paragraphs
- each paragraph starts with topic sentence
- each argument supported with facts from research
- each argument is thoroughly explained

/24

Effective conclusion includes:

- explains both sides of the issue
- re-states thesis statement
- summarizes the main points of your paper

/6

Total: /36= %

Critical Thinking: /12= %

Total Mark: %

73

# Position Paper

Check these things off as you complete them and you'll be sure of a fantastic mark.

- Clear Introduction includes:
- explains both sides of the issue
  - clear thesis statement
  - summary of the rest of your paper

10

- Strong body includes:
- 4 distinct arguments one made in 4 distinct paragraphs
  - each paragraph starts with topic sentence
  - each argument supported with facts (and research)
  - each argument is thoroughly explained

15

- Effective conclusion includes:
- explains both sides of the issue
  - re-states thesis statement
  - summarizes the main points of your paper

10

Total: 35%

Critical Thinking: 15%

74

Total Mark: %

## Critical Challenge, Critique the Piece

### Critiquing Settlement Advertisements for Western Canada

Social Studies, Grade 7

In grade 7 Social Studies, students examine Dominion of Canada advertisements which are designed to encourage settlers to homestead in western Canada. Prior to examining the ads, students develop a set of criteria to determine what constitutes "fair and factual" advertising. The teacher guides this discussion and decision. The students are then given copies of the ads, as well as the information from a local history book. Using a T chart, students record important information from the ads. After reading the accounts from the local history book, students record details that confirm or dispute the information provided in the ads. Using plus and minus symbols, students will decide whether the information on both sides of the chart supports fair and factual advertising or not. Students then make a judgment based upon the information in the chart and their criteria. Do they believe the ads are fair and factual? To represent their decision, students position themselves appropriately in the room using the structure indicated in the "Room Barometer". Students will state reasons to defend their placement in the room, and may change positions in the room as new information is presented they may not have thought of before. The concluding activity requires the students to compose a paragraph indicating whether or not the ads are fair and factual and the reasons for their decision. At the teacher's discretion, assessment could include the quality of information on the charts, quality of the written paragraph, and/or their verbal defense of chosen position in the room.

• Excerpts from *Sandstone to Settlers*, a local history of the Masinasin area.

TS



**Outcome (Major)**  
The development of Canada was shaped by a number of significant events + contributions of individuals.

**Outcome (Generalization)**  
Many different factors influenced settlement + exploration of Canada

**Outcome (Concept)**  
- immigration/migration

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:** To what extent do the ads promoting settlement of the west present fair and factual information to immigrants considering homesteading?

**Is the problem...**

- Judgement?
- Engaging?
- Significant?
- Focused?

**Criteria**

Criteria for fair and factual ads

- teacher generated
- student generated

**Other Intellectual Tools**

- Background Knowledge  
Advertisements, Info from history book (community)
- Critical Thinking Vocabulary  
fair, factual
- Thinking Strategies  
T-charts Room Barometer Activity
- Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

**Method?**

Rubric to Assess Info in T-charts  
Rubric to Assess Paragraph

**Self-Assessment?**



### ASSESSING THE INFORMATION

	Underdeveloped	Competent	Well developed
Accurate information from ads and history sources	There are few accurate statements placed on the charts	There are some accurate statements placed on the charts	Numerous accurate statements are placed on the charts
Covers important ideas	Mentions very few important ideas about the details of the ads or journals	Mentions half of the important ideas about the details of the ads and the journals	Mentions most of the important details of the ads and journals

### ASSESSING THE POSITION PARAGRAPH

	Underdeveloped	Competent	Well developed
Justification for the choice	Offers no justification for the selected option	Offers one thoughtful reason for the selected option	Offers at least two reasons for the selected option





The following is taken from her memories, sent to her cousin Harold Hierath, and adds a great deal to an insight into those rugged pioneer years!

"I will start with the things Mom told me in the years before her death, November 3rd, 1973.

Her mother and father, Joseph and Anna Hierath, came to Wisconsin from Austria somewhere around the 1850's. I do not know how long they lived in Wisconsin before moving to North Dakota. Grandpa Hierath became a well-to-do farmer, but as time went on, and his family matured, he did not have enough land to set up each one with a farm of his own so they came to Alberta to try homesteading. At this time Mom and Dad were married and Leonard only ten months old.

Grandpa Hierath chartered boxcars and moved stock, farm equipment, food and all necessities to Milk River. Mom and Dad, Lawrence, Phillip and Joe Hierath, also Grandma and Grandpa McCoy plus Tom and John McCoy all came to Milk River. Mom said that our house was built first, and in the first winter sixteen lived there. I am not sure if Vedee, Wencil and Doran were there too.

During this first miserable winter, they had to chop ice from the river and melt snow for washing. I asked her once if they didn't smell bad, so many people and no sanitary facilities and she said, "Probably we did but we all smelled the same so no one noticed."

The family had tried to anticipate food needs so had barrels of salt pork, beef, smoked hams, bacon, flour, sugar, salt and everything they could think of. Then there were guns and ammunition, so there was fresh meat, buffalo, rabbits and antelope — everything edible.

When the weather broke the various families began to build, cultivate and seed the land. I wish I had asked Dad more questions about that period but when we are young this type of thing is not very interesting, probably Aunt Lizzie and others can fill in the gap.

Memories come hard and I am writing this as I think of things. The parents finally got together, your mother Lizzie and my Dad, went to Edmonton and put the pressure on the province for a school. The area was building up and several of us could not attend school. The first structure was a one-room shack. The people in the community donated any text books they had (Aunt Lizzie had the most). We used orange and apple boxes for desks and people donated kitchen chairs to sit on. The blackboard was tar paper. I guess we were there about a year while the big school was being built. The carpenters who were from Lethbridge boarded with us. Leonard tells me our first teacher was Tessie Ford but I don't know whether this is true or not. The only other teacher I can remember was a Miss Rose Klinkhammer from Eastern Canada who boarded with us. She was tall and skinny and afraid of horses so she bought a shetland pony and when she rode it her feet almost dragged on the ground. We thought this very funny. Most of the teachers boarded with Grandma and Grandpa McCoy.

The first pupils were Leonard, me, Percy and Delia Marchand, Foster, Newton and Clayton Brunton, Doran, two of the Schmitt boys, the Wenmans and I can't remember the others. Twelve in all. The others were probably the Stelten. Recess was a dash for the outhouse so the girls could get there before the boys wet the seat.

Funny what one remembers. I can't tell much more about the schools. I know we felt very proud to have our new school. There were two large rooms, one was the living quarters for the teacher if she wanted to live there.

There was a time that Leonard and I were the only kids in school as the weather was too bad and, we could stay at Grandma's across the road.

Other times Dad would take us and bring us home from school with the sleigh bells and all. Leonard and I both had frozen feet and I suppose Dad did too. Mom would always have hot flatirons for us but they didn't keep warm for the whole trip.

Butchering and harvest were the big times in our lives. Butchering which I am sure would have been in late fall; all the Hieraths and McCoy's got together to help each other. Mom and I would go to the coulee so we wouldn't hear the pigs squealing. Dad hated it too, but it was something that had to be done for our winter meat. I can remember the blood and scraping and carcasses hanging to cool. Grandpa Hierath always made the sausage — he had a sausage machine and first of all made the blood sausage. He, and as Mom tells it, when Lawrence was a little boy, had to stir the hot blood to keep it from coagulating then it was mixed with the ground meat. Mom said Lawrence, when young, would literally get sick but it was his job to do, then it was fed through the machine into intestine casings. Dad and I hated it, as did all the Irish, but Leonard, Mom and the German part were very fond of it. As I look back, I can see the poor women having to clean and wash all the intestines. Even as a child it made me sick to watch them.

Then there was the pork sausage, also through the machine. I don't remember them smoking the sausage, just putting it down in layers of lard. The hams and bacon were smoked and barrels of salt pork made. I really can't remember how the beef was preserved except for corned beef. Every part of the animal was used. The women made head cheese and pickled pigs feet, bologna, liver sausage, etc.

Harvesting was more fun as there was only one or two threshing machines in the area so crews of men (twenty or thirty) went from farm to farm. I think each farmer and family cut and shocked the grain. We kids helped to shock. Then the threshers came. The women went from farm to farm baking everything imaginable to prepare for the men. There were three big meals a day plus lunch in the fields, morning and afternoon. We children usually took the lunches out, either on foot or horseback. Boy, how those men could eat! Even pies and cakes for breakfast. The kids helped wait on tables and hoped the men wouldn't eat all the goodies. By the time one meal was over and the dishes cleaned up it was time for the women to start the next meal. As it probably is today, the work started at daylight and continued until dark, but for children it was lots of fun to ride the grain wagons or be under the straw coming from the threshing machine. I'll bet we were a mess for poor tired women to cope with.

Thrill of thrills was to ride the grain wagon to the elevator in town.



# MASINASIN COUNTRY

## MASINASIN COUNTRY

By Emma Schmitt

✓ The Homestead Act was passed to encourage settlers to come west. For a ten dollar fee an adult eighteen years and over, could acquire one quarter section of land. He was to build living quarters, break ten acres of sod and live on this property for six months each consecutive year for three years. Then he could call this land his own.

This offer of free land of several million square miles of virgin prairie caused one of the largest human migrations in history. "Go west!" was the popular cry. Between 1882 and the outbreak of World War I, over two million people came west to settle. It soon became apparent that the settlers could not make a proper living on one hundred and sixty acres, so another law was passed, that the homesteader could file on another quarter section of land under pre-emption rights, within nine miles of his homestead for three dollars an acre. This was to be paid over a period of twenty years at three per cent interest. Most of the settlers were fortunate to get their pre-emptions adjacent or very near to their homesteads.

The huge tracts of land owned by the Canadian Pacific Railway, The Hudson Bay Co. and the Private Colonization Syndicates, resulted in strong monopolies by these companies, and they had almost absolute control over the destinies of the settlers. The Railway Company had the power and dictated the sites and shapes of towns and cities to suit themselves. It was not a happy situation and the discontent with these monopolies soon appeared. This resulted in a great decline in immigration.

The Laurier Liberal Government realized that the Canadian economy depended on the western prairies to produce grain and be consumers of eastern manufactured goods. New settlers were solicited from eastern Canada, Great Britain and the farming and peasant population of continental Europe. They knew these people would adapt to the hardships of homesteading and provide a solid base for a new productive agricultural economy in western Canada. Through the Minister of Interior, Clifford Sifton, hundreds of posters, pamphlets and advertisements were plastered all over Europe promising free lands, bumper crops, a favorable climate and wealth at one's finger tips. Journalists

were hired to write and distribute rosy articles about the new land and its great opportunities. Reduced fare rates were offered by the C.P.R. (Canadian Pacific Railway). As a result, there was an exodus of thousands of immigrants from these countries. The people who came were of all trades and all classes. The young came for adventure, and the older came to seek better opportunities for their children. Sixty-eight percent of these settlers were farmers.

Soon the clamor of hammers rang all over the prairies, as towns sprang up along railway tracks and shacks were built on homestead sites. On every quarter or half section, a family or bachelor settled. The country became well populated. In the evenings dim lights glimmered here and there, where before it was complete darkness. Many came with wealth, and brought beautiful clothes, silver tea services and other valuable possessions, which proved absurd on the prairies. However, these added pride and a sense of well being, with fond memories, and nostalgia of yesteryear. It was soon apparent that the homesteaders' success was not measured by possessions or nationality, but by the ability to endure and survive.

Near the turn of the century a few squatters and cattle ranchers settled along the Milk River, where there was an ample water supply and protection for their stock from all extremes of weather.

About this time Southern Alberta was still sparsely populated. It was urgent that more immigrants be invited to settle.

In 1907 and 1908, the Alerston, Masinasin and Kippenville areas were open to homesteaders.

The Alberta Railway and Irrigation Company organized by Alexander Galt and C. Magrath of Lethbridge, and the Manitoba Colonial Railway Company, were able to purchase from the government choice lands. Township 3 - Range 14 - West of 4th Meridian was purchased by the Alberta Railway Irrigation Company. Township 3 - Range 13 - West of 4th Meridian was acquired by the Manitoba Colonial Railway. They later sold these parcels of land for fourteen to two dollars an acre, to other companies and individuals.

In 1908 a group of people from Sioux City, Iowa, purchased about thirty two sections of land from the Manitoba Colonial Railway Company in Township 3 - Range 13, West of the 4th Meridian and formed a company. A large ranch house was built by this company near the centre of their holdings. They called it the "Hawkeye" which is the emblem of their home state of Iowa. Among the purchasers of this large tract of land were, Grandy, Schnabele, Benedict and McFaul.



*Hawkeye Ranch Mrs. Benedict and Babe driving team 1911.*

In 1917 most of these people returned to Iowa. The Movold family then lived here and did some ranching. When the Movolds' moved away in 1920, Ed Dittman rented some of the land and moved into the ranch house, and later purchased this home and part of the lands. This ranch house was demolished in 1945 at which time Ed. Dittman built a modern home on the same site. At present it is the home of William Dittman.

Expert advertisers in the northern farming states, especially in Minnesota and the two Dakotas, again made glowing pictures of a rich free land, with golden opportunities and bountiful crops. It was told that Sunny Southern Alberta, was a Colorado of Canada, and one could be in shirtsleeves in January.

The Alberta Railway and Irrigation Company, advertised that they had six hundred and fifty thousand acres of prime land for sale at six dollars an acre, with one tenth in cash and the rest in the nine equal payments at six percent interest.

Some of this land was handled for sale by the Kerr Land Co., and parts of it was sold for twenty dollars an acre.

In 1907, at Columbus, North Dakota, a group of neighbors enthused by the rosy advertisements and with Jake Ailers, a land agent, who was the key



figure in promoting the land, decided to homestead in Southern Alberta together and the Allerton-Masinasin country was their destination. Between 1908 and 1913 it was reported in Lethbridge Immigration Office that over three thousand people passed through Coutts, and over two thousand of these decided to stay in Southern Alberta. They soon found that homesteading was not the easy way to riches as the immigration agents had advertised.

Many who came to the new land were gravely disappointed at the desolate, barren, treeless terrain, and with dismay could foresee much heavy toil and isolation in the years ahead. Some took one look at their land and left. More than half of the first settlers of 1907 and 1908 gave up their homesteads within a year. In the years following, others came and filed claims on these abandoned lands. Some stayed and others again were dissatisfied and left. Some of these homesteads were filed on several times before the ownerships were finally established. Some who stayed were sorry that they had ever heard of the new land of promise, and regretted their immigration.

This area is a part of the Palliser Triangle, which Captain John Palliser, in surveying the land, said that it was not fit for agriculture and should not be settled as due to extremely dry conditions and searing hot winds, it held no promising future.

When earlier settlers came to make their homes here, it was said that the Blackfoot Indians shook their heads, as they had vivid memories of the drastic droughts and parched grass in the 1880's when even the buffalo were driven away in hunger and the Indians were forced to follow or starve. However, the pioneers saw a promise of a great potential in this raw rich land and were optimistic of their future. Now South-eastern Alberta is noted for its high protein wheat, numerous grains and cattle, and has produced large amounts of food, since its settlement.

When the settlers of the Masinasin Country arrived in Milk River in 1907, the locators drove them eastward to their homestead sites. As they approached their new destinations they were met with a wide expanse of sky and unfenced grassland, stretching as far as the eye could see. The magnitude of the rolling land with its tall grass bending in the wind was majestic in its utter emptiness. There was not a tree, a stake or a thing in sight. A few grass grown buffalo trails were evidence of another era. The squeak of a gopher as it stood on the mound of its hole, and a hawk or two circling in the sky emphasized the intense prairie silence and the great vastness of the land.

At what seemed a short distance to the southeast, the scene was broken by the rise of the Sweetgrass Hills. When he settled, the pioneer would view these hills every day and learned to love their beauty, serenity and air of protection. They also gave the early settler a sense of direction. As time went on, the people depended on them for forecasts of weather. Whenever there was a cap of clouds on "Old Baldy", as the highest peak of the hills was called by many, the farmer could prepare for a change of weather. They also learned to predict the weather by the haunting howls of a pack of coyotes in one direction and the answering mournful yelps of a pack in another. This was a sure sign of a coming storm. There is no other loneliness as lonely as a night on the prairie, and the eeriness of these weird wails in the night induced gloomy thoughts of fear and made the loneliness more profound than ever.

The Milk River and the Verdigris Coulee also proved to be good direction guides to the traveller. The roads were mere trails, which forked anywhere as the land was unfenced. Sometimes these trails were small depressions in the thick grass.

At long intervals the farmer drove his team and wagon or buggy to Milk River to get the necessary supplies. Hitched to these wagons were teams made up of whatever the farmer had on hand. A combination of horses, a horse and a cow, an ox and a mule were very commonly used. This trip always took a whole day, as the miles were many. The road to town was uphill most of the way. On the rise of the last high hill, he could finally see the village of Milk River, nestled in the valley below. On most days, as he cast his eyes westward to the horizon, he would be intrigued (as are most traveller today) by the splendid view of the mighty rugged Rockies adorning the skyline, with Chief Mountain being the most prominent in the foreground.

The hard toil of plowing the prairie with a walking or sulky plow was most grueling. At best the farmer could plow three quarters to one acre a day. It took some time before he could seed a few acres of crop. There was no thought of financial aid or welfare from the government or anyone else. They were strictly on their own. It was either swim or sink.

1914 was an extremely dry year. There was a total crop failure. Many homesteaders were broken by despair, with the hard labor, poverty, illness and loneliness. Some had heart breaks due to a loss of a dear one. The distance to medical aid and the isolation were most discouraging. The beginning of World War I also served as a dark cloud over the community. Again a number of the settlers left to



return to their former homes or to places where conditions were more favorable.

Those that remained were vigorous and determined. They continued to have high hopes and visions of a successful future. They proved to be equal to the land and these were the ones that formed a foundation and deep roots in the community. Their hardships were compensated somewhat by the grandeur of the rolling land, the glorious red and gold sunsets, the full harvest moon and the northern lights dancing in the northern sky. They saw the radiance of the colors of a rainbow that spanned across the wide sky and knew it was so beautifully evident, only on the prairie. The extreme cold, the bone chilling winds and blinding blizzards of the winter season were most unbearable. Nevertheless, the settler could not resist to appreciate the dazzling beauty of a pure white blanket of newly fallen snow, with millions of diamond-like particles sparkling in the sun.

The settlers made their own fun. They took turns in having parties. Sometimes they'd dance till dawn to a fiddle, mouth organ or accordian. With neighborly co-operation they held celebrations, picnics and games. They built schools, churches and roads. In times of need, troubles or sorrows, there was always a neighborly hand to help or to console.

For many years after the bumper crops of 1915 and 1916, the people were drought stricken again. They watched the clouds day after day and hoped and prayed for rain. Rainmakers also made money from these desperate, poverty stricken people, but the hot searing winds came and withered the crops again and again.

Through the years they suffered many adversities. They lived through the darkness of two World Wars. They endured the drought, the hail, the frost, the scorching winds, the blowing soil, the grasshoppers, the cutworms, the greed and the debts. They had one crop failure after another but never gave up. They held hopes that next year would be better, but sometimes next year was worse than the year before. It was always a "Next year country."

Although the early 1920's were poverty years, it was the beginning of the machine age in this area. The horses were replaced by mechanical horse power. In the warm busy season a new noise of the tractors would be heard all over the country side. Older farmers predicted that these tractors would soon be discarded, and would stand at rest in fence corners as was the fate of tractors of the years before. They felt that the operating costs

would be far too high, and the return to horse farming was inevitable. However, with tractors more acres were seeded. This meant bigger crops and better profits for the farmer and he could expand his acreage.

Trucks replaced horses and wagons. What a boon this was!! The hard, long, cold trips of wheat hauling would be no more.

In the depression years, money was almost non-existent. It was a difficult time for the farmer to meet the expenses of tractor farming, but there was no return to the hard work of horse farming again.

Later came a greater revolution in farming. Higher powered tractors, combines and better farm implements became available. With the adoption of the noble blade and strip farming, soil drifting and erosion became more controlled.

Improved strains of grain were developed by the research stations.

With all these great improvements, with practical experience, better education and new methods, dry land farming became more efficient and successful.

Many are responsible for the opening of the prairies. However the real pioneers are the men who ploughed the sod with the sweat of their brows and the dauntless women who lived in primitive dwellings, cooked the meals, rocked the cradles and helped their men with chores and in the field whenever they were needed and able. These are the ones who made our great land.

It would be most unbelievable to the early settler, if he could have foreseen a day sixty or seventy years hence that which took him weeks to cultivate, could be accomplished in one day by modern methods.

In seven decades the community has changed from a struggling frontier to a highly developed and prosperous one. The material, educational and cultural needs have been richly fulfilled. With comfortable homes, hydro power, natural gas, paved roads, telephones and television, luxurious living is enjoyed.

The extent of development, and prosperity, has far surpassed the highest hopes and dreams of the early pioneer. He would not regret his suffering, his hardships, his toil, his sweat and his poverty. These he would barely remember. He would only look on the work of sixty or seventy years as "Good."

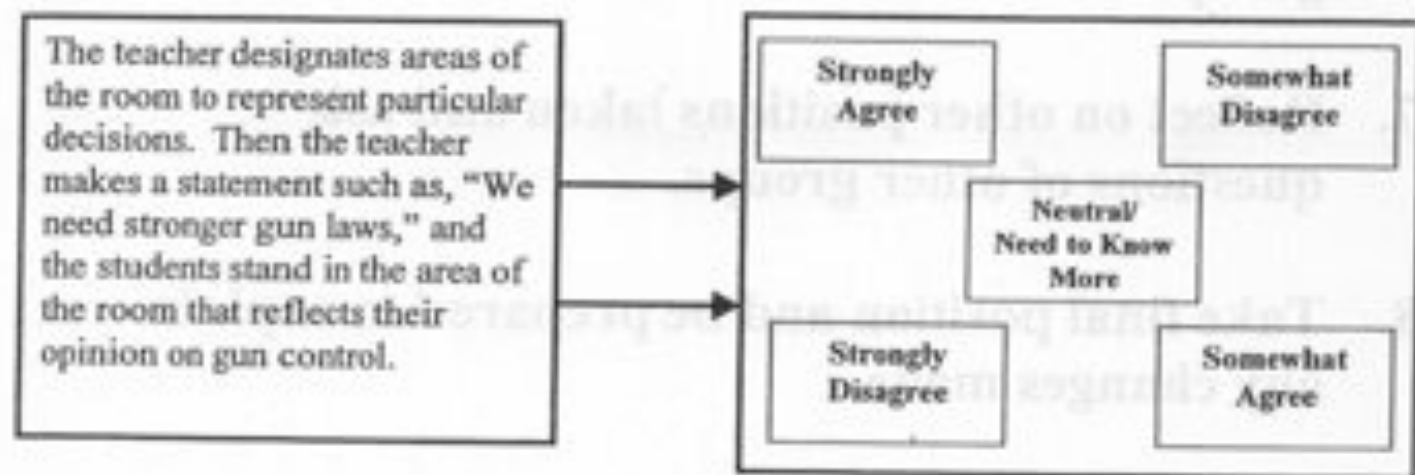


## PHYSICAL BAROMETER

Too often students don't take the time to think through why and where they stand on an issue. Publicly declaring where you stand on a particular issue and seeing where others stand can influence your decision-making on that issue. The Physical Barometer is a technique that gives students an opportunity to take a physical stand on a particular issue, to see where others stand, and to discuss their points of view with those who hold similar views.

### Physical Barometer Steps

1. Teacher designates areas of room to represent decisions, alternatives, etc.
2. Teacher poses statements or questions requiring students to make a choice.
3. Students stand in area that reflects their decision or alternative.
4. Students analyze the data. What is happening? What did most people choose? What did the fewest or no one choose?
5. Students discuss the reasons for their stance with those who have taken the same position.
6. Groups communicate their reasons with the entire group. After the explanations, the groups can ask questions of each other.
7. Individuals review initial positions and remain in or change groups to reflect final decision.





## PHYSICAL BAROMETER

1. Check areas of the room designated for specific positions.
2. Reflect on the issue or question.
3. Take a position.
4. Analyze what is happening.
5. Discuss reasons for the position taken with others who have taken the same position.
6. Explain the position of your group to the entire group.
7. Reflect on other positions taken and ask questions of other groups.
8. Take final position and be prepared to explain any changes made.

## Critical Challenge, Judge Better or Best Stamps for French and English Explorers

Social Studies, Grade 7

For grade 7 social studies we have a project that requires the students to choose four explorers that they believe are worthy of a commemorative stamp. Students draw on background knowledge about early exploration of North America. We have learned about and discussed explorers and what they did. On the day we begin the stamp challenge, they are given handouts outlining the four criteria of the assignment and the rubric used for the final assessment. These are reviewed as a class and posted in the room for future reference. To appeal to multiple learning styles and strengths, students are given three choices for the format of the assignment.

There is a significant amount of knowledge to be gained at the beginning of the assignment. Generally students are more motivated to seek out information in order to complete the assignment than they would be if we read about the explorers as a class. By the end of the assignment, many students are "experts" in their four chosen explorers.

For assessment, I use the rubric that was given to students at the beginning of the challenge. I may also ask them to choose one of their explorers to answer a question about on the chapter exam.

**Outcome**  
Students will explain historical context of key events. (7.5.2.3)

**Outcome**  
Explain the interactions and perspectives of first Nations and Explorers  
(7.1.2, 7.1.3, 7.1.3.1)

**Outcome**  
Communicate Information  
(7.5.7.13, 7.5.8.1)

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:** Which French and/or English Explorers are worthy of having a commemorative stamp?

**Is the problem...**

- Judgement?
- Engaging?
- Significant?
- Focused?

**Criteria**

Criteria for worthy explorer

- teacher generated
  - student generated
- See handout 2-1

**Other Intellectual Tools**

- Background Knowledge  
*textbook, encyclopaedia, Internet*
- Critical Thinking Vocabulary
- Thinking Strategies
- Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

Method? Rubric

Self-Assessment?



## Chapter 2 Task

Name \_\_\_\_\_ Date \_\_\_\_\_

You will find information to complete this task as you work through this chapter. You may also want to consult a library, or online resources, for additional information. Your work on this task is one way your teacher will assess your progress in social studies this year.

## Put your "Stamp" on Canada's History!

Canada Post is planning a new stamp series about European explorers. Interested Canadians are invited to share their ideas for this new series by submitting a proposal.

The stamp series should include four to six stamps, representing both English and French explorers. Through the use of visuals and written text, your proposal must explain:

- The reasons for your choices of explorers.
  - The historical context of each stamp.
  - The interactions between these explorers and First Nations.
  - The different perspectives of First Nations peoples and European peoples on exploration.
- b) An ad for the stamp series — for TV, radio or print media — describing the stamps and explaining the important information.
  - c) Instructions to an artist who will make the images for the series, describing what images you want and providing the necessary background information.

You can present your ideas in one of the following formats:

- a) A sketch of each stamp, accompanied by a letter to the Postmaster General, providing the background information as described above.

Your stamp series should communicate key information to Canadians as well as create interest for the series, which is intended to become a collector's item. Good luck! Perhaps you will be leaving your "stamp" on Canadian history!



## Assessment Rubric: Chapter 2 Task

Name \_\_\_\_\_ Date \_\_\_\_\_

Level \ Criteria	4 Excellent WOW!	3 Very Good Yes!	2 Adequate Yes, but	1 Limited Not yet	*Insufficient/ Blank*
Explains choices of explorers ...	by providing insightful reasons.	by providing thoughtful reasons.	by providing satisfactory reasons.	by providing simplistic reasons.	No score is awarded because there is insufficient evidence of student performance based on the requirements of the assessment task.
Explains historical context of key events ...	by providing comprehensive information.	by providing specific information.	by providing basic information.	by providing superficial information.	
Explains the interactions between explorers and First Nations ...	by describing pertinent events.	by describing relevant events.	by describing basic events.	by describing trivial and/or unrelated events.	
Explains perspectives of First Nations and European peoples on exploration ...	by providing insightful interpretation of events.	by providing thoughtful interpretation of events.	by providing a satisfactory interpretation of events.	by providing a simplistic interpretation of events.	
Communicates information ...	in a way that engages the audience.	in a way that appeals to the audience.	in a way that generally interests the audience.	in a way that has little audience appeal.	

\* When work is judged to be limited or insufficient, the teacher makes decisions about appropriate interventions to help the student improve.

NOTE: The teacher will use the criteria generated for Handout B (Communication Checklist) for the format selected by the student to assess how well the student's work communicates with its intended audience.

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## Assessment Rubric: Chapter 2 Focus on Inquiry

Name \_\_\_\_\_ Date \_\_\_\_\_

	Criteria	4 Excellent	3 Very Good	2 Adequate	1 Limited	*Insufficient /blank*
Group process	Contributes to group process ...	consistently, in ways that help the group accomplish the task.	frequently, in ways that help the group accomplish the task.	occasionally, in ways that help the group accomplish the task.	seldom, if ever, and provides little assistance to help the group accomplish the task.	No score can be awarded due to insufficient evidence of student performance.
Inquiry process	Develops a process for retrieving information ...	that demonstrates in-depth understanding of questions involved in using a survey to retrieve information.	that demonstrates thorough understanding of questions involved in using a survey to retrieve information.	that demonstrates general understanding of questions involved in using a survey to retrieve information.	that demonstrates minimal understanding of questions involved in using a survey to retrieve information.	
	Reflects on the process of retrieving information ...	by identifying precise areas of strength and providing effective suggestions for improvement.	by identifying specific areas of strength and providing workable suggestions for improvement.	by identifying general areas of strength and providing reasonable suggestions for improvement.	in a superficial way. Does not identify specific strengths and/or areas for improvement.	

\* When work is judged to be limited or insufficient, the teacher makes decisions about appropriate interventions to help the student improve.

## Presenting the Evaluation Tools

Handouts: 2-2 Assessment Rubric, B (Communication Checklist), C (Reflecting on my Chapter Task)

- Review the assessment rubric with your students.
- Make sure everyone knows they need to complete handout B (Communications Checklist) and C (Reflecting on my Chapter Task) as part of this assignment.
- Go over the characteristics of good work for each presentation format.

### DIFFERENTIATED LEARNING



These presentation formats engage:

- Visual learners.
- Oral learners.
- Linguistic learners.

Effective sketches:	An effective advertisement:	An effective written description:
<ul style="list-style-type: none"><li>• Clearly portray the subject or topic.</li><li>• Include appropriate detail.</li><li>• Effectively use space.</li><li>• Consider use of colour and texture.</li><li>• Come with a written explanation providing background.</li></ul>	<ul style="list-style-type: none"><li>• Describes or portrays an item or service.</li></ul> <p>Visual: appealing layout achieved through graphic design, visuals, and lettering.</p> <p>Oral: maintains interest through tone of voice, clarity of voice, and appropriate volume.</p> <ul style="list-style-type: none"><li>• Uses persuasive language.</li><li>• Provides detailed information regarding location, purchase information, etc.</li></ul>	<ul style="list-style-type: none"><li>• Provides detailed information.</li><li>• Uses appropriate specific vocabulary.</li><li>• Organizes information.</li><li>• Uses conventions (spelling, grammar, sentence structure, punctuation) to assist the reader in understanding the information.</li></ul>



**Guiding Student Work**

- Make sure your students understand that they will find information in this chapter that will help them complete the task.
- They need to describe four kinds of information: reasons for choosing particular explorers, the historical context of European exploration, the interactions between explorers and First Nations peoples, and the different perspectives of First Nations peoples and European explorers on exploration. Note that the task states the students must describe the historical context of each stamp — really they only need to describe the historical context of European exploration in general.
- Give your students a definition of historical context: the circumstances, and accepted values and attitudes, that shaped the actions of people at particular times in the past.
- Be sure your students understand that whatever presentation format they choose, they should describe at least four different, original stamps. They must include French and British explorers in their stamp series.

**Completing Sketches of Stamps (Visual Learners)**

Instruct students planning sketches of stamps to:

- Draw at least four stamps in colour.
- Draw the stamps bigger than they would actually appear as stamps, so you can see the detail better.
- Include a letter (a written description — its format as a letter is not important, but may engage some students) that covers the background required by the task.

**Completing an Ad (Linguistic and Oral Learners)**

Instruct students planning to do an advertisement to:

- Choose a type of ad. If they choose a TV or print ad, they will need to create at least one visual (a sketch) of a stamp and descriptions for the other stamps (at least three). If they choose a radio ad, they will need to create descriptions of all the stamps.
- Use the ad as a vehicle for describing the stamps and covering the required background.
- Be engaging — the ad should “showcase” the stamps and give background as a way to engage public interest in the stamps.

**Completing a Written Description (Linguistic Learners)**

Instruct students planning to create a written description to:

- Think about giving instructions to an artist drawing the stamps. They need to be precise. For example, is there a canoe showing? A flag (what flag)? Are some people standing and some people sitting? Who? Is a specific event taking place? What?
- Give background as a way to provide the artist with useful information. The more background an artist has, the better an artist can represent the events and ideas the student wants to convey.



**Evaluating your Students**

Excellent work will have these characteristics.

**Content****Reasons for choosing particular explorers.**

*Elements of a complete answer:*

- French and British explorers need representation because both were involved in the exploration of North America.
- Look for other, thoughtful responses, such as: who the first explorers were, in what way the explorers chosen were typical (e.g., Caboto raising a flag or Cartier a cross to claim land) or atypical (e.g., Samuel Hearne recording the name of his Dene Sallid guide, Matorabber).

**Explain the historical context of key events.**

*Historical context is about circumstances, and accepted values and attitudes, that shaped the actions of people during a specific time period in the past.*

*Elements of a complete answer:*

- First Nations peoples were the first peoples to live in North America.
- First Nations cultures were diverse, and their experience of European exploration was also diverse.
- European explorers were motivated by the idea of imperialism. They explored new lands partly to claim lands for European countries.
- European explorers relied on sponsors, such as monarchs, to pay for their expeditions. They tried to demonstrate the value of their expeditions by retrieving objects, information, plants, animals and even people that they thought would impress their sponsors.
- European explorers were looking for a route to Asia through North America, because trade with Asia via land had become disrupted.

**Explain interactions between explorers and First Nations.**

*Elements of a complete answer:*

- Sometimes, European and First Nations peoples, such as the Mi'kmaq, established mutually beneficial trading relationships. Sometimes, exploration resulted in conflict between Europeans and First Nations, such as the Beothuk.
- European explorers relied on First Nations peoples as guides, and for provisions and transportation. They adopted First Nations technologies, such as the canoe and the toboggan.

**Explain the perspectives of First Nations and European peoples on exploration.**

*Elements of a complete answer:*

- European explorers described "discovering" new lands. They saw wilderness as something to tame and develop for other uses, such as settlements and farms.
- For First Nations, North America was their home long before Europeans "discovered" it. They lived from the land, and perceived wilderness as something useful. They changed locations with the seasons, or as the resources of the land changed.

**Communication**

- Work is organized into four general segments that describe: reasons for choices of explorers, the historical context of European exploration, interactions between European explorers and First Nations, and different perspectives on exploration (First Nations peoples' and European peoples' perspectives).
- Work includes visuals or description of at least four original stamps.
- French and British explorers are represented.
- Work reflects an understanding of First Nations peoples' perspectives and European peoples' perspectives on exploration and imperialism.

**SKETCHES WITH WRITTEN DESCRIPTION**

- Presents at least four stamps in colour at an adequate size to show detail.

**ADVERTISEMENT**

- Uses engaging language, and engaging visuals (where appropriate).

**WRITTEN DESCRIPTION**

- Creates clear descriptions in adequate detail.

**Chapter 2 Section 1****EUROPEAN EXPLORERS ARRIVE**

SR pages 39–43

**SECTION STARTER: IMAGINING EXPLORATION**

Handout: 2–5 (Launching into Space)

- The point of this section starter is to intrigue students with the idea of exploration, and engage them in the chapter generally.
- Challenge your students with questions such as the following:
  - Imagine yourselves on a long-distance voyage, where you will be travelling to strange, new, faraway places. You will be away from home for upwards of a year. Where might you be going?
  - What preparations do you need to make?
  - What are the parallels between space travel today and European exploration of North America in the 1500s?
  - Were there similar risks and unknowns involved?
  - What risks and unknowns?
- Students can work individually or in pairs to answer handout 2–5. They can respond visually, with illustrations; in writing; or orally, by discussing their thoughts with a partner.
- After the students have completed work on the handout, present the following situation, or come up with your own story. The key is to present a situation described from more than one perspective: a European perspective and the perspective of a First Nation.

**DIFFERENTIATED  
LEARNING**

This activity can engage:

- Visual learners.
- Oral learners.
- Linguistic learners.



## Critical Challenge: Rework the Piece

### Persuasive Movie Poster

Social Studies, Grade 8

In grade 8 social studies, students were asked to re-do the poster for "An Inconvenient Truth" from an alternative perspective. The problem they had to solve was how to use images and words to convey perspective without actually saying the point-of-view of the film. Students had already completed a group assignment with assigned perspectives on the greenhouse effect. We had also examined multiple web-sites for bias and perspective on global warming. This provided background knowledge in the issue as well as knowledge of vocabulary such as bias and perspective. Students watched the trailer for "An Inconvenient Truth" and as a class we examined the poster for the ways it showed the perspective of the movie. We discussed tone in wording, and symbolism. We then identified the opposing perspective according to our previous knowledge. As a class, we brain-stormed what is found on a persuasive movie poster. I knew where I wanted them to go, but accepted all their ideas. We then eliminated redundancies and the less important characteristics. Together, we arrived at 4 criteria for a movie poster. It had to have a title, sub-title and image. In addition, each element had to demonstrate or symbolize the perspective of the movie creatively without actually telling the point of view. Each poster was assessed according to this criteria.



**Outcome**  
Identify point of view expressed in cartoons, pictures and photographs

**Outcome**  
Identify the purpose, message + intended audience of visual communication

**Outcome**  
Identify + evaluate alternative solutions/ conclusions/ answers regarding geographic issues

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:**  
You have created a documentary opposing "An Inconvenient Truth". How would your promotional poster demonstrate your perspective + differ from the original?

**Is the problem...**

- Judgement?
- Engaging?
- Significant?
- Focused?

**Criteria**  
Criteria for persuasive political poster  
 teacher generated  
 student generated  
class brainstorm, narrow down, decide  
- title  
- image  
- sub-title  
- each demonstrate or symbolize perspective


**Other Intellectual Tools**  
 Background Knowledge  
Greenhouse Effect Perspectives lesson  
 Critical Thinking Vocabulary  
Bias Perspective  
 Thinking Strategies  
 Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

**Method?**  
Rubric based on criteria

**Self-Assessment?**



By far the most terrifying film  
you will ever see.

**an inconvenient truth**

A GLOBAL WARNING

**an**

**truth**

**We're all on thin ice.**



**In Theaters May 24**

[www.climatecrisis.net](http://www.climatecrisis.net)

to be the most horrifying film  
you will ever see.

# an truth

A GLOBAL

An Incomplete Truth on DVD





GROUP

MS

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## Critical Challenge: Decode the Puzzle

### Character Time Capsule Artifact

English Language Arts, Grade 9

In grade 9 Language Arts, students are asked to decode clues (quotations) in a story to understand the type of person a character is, then create an artifact to represent this understanding. The students determine what information the author is giving to the reader about the character. They also decide which technique the author uses to provide the reader with that information. After a chart has been completed, comparing the clues to what they infer, the class brainstorms a list of things they now know about the character. The list is specific and based upon information from the quotes/clues. To complete the activity, students are given the challenge of deciding upon an artifact that the character would contribute to a time capsule. The artifact must be significant to the character and substantiated by the information in the chart. As well, the artifact is accompanied by a written explanation indicating why the character has chosen it. Assessment is based on the quality of information on the chart as well as the plausibility of the artifact and the written justification of its significance.

**Outcome GO 2.2**  
Respond to Texts  
- Appreciate the artistry of text  
- Construct meaning from text

**Outcome**  
2.4 Create original text

**Outcome**

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:**  
What kind of character is the stranger in the short story, "Save the Moon for Kerdy Dickens"?

**Is the problem...**

- Judgement?
- Engaging?
- Significant?
- Focused?

**Criteria**  
Criteria for Info on charts / Artifact  
 teacher generated  
 student generated  
Rubrics (see attached)

**Other Intellectual Tools**  
 Background Knowledge  
- Short story  
- Quotations on chart  
 Critical Thinking Vocabulary  
 Thinking Strategies  
- chart  
 Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

**Method?**  
- Rubric to assess information on charts (character info & techniques to develop character)  
- Rubric to assess artifact & written explanation

**Self-Assessment?**

**ENGLISH 9**  
**SAVE THE MOON FOR KERDY DICKUS**  
**TIME CAPSULE**

The local town council has decided to create and bury a time capsule in front of its newly-constructed town hall. Council members have requested that all residents of the area contribute one artifact that is significant to them. They also stipulate that each artifact needs to reflect the individual personality of the contributor so that future generations can gain an accurate picture of the type of citizen who once lived there. Each artifact needs to be accompanied by a short written excerpt or verse explaining why he/she has chosen it for the capsule.

**Criteria for Time Capsule Items:**

1. Must be significant to the character. This artifact would be found in the stranger's possession. He would find it important to his lifestyle.
2. Choice of artifact must be substantiated by some information in the short story (inferred or stated).
3. Each artifact requires an explanation in verse or sentence form.
4. Artifact can be real or reproduced.

**Evaluation**

	Underdeveloped	Competent	Well-Developed
<b>Artifact</b>	<p>*Artifact is not plausible, realistic or important to the lifestyle or personality of the character</p> <p>*Written submission sheds no insight into why the stranger would choose the item</p>	<p>*Reflects the personality or lifestyle of the character in a plausible way</p> <p>*Written submission indicates why the stranger would choose the artifact and why it is a realistic item in the stranger's lifestyle</p>	<p>*Accurately and insightfully reflects the personality or lifestyle of the character</p> <p>*Written submission clearly and thoughtfully indicates clearly why the stranger would choose the artifact and why the item is a unique and thoughtful choice in the stranger's lifestyle</p>
<b>Chart</b>	<p>Information is inaccurate or is not explained</p> <p>Author's techniques to reveal character are missing or inaccurate</p>	<p>Information gained from quote is accurate and explanation is correct</p> <p>*Author's techniques to reveal character are correctly identified</p>	<p>Information from quotes is perceptive and explanation demonstrates thorough understanding of the implications of the quote</p> <p>*Author's techniques to reveal character are correctly identified</p>



(Excerpts from: Milner, J., & Milner, L. P. (1993). *Bridging English*. New York, NY: Macmillan Publishing Company, pp. 138-139)

Abandoned	Crushed	Frightened	Kooky	Strange
Adamant	Culpable	Frustrated	Kind	Stuffed
Adequate	Deceitful	Full	Laconic	Stunned
Affectionate	Defeated	Furious	Lazy	Stupefied
Agitated	Delighted	Glad	Lecherous	Stupid
Agonized	Desirous	Good	Left out	Suffering
Almighty	Despairing	Gratified	Licentious	Sure
Ambivalent	Destructive	Greedy	Lonely	Sympathetic
Angry	Determined	Grieved	Longing	Talkative
Annoyed	Different	Groovy	Loving	Tempted
Anxious	Diffident	Guilty	Low	Tenacious
Apathetic	Diminished	Gullible	Mad	Tense
Astounded	Discontented	Happy	Maudlin	Tentative
Bad	Disoriented	Hateful	Mean	Tenuous
Beautiful	Disraught	Heavenly	Melancholy	Terrible
Betrayed	Disturbed	Helpful	Miffed	Terrified
Bitter	Divided	Helpless	Miserable	Threatened
Blasful	Dominated	High	Mystical	Thwarted
Bold	Dubious	Homesick	Naughty	Tired
Bored	Eager	Honored	Nervous	Trapped
Brave	Ecstatic	Horrible	Nice	Troubled
Burdened	Electrified	Hurt	Nutty	Turbulent
Calm	Empty	Hysterical	Obscure	Ugly
Capable	Enchanted	Ignored	Obsessed	Urinary
Captivated	Energetic	Immortal	Odd	Unsettled
Challenged	Enervated	Imposed on	Opposed	Vehement
Charmed	Envious	Imprisoned	Outraged	Violent
Cheated	Evil	Inflated	Overwhelmed	Vital
Cheerful	Exasperated	Inflamed	Pained	Vivacious
Childish	Excited	Inspired	Panicked	Vulnerable
Clever	Exhausted	Intimidated	Paralyzed	Weepy
Combative	Fascinated	Isolated	Persevering	Wicked
Competitive	Fawning	Jealous	Perceptive	Wonderful
Condemned	Fearful	Joyous	Persecuted	Worried
Confused	Flustered	Jumpy	Perturbed	Zany
Conspicuous	Foolish	Keen	Pitiful	
Convinced	Frantic		Pitiful	
Constrict	Free		Pitiful	
Cruel			Pitiful	

*Ignorant*

**SAVE THE MOON FOR KERDY DICKUS**  
**ENGLISH 9**  
**ACTIVITY "DECODE THE PUZZLE"**

In the short story, "Save the Moon for Kerdy Dickus", the reader learns a lot about the character of the Stranger. Using the clues (quotes from the story), complete the following activity. You must skim the story for the quote, read the chunk of the story that comes before and after the quote. Then summarize what you learn about the Stranger. Decide what technique the author uses to reveal this information.

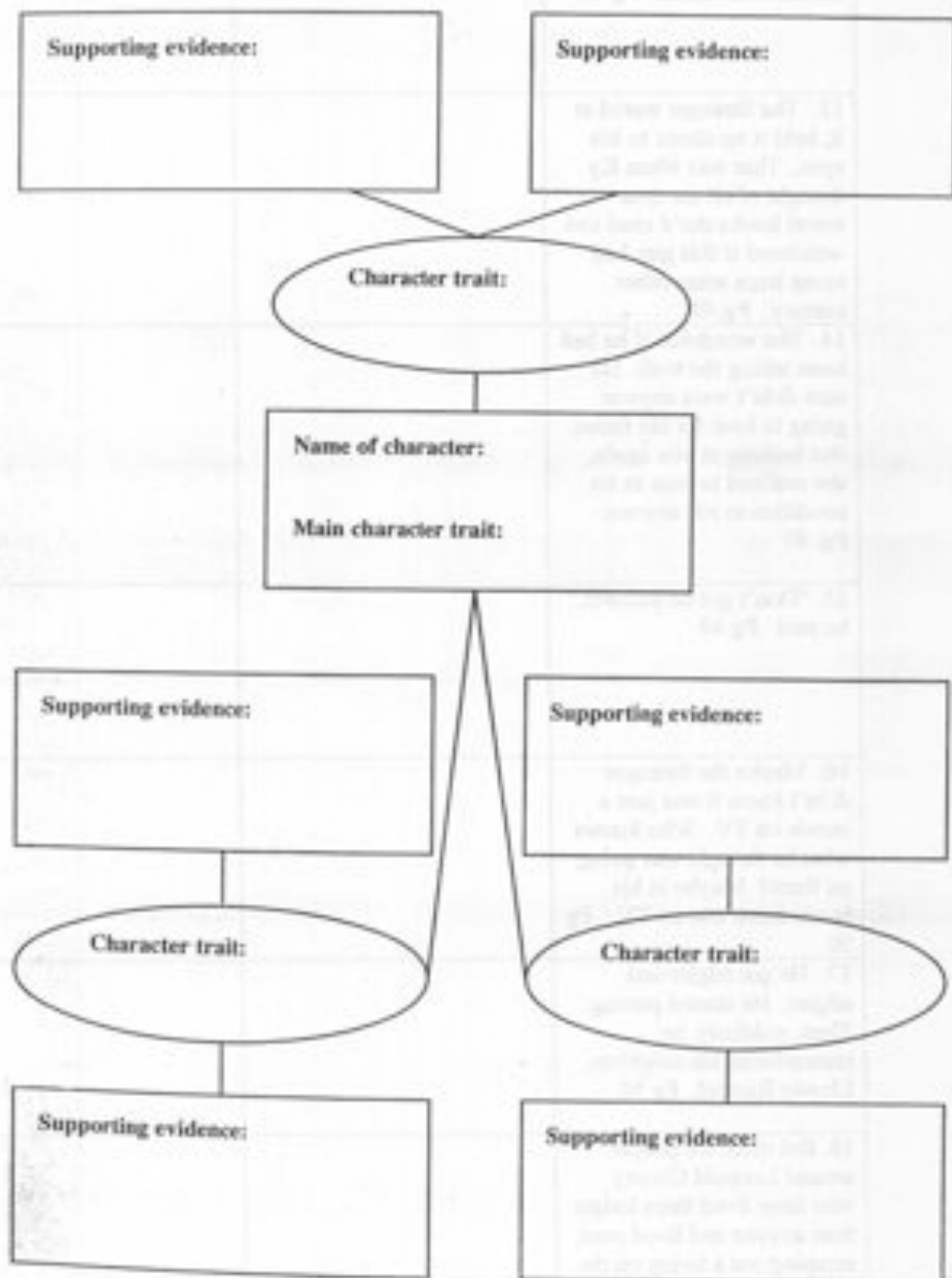
Quotes/ "Clues"	What we can learn or infer about the character	Technique used by the author to give the reader the information
1. Ky doesn't think the Stranger had ever seen a Japanese person up close before. Pg 45		
2. The Stranger paused. He seemed uncertain. Pg 46		
3. ...Ky could see that, although he was big, he was young, a teenager. He had black hair and he reminded Ky of a bear she had seen at the zoo after it had been swimming. Pg 46		
4. He smelled terrible. His wet clothes smelled of alcohol and cigarettes smoke. Pg 46		

<p>5. The cup had no handle. The Stranger didn't seem to know what to do,...pg 46</p>		
<p>6. His hands were huge and strong and rough.</p>		
<p>7. The Stranger stared at them (the okonomiyaki). Maybe he thought they were the weirdest pancakes he'd ever seen. It's hard to know what he was thinking. Pg. 47</p>		
<p>8.He looked as if he didn't believe it. "The fifth?" The Stranger kept staring at Tan, at his red pajamas, his long ponytail... pg 47</p>		
<p>9. To Ky he looked like someone who had just woken up and had no idea of what was going on. Pg 47</p>		
<p>10."He's asleep, eh. We was at Bernie's. You know Bernie?" pg 48</p>		
<p>11."More to read?" asked the boy. He thought Tan had said more to read. Pg 48</p>		

<p>12. "You never heard of Bernie?" he asked. Pg 48</p>		
<p>13. The Stranger stared at it, held it up closer to his eyes. That was when Ky thought of all the time travel books she'd read and wondered if this guy had come from some other century. Pg.49</p>		
<p>14. She wondered if he had been telling the truth. He sure didn't want anyone going to look for his father. But looking at him again, she realized he was in no condition to rob anyone. Pg. 49</p>		
<p>15. "Don't got no number," he said. Pg 49</p>		
<p>16. Maybe the Stranger didn't know it was just a movie on TV. Who knows what he thought was going on there? Maybe in his house there was no TV. Pg 50</p>		
<p>17. He got edgier and edgier. He started pacing. Then, suddenly, he remembered his neighbor, Lloyd Rintoul. Pg 50</p>		
<p>18. But there are people around Leopold County who have lived there longer than anyone and lived poor, scraping out a living on the</p>		



# Character Map



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## Critical Challenge, Design to Specs

### Thermos Design Project

Science, Grade 7

In grade 7 science, students design a thermos-like device that retains as much thermal energy as possible for a four hour period. The students retrieve background knowledge for the task through text book material covered in class. Significant class time is spent developing the concepts of insulation and the three types of energy transfer - conduction, convection and radiation. When the project is introduced, the class discusses the properties of a good insulator. The class will also be given the basic criteria for the thermos when we begin the unit so they can be thinking about it as we progress through the material.

Students are given specific criteria for a good insulator and we go over them together. With this in mind, the problem is how to best design a thermos to meet these specifications. In addition to the actual design, enrichment activities such as an advertising pamphlet and a graph showing heat loss during testing can be completed. As long as the thermos meets the criteria, it is eligible for the contest. The winner is the product that retains the most heat.

**Outcome**  
Carry out procedures controlling major variables.

**Outcome**  
Compile and display data in graphs.

Work collaboratively in carrying out investigations and in generating and evaluating ideas.

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:** Design a thermos-like device that retains as much thermal energy as possible for a four hour period.

**Is the problem...**

- Judgement? <sup>which materials?</sup>
- Engaging? <sup>hands-on</sup>
- Significant? <sup>real world application</sup>
- Focused?

**Criteria**

Criteria for effective thermos

- teacher generated
- student generated
- 1. have a 2L plastic pop bottle as its outer case
- 2. cap 500ml of hot H<sub>2</sub>O but
- 3. it contains any heating device
- 4. not contain any part of a commercial Thermos
- 5. be easily portable

**Other Intellectual Tools**

- Background Knowledge  
*from Science Curr. - Insulation, conduction, rad, conv.*
- Critical Thinking Vocabulary
- Thinking Strategies  
*investigate properties of insulation*
- Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

Method? *Rubric or grading scale*

Self-Assessment?



# Design Your Own Thermos™

**Goal** • Extend your understanding of Inquiry Investigation 3-L: Keep It Warm.

## Think About It

A Thermos™ can be used to keep hot liquids hot and cold liquids cold. In this activity, you will design your own Thermos™ to minimize thermal energy transfer.

## Procedure

1. Investigate the properties of different insulating materials such as sawdust, newspapers, Styrofoam™, packing materials, rags, or sponges.
2. Design and construct your Thermos™ to meet the following design criteria.
3. Create an advertising pamphlet to market your new product.

## Design Criteria

- A. The Thermos™ must
- have a 2 L plastic pop bottle as its outer casing
  - keep 500 mL of hot water hot
  - not contain any heating device
  - not contain any part of a commercial Thermos™ flask
  - be easily portable
- B. An advertising pamphlet (using one sheet of paper) must accompany the Thermos™. The pamphlet should consist of the following layout:

cover	inside pages		back
name of Thermos™, picture of Thermos™, and slogan	labelled cross-sectional diagram of the inside	description of materials used and other features	product warranty, name of company, and contact address



## INQUIRY INVESTIGATION 3-L KEEP IT WARM

### Purpose

- Students discover that a very common material (newspaper) can be used for insulation and that the thicker the insulation barrier the more heat can be retained in a substance (water).

### Advance Preparation

APPARATUS	MATERIALS
<ul style="list-style-type: none"> <li>heat source</li> <li>beaker(500 mL)</li> <li>thermometer</li> <li>retort stand</li> <li>clamp</li> </ul>	<ul style="list-style-type: none"> <li>tin can (204 mL)</li> <li>newsprint</li> <li>masking tape</li> <li>water</li> </ul>

### Time Required

- 45–50 minutes, which will give students time to start working on their graphs and the questions

### Safety Precautions

- Remind students that safety goggles and aprons must be worn at all times.
- Remind students that oven mitts or tongs must be worn when handling hot materials, in order to avoid burns.
- Be sure students do not use thermometers to stir the water.
- You should “punch” the hole in the newspaper, as it is too dangerous for students to do. Ensure that you have either a sharp exacto knife with a strong blade or a large cutting knife, as it is difficult to puncture the thicker samples of paper (7–10 sheets thick).
- Use a hot plate, not a Bunsen burner, to avoid the danger of setting the newspaper on fire.

### Implementing the Investigation

- Discuss with students why we want to prevent some things from losing thermal energy.
- Discuss common ways of preventing heat loss (you will get ideas like pink insulation, parkas, long underwear, etc.).
- Ask students if they think newspaper would make a good insulator.
- Explain to students that in this investigation they will be looking at newsprint as a possible insulator. They will also be considering what effect the thickness of the newsprint has on its ability to insulate.
- Divide students into groups of three. One student is the recorder, another is the timer, and the third student pours the hot water and wraps the tin can in paper.
- Caution students to be extremely careful when transferring the hot water from the beaker to the tin. They must cover it and then have you punch a hole in the top of the newspaper as soon as possible.

## Keep It Warm

Imagine that you are a researcher working for a company that develops products that will keep people warm in the winter. Before you can begin your research, however, you need to answer a basic question about insulating material.

### Question

What is the effect of increasing the thickness of an insulating material on the amount of energy transferred through the insulator?

### Hypothesis

Write a hypothesis about the thickness of insulating material and transfer of thermal energy.

### Safety Precautions

Use care when handling the hot water and when working around the heat source.

### Materials

tin can (204 mL)  
200 mL water  
newspaper One half of one sheet of newspaper will be considered one piece.  
masking tape

### Apparatus

hot source  
thermometer  
retort stand  
clamps  
beaker (500 mL)

### Procedure



1 With your group, heat a 200 mL sample of water to about 80°C. Carefully pour the water into your tin can.

2 Carefully and quickly insulate the tin can by wrapping it in newspaper, as demonstrated by your teacher. The amount of newspaper to be used by each group is shown in the following chart.



3 Insert the thermometer into a small hole, made by your teacher, in the top of the paper. Immediately start taking the temperature of the water. Continue to record the temperature every minute for 10 min (or for as long as your teacher directs). Make a chart to record this temperature.



4 Carefully dispose of the hot water down the sink and clean up your work station.

5 Record the final temperature of your water in the chart or data base provided by your teacher.

6 Draw a graph to compare the results within the class.

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MHR • Heat and Temperature

- Note: for this investigation, a piece of newspaper is defined as one half of a full page spread.

### Investigation Wrap-up

- Place the following chart on the board or on an in-class computer for students to enter their data when they complete the lab.

Group Number	Number of pieces of paper	Class 1 Results	Class 2 Results	Average Results
1	0			
2	1			
3	2			

- Have students graph the number of pieces of newsprint vs. the average results.
- As a class, discuss any trends they detect from the chart, and ask students to infer why these trends are evident.
- Ask the students why Group 1 had to complete the lab without any insulation.
- Almost any substance can be used to prevent heat loss; the thicker the material, the less heat loss there is. The challenge that sleeping bag producers and parka makers have is in making an insulating material that is light weight, easy to store, water repellent, and can be made into materials that are considered fashionable (like winter coats).





# Keep It Warm

Imagine that you are a researcher working for a company that develops products that will keep people warm in the winter. Before you can begin your research, however, you need to answer a basic question about insulating material.

## Question

What is the effect of increasing the thickness of an insulating material on the amount of energy transferred through the insulation?

## Hypothesis

Write a hypothesis about thickness of insulating material and transfer of thermal energy.

## Safety Precautions



Use care when handling the hot water and when working around the heat source.

## Materials

tin can (254 mL)  
200 mL water  
newsprint (One half of one sheet of newsprint will be considered one piece.)  
masking tape

## Apparatus

heat source  
thermometer  
retort stand  
clamp  
beaker (500 mL)

## Procedure



- 1 With your group, heat a 200 mL sample of water to above 80°C. Carefully pour the water into your tin can.
- 2 Carefully and quickly insulate the tin can by wrapping it in newsprint, as demonstrated by your teacher. The amount of newspaper to be used by each group is shown in the following chart.
- 3 Insert the thermometer into a small hole, made by your teacher, in the top of the paper. Immediately, start taking the temperature of the water. Continue to record the temperature every minute for 15 min (or for as long as your teacher directs). Make a chart to record this temperature.
- 4 Carefully dispose of the hot water down the sink and clean up your work station.
- 5 Record the final temperature of your water in the chart or data base provided by your teacher.
- 6 Draw a graph to compare the results within the class.

Group number	Amount of paper	Temperature After						
		1 min	2 min	3 min	4 min	5 min	6 min	...
1	0 sheet (s)							
2	1							
3	2							
4	3							
5	4							
6	5							
7	6							
8	7							
9	8							
10	9							

### an Expert

Turn to page 258 to find out why Mario Patry needs to understand how insulating materials work.


## Analyze

1. What scientific name should be given to the first group in the chart? What is the purpose of this group?
2. Which variable (manipulated variable) did you change? Which feature (responding variable) did you observe?
3. If you repeated this activity, do you suppose you would get exactly the same results? What might make the new results different?
4. How was heat lost through each of the following?
  - (a) conduction
  - (b) convection
  - (c) radiation

## Conclude and Apply

5. What is the effect of increasing the thickness of an insulating material on the amount of energy transferred? Did your observations support your hypothesis?
6. Would newspaper make a good insulator in your home? Explain your answer.
7. Describe three areas in which you could apply what you have learned about energy conservation.
8. During the winter, house owners often compare the amount of snow on their roof

to that of their neighbours to determine if they have enough insulation in their attic. Explain how a homeowner would be able to tell if more insulation were needed.

9.  **Design Your Own** With your group, brainstorm other materials that could be used for insulation. Think about different applications: clothing, home insulation, keeping foods warm or cold. What features will each application require? Choose one application, and design an investigation to test at least two insulating materials in that application.

## Extension

10. Use library and Internet resources to research survival and other clothing that helps protect people from very cold weather and from the danger of hypothermia (dangerously low body temperatures). Find out what kinds of materials and fillings are used in cold-weather clothing. What design specifications do these articles need to meet? What criteria are used to rate them? How do clothing manufacturers reduce fossil fuel use and pollution at their factories? Prepare a report for presentation to the class. Use informative visuals and, if you can, obtain samples of each material for display. Evaluate the usefulness of these products.





## Critical Challenge, Perform to Specs

### Random Acts of Kindness

Option, Grade 7

This assignment was completed in a multi-disciplinary Grade 7 option based on random acts of kindness. In groups, students planned and performed a random act of kindness for a person of their choosing. After visiting the "Kindness Crew" website and viewing some video clips of dynamic act of kindness as a class, students brain-stormed ideas they could complete that week. We then discussed the criteria for the "best" random act of kindness they could commit. It had to be realistic, meaning it was something they could actually accomplish that week. It had to be selfless, meaning there was no benefit to the person committing the act, only for the person receiving the kindness. Finally, it had to either help the other person by meeting a need or simply make them really happy. Based on this criteria, students chose one act of kindness to complete that week. The groups then completed a booklet guiding them through the planning process. During the week they performed the task, doing things such as collecting clothes for the salvation army, starting a recycling program, baking and distributing thank-you for many groups from school staff, other classes, firefighters, etc. and collecting food for the food bank. Finally, each group presented the "R.A.K." they committed using a poster and completed a written entry into our kindness book explaining their experience. This was used as evidence to assess their performance of the task.

**Health Outcome**

develop effective interpersonal skills that demonstrate responsibility, respect and caring

**Health/ICT Outcome**

develop group goal-setting, planning and collaboration skills

**Social Studies Outcome**

develop age appropriate behavior for social involvement as responsible citizens contributing to community

**Challenge Type:**

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

**Problem:**

What is the best "random act of kindness" you and your group can perform this week.

**Is the problem...**

- Judgement?
- Engaging?
- Significant?
- Focused?

**Criteria**

**Criteria for best R.A.K.**

- teacher generated
- student generated
- realistic
- selfless
- meets a need or makes someone happy

**Other Intellectual Tools**

- Background Knowledge  
R.A.K. ideas, examples  
-website, videos
- Critical Thinking Vocabulary
- Thinking Strategies  
planning booklet
- Habits of Mind

**Assessment**  
**Which tools will you assess?**

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

**Method?**

assess decision according to criteria, based on booklet and presentation

**Self-Assessment?**

- Anecdotal: How did we do?
- Chart

# Kindness in Cohorts!

## Group R.A.K. Planning

Group Members: \_\_\_\_\_

### What is your goal?

Who do you want to help or make happy? Why?

### Brainstorm ideas to achieve your goal:

What types of activities could your group complete that would achieve your goal?

Which idea is best?



## Who will be involved?

What is the role of every member of the group?

Will you require the assistance of anyone outside the group?

---

## Procedure...

What are the steps we will take in this activity to achieve our goal? How long will each step of the procedure take?

## Materials

What will we need in order to accomplish our task?

Where and when will we get our materials?

Your business book entry, your presentation and your poster should answer each of these questions:

- What is your goal?
- What materials do you need?
- How do you plan to get the materials?
- How do you plan to use the materials?
- How do you plan to evaluate the results?

After you're done...

## How did it go?

What would you do the same or differently?

Did you accomplish your goal?

1. Review your business book entry, your presentation and your poster.

- How well did you answer each of the questions?
- How well did you use the materials?
- How well did you evaluate the results?

2. Review your presentation and your poster.

- How well did you answer each of the questions?
- How well did you use the materials?
- How well did you evaluate the results?

3. Review your business book entry, your presentation and your poster.

- How well did you answer each of the questions?
- How well did you use the materials?
- How well did you evaluate the results?

# Kindness in Cohorts: Presenting Your Project!

Your kindness book entry, your presentation and your poster should answer each of these questions:

- Who did you want to help?
- What other ideas did you have?
- Why did you decide this was the best?
- What did you do to get ready?
- How did it happen? (Tell the story of what you did)
- How do you think it went?
  - How did it make you feel?
  - What would you do the same or different next time?

3 Roles: Speaker  
Poster Publisher  
Kindness Book Author

## 1. Kindness Page:

- Answers each of the questions
- Fill entire space with neat writing
- Written like a story or diary entry: Not question/answer form
- Fill the 2 boxes with drawings of your RAK

## 2. Presentation Poster:

- Answers each of the questions
- Shows in pictures what you did
- Is bright, neat and attractive

## 3. Presentation:

- Speaker answers all the questions for the group, adding extra details about their project
- all members of the group show enthusiasm for the project
- Speaker speaks loudly, slowly and clearly so everyone can hear and understand
- There is an opportunity for classmates to ask questions

## How will we be marked?

Was your RAK...

- Realistic?

Were you able to reasonably accomplish this during the week?

- Selfless?

Did you do the RAK for you or completely for the other person?

- Meets a need or makes them happy?

What need did your RAK meet?

OR

How do you know your RAK made the other person happy?

**You Decide:**

Was your RAK...	Absolutely!	Sort of	Not really
Realistic?			
Selfless?			
Meets need OR makes happy?			

**I'll Decide:**

Was your RAK...	Absolutely!	Sort of	Not really
Realistic?			
Selfless?			
Meets need OR makes happy?			

**Your Mark:**



## How will we be marked?

### Was your RAK

- Realistic

Were you able to reasonably accomplish the things you wrote?

- Selfless

Did you do the RAK for you or completely for the other person?

- Meets a need or makes them happy?

What need did your RAK meet?

OR

How do you think your RAK meets the other person's need?

### You Decide:

Was your RAK	Realistic	Selfless	Meets a need or makes them happy?
Yes			
No			
Not sure			

### I'll Decide:

Was your RAK	Realistic	Selfless	Meets a need or makes them happy?
Yes			
No			
Not sure			

### Your Mark:

Bonus Resource

# Assessment Tools

Human Resource  
Assessment  
Tools

## Assessment Tools

It is the nature, rather than the amount, that is critical when giving students feedback.  
– Black and William (2002)

1/3 deep feedback

**Rationale for Deep Feedback:** Assessment is an exercise in communication; both the teacher and students need to clearly communicate as to where the student is in meeting the learning objectives for success. Deep feedback provides an opportunity for the teacher to give specific feedback to the student to assist them in knowing what's working and next steps. Give students deep feedback on assignments and tasks that are essential to learning. Deep feedback will be required only on about 1/3 of the work that students produce.

### **Deep feedback...**

- ... is in relation to clear criteria developed with the students.
- ... requires the teacher to make specific comments.
- ... is provided promptly.
- ... requires students to review the comments and take action towards improvement.
- ... provides a model for students of what effective feedback looks like.

### **Deep feedback Strategies:**

**Connecting to criteria activities** focus on the skills/learning criteria as well as aspects of quality or progress. The teacher provides information that builds on the student's strengths, points out an area of concern and gives realistic suggestions for success. Students learn where to concentrate their efforts and spend more time before work is handed in. Teachers can record comments about student work for evidence of growth.

#### **Met, Not Yet Met, I Notice:**

- Focus is on aspects of quality or progress within the student's work against criteria that has been set. The teacher places a check mark in either the *Met*, or *Not Yet Met* column based on the student's performance against the criteria, then adds a brief comment in the *I Noticed* column that focuses on quality or progress of the work from the last task. An *M* or *NY* can be recorded by the teacher to track student work.  
-may adapt by using the "At A Glance Recording Sheet"





At A Glance Recording Sheet

OBJECTIVE	NAME	NAME	NAME	NAME
Date: Date: Date:				
NAME	NAME	NAME	NAME	NAME
NAME	NAME	NAME	NAME	NAME
NAME	NAME	NAME	NAME	NAME
NAME	NAME	NAME	NAME	NAME

**At A Glance Recording Sheet**

OBJECTIVE				
Date: Date: Date:				

EE1 134





### Key Questions:

- Focus is on giving students suggestions that build off their strengths and provides specific information (1 or 2) to meet their targeted goals. Feedback is given against the criteria using the following questions as a prompt: *What's working?*, *What's not?*, *What's next?*. By providing feedback on what is working, students can build on their strengths, while considering next steps and what is not yet working.

Criteria for	What's working?	What's not?	What's next?

Criteria required <input type="checkbox"/>	Question(s)
Basic needed	
Assessed by <input type="checkbox"/> teacher <input type="checkbox"/> self <input type="checkbox"/> partner <input type="checkbox"/> other	Assignment Student

### 1/3 impressive feedback

#### **Rationale for Impressive Feedback:**

Sometimes teachers and students need more of a general sense of how things are going with the learning. Use Impression feedback on tasks that don't require specific feedback on all of the criteria but where you want to get an impression as to where the class is at on one aspect of the criteria. Impression feedback is necessary on another approximate third of the work in which students are engaged.

#### **Impressive feedback...**

- ... narrows the scope of the work for both the students and the teacher by allowing teachers to focus and give feedback on only one piece of the criteria.
- ... allows teachers to point out what is working.
- ... allows teachers to zoom in on what needs improving.
- ... shifts the responsibility for improving the work to students.
- ... is a way to differentiate.

#### **Impressive Feedback Strategies:**

##### **Highlighters:**

- Select two highlighters: one colour (green) to highlight "what is working" and one colour (pink) and highlight each student's work in relation to the criteria.
- Students figure out why the identified parts have been highlighted in green (what is working for them) so they will know what to keep doing next time.
- Students figure out why the identified parts have been highlighted pink (what needs improving) and work to make the improvements.
- The teacher can work with small groups on a mini-lesson according to information collected from highlighting (i.e. work with those students who had a lot of run on sentences in pink)

##### **Traffic Lights:**

- Explain to students, in advance, the meaning of the green, yellow and red marks (for example):
  - Green = meets criteria
  - Yellow = partially meets criteria
  - Red = doesn't meet the criteria. Stop and don't go further until we talk
- Mark each student's work in relation to the criteria.
- Students work together to figure out why it is green or yellow and work to improve their work where necessary.
- The teacher can work with small groups on a mini-lesson according to information collected from the traffic lighting.

### Warm and Cool Notes:

- Write specific feedback in the warm or cool column about the student's successes or a suggestion for improvement, related to the set criteria.
- Students work to improve the work based on the feedback.
- The next time students do a similar piece, they can use the warm and cool comment sheet to assist them. They can then include a "Please notice..." statement with their work showing they have tried to improve the comments in the cool comment side.
- Teachers can keep copies of the chart for their records.
- This is an excellent strategy for students to give each other feedback.

### 1/3 Self or Peer Feedback

**Rational for Self or Peer Feedback:** Peer and self feedback provide a starting point for conversations that help students find proof of their learning and take responsibility for it. When students are actively involved in the learning process, and identify what they know and don't know, they are able to review and spend more time on areas of need. "Kids learn about what they are doing and what they need to do" (Sutton, 2005). Peer or self feedback can be used on the final third of work that students produce, and generally should be used with simpler, shorter tasks that are suitable for students to mark.

#### Peer or Self Feedback...

- ... is a way for kids to learn about what they are doing and what they need to do next.
- ... works best in a climate where students see mistakes as an opportunity for improvement.
- ... reduces the feedback workload for teachers while engaging students in meaningful learning.
- ... is highly effective when students have a clear understanding of the learning destination. (learning outcomes)

#### Peer or Self Feedback Strategies:

##### Exit Pass:

- Give students an "exit pass" five to ten minutes before the end of class. Ask each student to fill in a card and hand it to you as they leave.
- After class, look for areas of confusion and questions to be addressed during the next class.

Exit Pass
Two things I learned...
-
-
One question I have...
-



### Look for Proof:

- Teachers give students cards that have a word or phrase printed on it – such as “favorite” or “improvement” – that reflects thoughts about a piece of work. Students select an example from their own work that provides evidence or proof of that work or phrase. They then give reasons for their selection.

**Trash It!**

Two reasons it should be trashed are...

If I did it over again I'd...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**A First**

The hardest part was...

The easiest part was...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**Potential**

I plan to keep working on this because ...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**Improvement**

This work shows I've improved ...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**Getting There**

I think I'm starting to ...

Please notice ...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**Favourite**

This is my favourite because ...

Date \_\_\_\_\_ Signet \_\_\_\_\_

**Perseverance**

I really tried hard to ...

Please pay attention to ...

Date \_\_\_\_\_ Signed \_\_\_\_\_

**Surprise**

This piece surprised me because ...

Date \_\_\_\_\_ Signed \_\_\_\_\_

**Together**

This is something I've been working on with ...

The best part of working together is ...

Date \_\_\_\_\_ Signed \_\_\_\_\_

**Margin Symbols, while students are reading:**

- While reading students make at least 3 *different* insert codes directly on the reading or if the reading is from a text book have students insert the codes on small sticky notes and place them onto the reading.

- ✓ Confirms what you thought
- X Contradicts what you thought
- ? Raises a question
- ?? Confuses you
- \* Seems important
- ! Is new or interesting

If a word gets repeated, seems important, or is unknown: **BOX IT**

Source: Mini Lessons for Literature Circles, p. 101

## Writing Process Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

- This rubric is appropriate to assess any or all stages in the writing process.
- It may be used while conferencing with individual students, with groups of students, or while observing students as they work.
- Use only those criteria that are appropriate to a given stage in the writing process.
- Focus on the indicators when conducting assessment for learning; focus on the indicators and performance levels when conducting assessment of learning.

Categories/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Prewriting</b>	<ul style="list-style-type: none"> <li>- shows reluctance to brainstorm ideas and approaches with peers and/or teacher</li> <li>- has difficulty generating ideas for the task</li> <li>- has difficulty conducting research on the topic (if required)</li> </ul>	<ul style="list-style-type: none"> <li>- attempts to brainstorm ideas and approaches with peers and/or teacher</li> <li>- generates some ideas for the task</li> <li>- attempts to conduct research on the topic (if required)</li> </ul>	<ul style="list-style-type: none"> <li>- brainstorms ideas and approaches with peers and/or teacher</li> <li>- generates workable ideas for the task</li> <li>- conducts sufficient research on the topic (if required)</li> </ul>	<ul style="list-style-type: none"> <li>- shows insight and creativity when brainstorming ideas and approaches with peers and/or teacher</li> <li>- generates rich ideas for the task</li> <li>- conducts thorough research on the topic (if required)</li> </ul>
<b>Drafting</b>	<ul style="list-style-type: none"> <li>- produces a limited first draft that meets few of the criteria for the task</li> <li>- needs draft but has difficulty identifying the need to make improvements</li> </ul>	<ul style="list-style-type: none"> <li>- produces a first draft that meets some of the criteria for the task</li> <li>- needs draft and makes some necessary improvements</li> </ul>	<ul style="list-style-type: none"> <li>- produces an acceptable first draft that meets most of the criteria for the task</li> <li>- needs draft efficiently and makes appropriate improvements</li> </ul>	<ul style="list-style-type: none"> <li>- produces a creative and original first draft that meets all of the criteria for the task</li> <li>- needs draft efficiently and makes significant improvements</li> </ul>
<b>Revising</b>	<ul style="list-style-type: none"> <li>- shows reluctance/has difficulty editing for content, sentence structure, paragraph structure, spelling, grammar, punctuation</li> </ul>	<ul style="list-style-type: none"> <li>- makes some edits for content, sentence structure, paragraph structure, spelling, grammar, punctuation</li> </ul>	<ul style="list-style-type: none"> <li>- edits sufficiently for content, sentence structure, paragraph structure, spelling, grammar, punctuation</li> </ul>	<ul style="list-style-type: none"> <li>- revises and thoroughly edits for content, sentence structure, paragraph structure, spelling, grammar, punctuation</li> </ul>
<b>Proofreading</b>	<ul style="list-style-type: none"> <li>- needs final draft but misses many errors</li> <li>- has difficulty identifying strengths and weaknesses in own work</li> </ul>	<ul style="list-style-type: none"> <li>- needs final draft but misses some errors</li> <li>- attempts to identify strengths and weaknesses in own work</li> </ul>	<ul style="list-style-type: none"> <li>- needs final draft carefully</li> <li>- identifies several strengths and weaknesses in own work</li> </ul>	<ul style="list-style-type: none"> <li>- needs final draft efficiently and carefully</li> <li>- shows insight and objectivity about strengths and weaknesses in own work</li> </ul>
<b>Conferencing</b>	<ul style="list-style-type: none"> <li>- shows reluctance to incorporate feedback from others</li> <li>- has difficulty providing feedback to others about their writing</li> </ul>	<ul style="list-style-type: none"> <li>- attempts to incorporate feedback from others</li> <li>- attempts to provide feedback to others about their writing</li> </ul>	<ul style="list-style-type: none"> <li>- willingly incorporates feedback from others to improve the piece</li> <li>- offers helpful feedback to others about their writing</li> </ul>	<ul style="list-style-type: none"> <li>- seeks to understand and incorporate feedback from others to improve the piece</li> <li>- routinely offers insightful feedback to others about their writing</li> </ul>



## Descriptive Writing Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

- This rubric is appropriate to assess a variety of descriptive writing tasks.
- Use only those criteria that are appropriate for a given assessment task, at a given time.
- Focus on the indicators when conducting assessment for learning; focus on the indicators and performance levels when conducting assessment of learning.

Categories/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Style</b>	<ul style="list-style-type: none"> <li>• includes ineffectual details to create mental images</li> <li>• figurative language (similes, personification, etc.) is lacking or used ineffectively</li> <li>• sentence type and length show little variation</li> </ul>	<ul style="list-style-type: none"> <li>• includes some details that create partial mental images</li> <li>• figurative language (similes, personification, etc.) is used somewhat effectively</li> <li>• sentence type and length show some variation</li> </ul>	<ul style="list-style-type: none"> <li>• piece includes sufficient details to create mental images</li> <li>• figurative language (similes, personification, etc.) is used effectively</li> <li>• sentence type and length are varied</li> </ul>	<ul style="list-style-type: none"> <li>• piece includes rich and evocative detail to create mental images</li> <li>• figurative language (similes, personification, etc.) is used skilfully</li> <li>• sentence type and length are varied skilfully to engage the reader</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>• piece does not engage reader</li> <li>• choice of words has little appeal to the senses</li> <li>• writer's voice is lacking</li> </ul>	<ul style="list-style-type: none"> <li>• piece engages reader to some extent</li> <li>• choice of words has some appeal to the senses</li> <li>• writer's voice is sometimes evident</li> </ul>	<ul style="list-style-type: none"> <li>• piece engages reader</li> <li>• choice of words appeals to the senses</li> <li>• writer's voice is evident</li> </ul>	<ul style="list-style-type: none"> <li>• piece engages reader thoroughly</li> <li>• skilful choice of words results in wide appeal to the senses</li> <li>• writer's voice is skilfully evident</li> </ul>
<b>Conventions</b>	<ul style="list-style-type: none"> <li>• numerous errors in spelling and/or grammar and/or punctuation seriously interfere with communication</li> </ul>	<ul style="list-style-type: none"> <li>• several errors in spelling and/or grammar and/or punctuation interfere with communication to some degree</li> </ul>	<ul style="list-style-type: none"> <li>• there are minor errors in spelling and/or grammar and/or punctuation, but not sufficient to interfere with communication</li> </ul>	<ul style="list-style-type: none"> <li>• few if any errors in spelling, grammar, or punctuation</li> </ul>

## Producing a Children's Book Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Criteria	Limited	Acceptable	Proficient	Excellent
<b>Creativity</b>	<ul style="list-style-type: none"> <li>theme is not original</li> <li>theme may not engage children</li> </ul>	<ul style="list-style-type: none"> <li>theme shows some originality</li> <li>theme may engage some children</li> </ul>	<ul style="list-style-type: none"> <li>theme is original</li> <li>theme is engaging for children</li> </ul>	<ul style="list-style-type: none"> <li>theme is original and clever</li> <li>theme is highly engaging for children</li> </ul>
<b>Writing Style</b>	<ul style="list-style-type: none"> <li>vocabulary and sentence structure show little variety</li> <li>dialogue is lacking</li> </ul>	<ul style="list-style-type: none"> <li>vocabulary and sentence structure show some variety</li> <li>dialogue shows some realism</li> </ul>	<ul style="list-style-type: none"> <li>vocabulary and sentence structure are effective</li> <li>dialogue is realistic</li> </ul>	<ul style="list-style-type: none"> <li>vocabulary and sentence structure are highly effective</li> <li>dialogue is life-like and engaging</li> </ul>
<b>Illustrations</b>	<ul style="list-style-type: none"> <li>pictures or artwork are ineffective</li> </ul>	<ul style="list-style-type: none"> <li>pictures or artwork add to the story to some degree</li> </ul>	<ul style="list-style-type: none"> <li>pictures or artwork are effective</li> </ul>	<ul style="list-style-type: none"> <li>pictures or artwork are visually striking</li> </ul>
<b>Professionalism</b>	<ul style="list-style-type: none"> <li>book lacks polish</li> </ul>	<ul style="list-style-type: none"> <li>book shows some attention to final polishing</li> </ul>	<ul style="list-style-type: none"> <li>book is polished</li> </ul>	<ul style="list-style-type: none"> <li>book is polished and professional looking</li> </ul>
<b>Conventions</b>	<ul style="list-style-type: none"> <li>errors seriously interfere with the story</li> </ul>	<ul style="list-style-type: none"> <li>errors interfere with the story to some extent</li> </ul>	<ul style="list-style-type: none"> <li>book contains minimal errors</li> </ul>	<ul style="list-style-type: none"> <li>book is free of errors</li> </ul>

## Informal Speaking and Listening Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Categories/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Thinking</b>	<ul style="list-style-type: none"> <li>demonstrates limited ability to explore/express thoughts when speaking to others</li> <li>demonstrates limited ability to build on the ideas of others</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates some ability to explore/express thoughts when speaking to others (e.g., is beginning to reflect, analyze, hypothesize)</li> <li>demonstrates some ability to build on the ideas of others</li> </ul>	<ul style="list-style-type: none"> <li>explores/expresses own thoughts when speaking to others (e.g., reflects, analyzes, hypothesizes)</li> <li>builds on the ideas of others when speaking</li> </ul>	<ul style="list-style-type: none"> <li>explores/expresses original/creative thoughts when speaking to others (e.g., reflects, analyzes, hypothesizes)</li> <li>integrates and extends the ideas of others when speaking</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>expresses ideas, opinions, feelings with limited clarity when speaking to others in terms of:               <ul style="list-style-type: none"> <li>fluency</li> <li>volume</li> <li>speed</li> <li>intonation</li> <li>inflection</li> </ul> </li> <li>uses a limited vocabulary</li> <li>has difficulty maintaining appropriate eye contact when speaking</li> <li>makes limited use of gestures when speaking</li> </ul>	<ul style="list-style-type: none"> <li>expresses ideas, opinions, feelings with partial clarity when speaking to others in terms of:               <ul style="list-style-type: none"> <li>fluency</li> <li>volume</li> <li>speed</li> <li>intonation</li> <li>inflection</li> </ul> </li> <li>attempts to use new vocabulary</li> <li>maintains eye contact some of the time when speaking</li> <li>makes some use of gestures when speaking</li> </ul>	<ul style="list-style-type: none"> <li>expresses ideas, opinions, feelings clearly when speaking to others in terms of:               <ul style="list-style-type: none"> <li>fluency</li> <li>volume</li> <li>speed</li> <li>intonation</li> <li>inflection</li> </ul> </li> <li>uses new vocabulary effectively</li> <li>maintains appropriate eye contact when speaking</li> <li>uses gestures effectively when speaking</li> </ul>	<ul style="list-style-type: none"> <li>expresses ideas, opinions, feelings clearly and in an engaging manner when speaking to others in terms of:               <ul style="list-style-type: none"> <li>fluency</li> <li>volume</li> <li>speed</li> <li>intonation</li> <li>inflection</li> </ul> </li> <li>explores new vocabulary successfully</li> <li>establishes and maintains eye contact when speaking</li> <li>uses gestures naturally and effectively when speaking</li> </ul>
<b>Active Listening</b>	<ul style="list-style-type: none"> <li>demonstrates limited ability to listen to others' ideas, opinions, points of view</li> <li>challenges to others' ideas, opinions, points of view may be inappropriate</li> <li>asks few questions</li> <li>has difficulty demonstrating appropriate posture and body language when listening to others</li> </ul>	<ul style="list-style-type: none"> <li>listens some of the time to others' ideas, opinions, points of view</li> <li>attempts to challenge others' ideas, opinions, points of view appropriately</li> <li>attempts to ask appropriate questions</li> <li>demonstrates appropriate posture and body language some of the time when listening to others</li> </ul>	<ul style="list-style-type: none"> <li>listens attentively to others' ideas, opinions, points of view</li> <li>challenges others' ideas, opinions, points of view appropriately</li> <li>asks appropriate questions</li> <li>demonstrates appropriate posture and body language when listening to others</li> </ul>	<ul style="list-style-type: none"> <li>listens attentively and respectfully to others' ideas, opinions, points of view</li> <li>challenges others' ideas, opinions, points of view appropriately and constructively</li> <li>asks insightful questions</li> <li>encourages speaker through appropriate use of posture and body language</li> </ul>



## Peer Assessment Checklist: Oral Report

Assessor: \_\_\_\_\_

Class: \_\_\_\_\_

	Yes	No
<b>Content</b>		
1. The presentation included sufficient details.		
2. The material presented was interesting to listen to.		
<b>Communication</b>		
3. The speaker's voice was loud enough to hear easily.		
4. The speaker's voice was clear so that I could understand easily.		
5. The speaker delivered the presentation at an appropriate speed.		
6. The speaker made eye contact with the audience.		
7. The speaker used gestures to help make points clear.		
<b>Organization</b>		
8. The presentation had a clear beginning that caught my interest.		
9. The presentation had a clear conclusion.		
10. The speaker connected the ideas so that I could follow easily.		

What you did well:

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---



---

What you did not do well:

---



---



---

Next time, I suggest that you

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### What to Look for When Assessing Student Achievement

When observing students as they work, or when examining completed work, look for the following kinds of evidence.

Knowledge and Understanding	Application of Learning	Problem Solving/Thinking	Communication
<ul style="list-style-type: none"> <li>assess the completeness and depth of the learner's knowledge of mathematics content (e.g., facts, terms, procedural skills, use of tools)</li> <li>assess the depth of the learner's understanding of concepts (i.e., how deep is the student's grasp of concepts?)</li> <li>assess the learner's ability to make observations about their own learning, as reflected in their work and during discussions and one-on-one conferences</li> </ul>	<ul style="list-style-type: none"> <li>assess the learner's ability to apply mathematical knowledge and skills in familiar contexts (i.e., the ability to apply new learning to solve familiar or routine problems)</li> <li>assess the learner's ability to transfer mathematical knowledge and skills to new contexts (i.e., to what extent is it evident that the learner is making the connections that demonstrate he or she "gets it"?)</li> <li>assess the learner's ability to make connections:               <ul style="list-style-type: none"> <li>between new mathematical concepts and prior learning</li> <li>between new mathematical concepts and other subject areas</li> <li>between their learning in mathematics and contexts outside the classroom</li> </ul> </li> </ul>	<p>You may focus on one or all of the following aspects:</p> <p><b>Understand the Problem</b></p> <ul style="list-style-type: none"> <li>assess the learner's depth of understanding of the problem (i.e., the ability to differentiate between relevant and irrelevant information and the ability to restate/rephrase the problem)</li> </ul> <p><b>Make a Plan</b></p> <ul style="list-style-type: none"> <li>assess the completeness of the plan developed by the learner to solve the problem</li> </ul> <p><b>Carry Out the Plan</b></p> <ul style="list-style-type: none"> <li>assess the ability of the learner to use one or more strategies to solve the problem, and the flexibility shown by the learner when using the strategy/ies</li> <li>assess the ability of the learner to revise the plan, when necessary, to solve the problem</li> <li>assess the correctness with which the learner selects and uses procedures in terms of frequency of errors/omissions</li> </ul> <p><b>Look Back</b></p> <ul style="list-style-type: none"> <li>assess the learner's identification of procedural and computational errors and omissions within a solution</li> <li>assess the degree to which the learner reflects on the reasonableness of his or her solution</li> </ul> <p><b>Communicate</b></p> <ul style="list-style-type: none"> <li>assess the completeness of the learner's explanation of his or her solution</li> <li>assess the clarity and precision of the explanation</li> <li>assess the use of mathematical language and representations in the solution</li> </ul>	<ul style="list-style-type: none"> <li>assess the completeness, clarity, and logic of the learner's explanations and justifications of their understanding through oral, visual, and written modes</li> <li>assess expressive communication (i.e., to what extent is the learner's communication clear and precise to the reader/listener?)</li> <li>assess the clarity and precision of the learner's use of mathematical vocabulary</li> <li>assess the degree to which the learner organizes written, spoken, and drawn work in order to communicate effectively</li> <li>assess the degree to which the learner uses mathematical units, symbols, and labels correctly and effectively</li> </ul>

## Coaching Students Toward Success

- Use the following prompts when providing students with feedback to help them improve their learning.
- Provide each student with a copy of this chart.

Knowledge and Understanding	Application of Learning	Problem Solving/Thinking	Communication
<ul style="list-style-type: none"> <li>• "Link your thinking."</li> <li>• Talk me through what you did.</li> <li>• Make it short but say enough that I can see what you were thinking.</li> <li>• Explain with more detail.</li> <li>• Describe the math idea; explain how the idea relates to another math idea; provide an example to explain the idea.</li> <li>• Is there a counter-example?</li> </ul>	<ul style="list-style-type: none"> <li>• What knowledge are you going to use to answer this question/complete this task/solve this problem?</li> <li>• What procedure(s) are you going to use to answer this question/complete this task/solve this problem?</li> <li>• How is this question/task/problem similar to/different from ones you have done before?</li> <li>• What strategies could help you?</li> <li>• How is the concept we learned today similar to a previous concept?</li> <li>• How could you use this concept in science (or another subject)?</li> <li>• Why/how is this skill/concept important outside of school?</li> </ul>	<ul style="list-style-type: none"> <li>• What information is given? What information is important? What information is not important?</li> <li>• What are you asked to find out?</li> <li>• What do you need to know?</li> <li>• What information is important to solve this problem?</li> <li>• What information is missing?</li> <li>• Show your mathematical thinking at every stage (Understand, Plan, Do, Look Back, Communicate)</li> <li>• Do you notice any patterns?</li> <li>• Is there a rule that you could share and explain?</li> <li>• Show the materials and representations that helped you solve the problem.</li> <li>• Use different ways to show what you did.</li> <li>• Justify your answer. Tell what you were thinking.</li> <li>• How do you know you are right? (reason-ability, looking back)</li> </ul>	<ul style="list-style-type: none"> <li>• Read over what you have written</li> <li>• Does it make sense?</li> <li>• Could another person follow what you did?</li> <li>• Do you need to explain more fully?</li> <li>• Have you used precise, correct mathematical terms?</li> <li>• Have you used correct mathematical symbols?</li> </ul>

## Self-Assessment Checklist: Problem-Solving Tasks

Name: \_\_\_\_\_ Class: \_\_\_\_\_

Place a ✓ or X to indicate "yes" or "no" for each question.

	Date	Date	Date	Date	Date
<b>Understanding the Problem</b>					
1. Do I understand the problem I have to solve? Can I restate it in my own words?					
2. Do I understand the information I have been given?					
<b>Making a Plan</b>					
3. Do I know what strategies and procedures might help me solve this problem?					
4. Am I able to select from these and develop a plan to solve this problem?					
<b>Carrying Out the Plan</b>					
5. Do I know which strategy to try first?					
6. Do I know what to do when I get stuck?					
7. Am I recording data or information as I proceed?					
8. Am I following my plan, or revisiting if I need to?					
9. Have I checked any written work related to solving this problem?					
<b>Solving the Problem</b>					
10. Have I checked whether my solution is reasonable?					
11. Have I checked my work for correctness?					
12. Am I able to reach a conclusion?					
<b>Communicating</b>					
13. Am I prepared to communicate my findings orally or in writing?					
14. Is my work complete and correct?					
15. Is my work organized to help others understand it?					



### Inquiry Investigation Skills: Self-Assessment Checklist

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Place a  $\checkmark$  or an  $X$  to indicate "yes" or "no" for each question.

	Date				
<b>Initiating (Questioning and Hypothesizing):</b>					
Do I understand the task?					
Do I have a testable hypothesis?					
<b>Planning:</b>					
Have I developed a clear set of procedures to follow?					
Do I know what variables I need to control?					
<b>Conducting and Recording:</b>					
Have I followed the procedures that I set out in my plan?					
Do I know how to perform all of the procedures safely?					
Do I know how to use all of the tools, equipment, and materials?					
Have I made enough observations to produce good data?					
Have I recorded the relevant data in an organized way?					
Did I modify my plan when I needed to?					
<b>Analyzing and Interpreting:</b>					
Have I analyzed the data correctly?					
Do my conclusions match the data?					
If I didn't get the results I was expecting, can I say what I should have done differently?					
<b>Communicating:</b>					
Is the information complete and detailed enough?					
Is the information organized so others can understand it?					
Have I used the correct units of measure and terminology?					



## Research Skills Rubric

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Use this rubric to

- inform students of the criteria on which they will be assessed each time they conduct research,
- provide ongoing feedback to students as they conduct research,
- evaluate the quality of students' research skills at the end of a unit.

Categories/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Use of Resources</b>	<ul style="list-style-type: none"> <li>has difficulty formulating a research question and tries to use a single strategy for locating and selecting information.</li> <li>accesses information from only one resource</li> </ul>	<ul style="list-style-type: none"> <li>formulates a tentative research question and uses a limited range of strategies for locating and selecting information</li> <li>is able to access information from more than one resource</li> </ul>	<ul style="list-style-type: none"> <li>formulates a clear research question and uses several strategies for locating and selecting information</li> <li>is able to access information from a variety of resources (print, electronic, human)</li> </ul>	<ul style="list-style-type: none"> <li>formulates an insightful research question and uses a full range of strategies for locating and selecting information</li> <li>is able to access information from a full range of resources (print, electronic, human)</li> </ul>
<b>Quality of Information</b>	<ul style="list-style-type: none"> <li>has difficulty distinguishing between fact and opinion</li> <li>has difficulty locating information that is related to the issue, concept, or topic</li> <li>explains main ideas from resources</li> </ul>	<ul style="list-style-type: none"> <li>collects information which represents a single point of view</li> <li>locates some information that is related to the issue, concept, or topic and some that is not</li> <li>summarizes some main ideas from resources in own words</li> </ul>	<ul style="list-style-type: none"> <li>collects information which represents different points of view</li> <li>locates information that is clearly related to the issue, concept, or topic</li> <li>summarizes main ideas from resources in own words</li> </ul>	<ul style="list-style-type: none"> <li>collects information which represents all relevant points of view</li> <li>locates information that reflects a sophisticated understanding of the issue, concept, or topic</li> <li>integrates main ideas from resources with own ideas on the topic</li> </ul>
<b>Recording Information</b>	<ul style="list-style-type: none"> <li>only acknowledges sources when prompted</li> <li>has difficulty recording and organizing information</li> </ul>	<ul style="list-style-type: none"> <li>attempts to acknowledge sources correctly</li> <li>uses a limited number of strategies to record and organize information with some success</li> </ul>	<ul style="list-style-type: none"> <li>acknowledges sources correctly</li> <li>uses strategies to record and organize information</li> </ul>	<ul style="list-style-type: none"> <li>readily acknowledges all sources</li> <li>uses a range of strategies to record and organize information effectively</li> </ul>
<b>Use of Information</b>	<ul style="list-style-type: none"> <li>shows little evidence of having formulated own ideas/opinions</li> </ul>	<ul style="list-style-type: none"> <li>attempts to combine research with own ideas/opinions</li> </ul>	<ul style="list-style-type: none"> <li>combines research with own ideas/opinions</li> </ul>	<ul style="list-style-type: none"> <li>combines research with own ideas/opinions in a fluent and skilful manner</li> </ul>
<b>Use of Information</b>	<ul style="list-style-type: none"> <li>presents information with limited evidence of organization</li> <li>has difficulty handling questions and discussion with classmates</li> </ul>	<ul style="list-style-type: none"> <li>presents information with some evidence of organization</li> <li>demonstrates some competence in handling questions and discussion with classmates</li> </ul>	<ul style="list-style-type: none"> <li>presents information in an organized manner</li> <li>handles questions and discussion with classmates competently</li> </ul>	<ul style="list-style-type: none"> <li>presents information which is skilfully organized</li> <li>handles questions and discussion with classmates insightfully</li> </ul>

### Research Skills: Self-Assessment Checklist

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Place a ✓ or an X to indicate "yes" or "no" for each question.

	Date				
<b>Use of Resources:</b>					
Do I have a plan for researching my topic?					
Have I researched print (books, magazines), electronic (Internet), and human (an expert) resources?					
<b>Quality of Information:</b>					
Have I considered different points of view while researching my topic (e.g., different opinions on an environmental issue)?					
Is all my information clearly related to my research question?					
<b>Recording Information:</b>					
Have I summarized the main ideas in my own words?					
Have I identified the sources of my information (i.e., used footnotes and bibliography correctly)?					
Have I summarized the information in an organized way?					
<b>Use of Information:</b>					
Have I included my own ideas and opinions and supported them with the information I researched?					
Is my information organized so others can understand it?					
<b>Things I still need to do:</b>					
_____					
_____					
_____					
_____					



Bonus Resource:

# Inquiry Tools



Books Resource

# Inquiry Tools

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Name:

## Planning and Focusing My Research

### 1. Purpose

What is the purpose of the assignment?

What do I already know about the topic?

What is most interesting about the topic?

What do I want to find out?

### 2. Context

Who is my audience?

What kind of information will suit my audience?

What format for presentation would best suit the topic and the audience?

### 3. Timelines

Task:

Due Date:

Complete:

### 4. Evaluation

How will the assignment be evaluated:

- by me?
- by my teacher?
- by my peers?

- by my teacher?
- by my peers?

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Name:

**Research and Presentation Planner**

Project Description:

Purpose of Project:

Date Assigned:

Date Due:

Questions to Answer:

Resources:

Presentation Format:

—  
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Name(s):

### Research Timelines

Task:

Due Date:

Complete:

Who's Responsible:

Task:

Due Date:

Complete:

Who's Responsible:

Task:

Due Date:

Complete:

Who's Responsible:

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## How to Plan a Project

What is my topic?

What are the subtopics?

What is my interest in the topic?

What is the purpose of the research?

What are the timelines?

Who is the audience?

What presentation format will I use?

What research questions could I start with?

How will the project be evaluated?

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Name: \_\_\_\_\_

## Gathering Information

1. Where do I find information?  
(Print, multimedia, people, places)
2. How do I decide if the information is useful?  
(Current, reliable, meets needs of topics)
3. How do I record information?  
(Notes, graphic organizers, tape/video, visuals)
4. How do I keep track of information?  
(Author, title, date, sources, location)

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Name:

## Information Sources

Print:

People:

Multimedia:

Places:

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Name:

## Recording Your Sources of Information

Name of Author/Editor:

Title of Book/Article:

Title of CD/Film/Video:

Place of Publication:

Date of Publication:

Name of Publisher:

Page References:

URL Address:

Date of Access:

Web Service:

Name of Expert:

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# Finding Resources Checklist

## Print

- Books
- Magazines
- Dictionaries
- Encyclopedias
- Biographies
- Directories
- Atlases
- Yearbooks
- Almanacs
- Handbooks
- Catalogues

## People

- Family
- Friends
- Experts
- Professionals
- Community Agency Staff
- Teachers

## Multimedia

- TV Programs
- Videos
- CD-ROMs
- Filmstrips
- Databases
- Audiotapes and CD-ROMs
- Internet
- Catalogues
- Print Resources Online

## Places

- Libraries
- Museums
- Galleries
- Science Centres

Civic Centres  
Service Clubs  
Community Centres  
Schools/Colleges

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Name:

Researching on the Internet

## Keeping Track of Electronic Text

Address (URL):

Date of Access:

Title of Text:

Author:

Date of Copyright:

Bookmark Title (Favorites):

Print Copy: Yes No

Notes:

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## Researching on the Internet

The Internet is a network of computers that spans the planet. Anyone who has access to a computer that is connected with the Internet has access to information stored on servers—large computers that store data for other computer users to access. Telephone lines, fibre-optic cables and even satellites provide the connections that link together the Internet.

The World Wide Web (www) is the main component of the Internet. It's simply a collection of web pages that can contain text (words), graphics, video clips, audio clips and animation.

Using a web browser, you can move easily from one web site to another. Each web site has a home page that tells you what information you can find there.

Web pages normally have hotlinks—words or graphics which, when clicked on with your mouse, will take you directly to other pages on that site or to entirely different sites. In this way, you can move from page to page, site to site, looking for information relevant to the topic you are researching.

Web pages all have addresses, known as Uniform Resource Locators—or URLs for short. If you want to go to a site, one way is to simply type this URL into a special space—the location bar—at the top of the page, and hit the return key on the keyboard.

Here is an example of an URL. It's the URL for Alberta Learning:

<http://www.learning.gov.ab.ca/>

The latter part of this address—after the double slash—not only identifies the site; it also lets you know what sort of site it is. The last three abbreviations tell you that this is a government site, that it is Albertan, and that it is Canadian. The abbreviation com would tell you that you have reached a commercial site—one that may be trying to sell you something.

If you find a site you think you would like to revisit in the future, your browser lets you bookmark it. This way a record (a bookmark, a favorite, or a hotlist) is kept and you can easily return to that site by clicking on the bookmark.

Beginning a search for information on the Internet is like starting any sort of

research project. You must know what sort of information you want and why you want it. You must also be able to assess the information and decide whether it is worth keeping and how much of it you will need.

First, you will have to narrow your topic down to a reasonable size. Sports would be far too big; hockey would be better, National Hockey League would be better yet, and Edmonton Oilers would be even better.

Once you have narrowed your topic, there are different ways of going about the search. If you actually know the URL of a site you want, just type it in and go there directly. Once there, other links will likely allow you to move around (or surf) from page to page or site to site. Normally, though, you won't be this lucky. One thing you can do is go to a site that offers a subject guide. Once there, you can go to a general subject area (for instance, Entertainment) and start narrowing down your search (for example, to Movies), becoming more and more specific as you go.

Another way to do your research is to use what is called a search engine. A search engine searches all over the web for sites to add to its list, and when you ask for a specific topic, it will give you a list of links to sites it thinks you might find useful. The process is simple: you simply type in a key word or phrase (such as "Edmonton Oilers" or "windsurfing", for example) and the search engine finds you possible useful sites.

There is a variety of search engines available. Since different search engines bring up different sites, do not limit yourself to only one. Of course, once you have reached a useful site, it will probably have links to take you to related sites and you can stop relying on your search engine.

Researching online takes practice, and different search engines have slightly different rules. For example, you might want to narrow down your search by entering two key words so that the search engine will give you only sites containing both those words or perhaps only sites that contain one but not the other. Some search engines will want you to use words like "and," "or," and "not" while others might want to enter a + or - sign. The search engine itself will have hints on how to use that search tool most effectively.

Website addresses found in resources are usually listed as a service only to identify potentially useful ideas for teaching and learning. The responsibility to evaluate these sites rests with the user.

Name: \_\_\_\_\_

## Organizing Your Research

Methods of Organizing Material:

Webs and mindmaps

Timelines

Compare / contrast charts

Retrieval charts

Record sheets

Outlines

Introduction:

Conclusion:

Presentation Ideas:

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## Collecting Information for a Bibliography

Keep an accurate record of the sources of your information. You may keep this information on a page, such as Research/Inquiry Notes along with your notes or on a separate page specifically for this information.

### Record:

- Name of the author(s)
- Name of the editor(s)
- Title of the book
- Title of the article
- Title of a work in an anthology
- Title of a CD, a film, a video
- Place of publication
- Name of publisher
- Date of publication
- Date of entry
- URL address
- Page numbers
- Web documents: source, database, author
- Date of access to Internet information

### Bibliographic Styles

Refer to an available writers' handbook or ask your teacher for a preferred style for the bibliography.

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## Paraphrasing

A paraphrase is a "translation" of a piece of writing into other words. The aim is not to compress the author's statement (as in a summary) but rather to rephrase those statements in their full proportion, preserving the original thought and detail, so that the ideas are fully clear. A paraphrase should follow the original in organization, meaning, details, proportion and tone. Writing a successful paraphrase calls for thoughtful reading and interpretation, and for precise wording.

- One purpose of a paraphrase is to translate something difficult into simpler language to explain it to someone else or to assure yourself that you understand a given passage:

Polonius's advice to his son, Laertes—from Hamlet:

Original:

The friends thou hast, and their adoption tried,  
 Grapple them to thy soul with hoops of steel,  
 But do not dull thy palm with entertainment  
 Of each new-hatch's, unfledged comrade. Beware  
 Of entrance to a quarrel; but, being in,  
 Bear't that the opposed may beware of thee.  
 Give every man thine ear, but few thy voice;  
 Take each man's censure, but reserve thy judgement.  
 Costly thy habits as thy purse can buy,  
 But not expressed in fancy; rich, not gaudy;  
 For the apparel oft proclaims the man.

Paraphrase:

Note: The paraphrase is written in prose (though the original was poetry) and uses the third person (though the original uses direct address):

Polonius suggests to Laertes that those friends he has tested and found reliable should be held onto tightly, but that he should not waste his time or money on every new acquaintance. He tells him to avoid fight, but that if he cannot, he should fight well so that his adversary will respect him. Then Polonius cautions Laertes to listen to all people, but to reveal his opinion to only a select few; he should accept another's criticism, while keeping his own to himself. Polonius

further advises his son to live within his means, especially when buying clothes; his clothes should not be faddish; they should be good quality but not ostentatious because what man wears, his outward appearance, frequently creates an impression of the kind of person he is.

Note: In this instance, your paraphrase is approximately the same length as the original.

- A second purpose of a paraphrase is to amplify; to expand upon a difficult or complex idea:

Original: "It is far easier to know men than to know man."

Paraphrase:

This paradox suggests that it is a simpler task to understand human beings than it is to generalize from these individuals—to define "human nature," to understand the characteristics of mankind.

Note: In this instance, your paraphrase is longer than the original.

- A third purpose of a paraphrase is to put someone else's idea into your own words to avoid excessive use of a lengthy quotation or to minimize the number of direct quotations in your essay. Be sure to reference the original in footnotes and in the bibliography.

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## Plagiarism

### What is plagiarism?

Plagiarism is deliberate literary theft. It occurs when a writer uses someone else's words or ideas without telling the reader.

There are two kinds of plagiarism:

- the theft of words, that is, the copying of two or more consecutive words from another writer without acknowledging them to their originator. If you enclose these words in quotation marks and identify their source, you have not plagiarized.
- the theft of ideas, that is, the paraphrasing of another writer's ideas or using the sequence of his or her ideas without acknowledging their source. If you identify the source, you have not plagiarized; you are simply making fair use of the ideas of others to supplement your own knowledge or insights. (Ideas, which are considered to be common knowledge, do not have to be acknowledged.)

Reading what other people have thought is a large part of what education is all about. Some assignments require library research, or they may certainly be enhanced if you take the initiative to read up on a topic of your own. So, using others' ideas as a basis for your own thought is not the problem; the problem is the failure to acknowledge what you know to be someone else's work.

Acknowledging your sources means showing a reader which parts of your writing are borrowed from others. You do this by using quotation marks or indentation to set the borrowed material off from your own, and by using footnotes and a bibliography to identify the source of your material. Since there are several methods of doing the latter, you should ask your teachers to show you their preferred method.

Unacknowledged copying from either published authors or other students is plagiarism.

### What is wrong with plagiarism?

- The point of assignments is to give you practice in thinking and writing. If someone else is doing the thinking and the writing for you, you are not learning.



You would not expect to be able to play the piano or to improve your running speed if someone else sits down at the keyboard or runs laps around the track for you.

- Plagiarized work is generally inferior to what you could have produced with your own effort. It is an awkward transplant that doesn't quite seem to fit the demands of an assignment given in a particular context.
- Plagiarism is unethical because when you hand in an assignment to a teacher, you know that the teacher assumes that you yourself composed it.

## How can you avoid plagiarism?

Here are some steps to ensure that you have not plagiarized.

- Check with the teacher to make sure you understand what is required. Sometimes a teacher may want you simply to summarize what another writer says, to repeat what was mentioned in class, or to work together with other students and combine your ideas.
- Ask your teacher for help with a particular writing problem, or ask if you can talk over your ideas together to see if you are on the right track.
- When you are reading sources of information, take notes on the material you may want to use. Make sure that you have recorded page numbers so you can write accurate footnotes later on. Record the information you will need for a bibliography.
- If you have used outside sources of information in an essay, you might want to show the essay to your teacher before you turn it in to check whether you have used the sources appropriately.
- If you use outside sources, acknowledge them with quotation marks, footnotes and a bibliography.
- If you discuss an assignment with another student, a good guideline is: do not write anything down during the discussion. Later, on your own, think through the ideas again and write them in your own words. Teachers use assignments to assess your thinking and writing, so you must ensure that the assignment really does reflect your mind and skills.

## For what purposes should secondary sources be used?

Use the work of others to support your own observations, not to substitute for your own thinking. Or, use the work of others to react to and argue against. Synthesize what others say.



## Which sources should you use?

Use reliable sources. Check with your teacher if you aren't sure which books are best for a particular purpose. It's not wise to rely on just one secondary source. Find at least one other book to serve as a check for the first.

## How much borrowed material should you use?

It should not dominate your composition. Your composition should not read like a string of quotations held together by single sentences of your own.

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## Are Your Resources Reliable and Relevant?

### Reliability

When you begin to collect information, consider:

- purpose
- accuracy (what do you know about the author and publisher?)
- timeliness
- scope
- background of resource
- viewpoint of author or publisher.

### Relevance

In addition to determining the reliability of the resources, you will need to evaluate information for:

- relevancy of the material to your topic
- usefulness of cross-referenced material
- suitability of material for your audience.

From the English Language Arts CD-ROM Researching and Making Presentations: Grades 5 to 12.

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## A Sample Bibliography

### BOOKS:

(one author)

Patterson, James. *Cat and Mouse*. New York, NY: Warner Books, 1997.

(two or more authors)

The authors' names should appear as they do on the title page--this may not necessarily be in alphabetical order.

(no author)

*The Fitness Boom*. Boston: Collins, 1997.

(an editor)

Hoffman, Mark, ed. *World Almanac and Book of Facts*. New York, NY: Pharos Publishing, 1992.

### CD-ROMs:

Joseph, Jason D. "Complete Do It Yourself Guide", Reader's Digest. The Reader's Digest Association Inc., 1996.

### ENCYCLOPEDIAS:

"Flying Fish." *World Book Encyclopedia*. 2nd edition, 1993.

### MAGAZINES:

Jones, Cynthia. "The Wonder of It All." Reader's Digest Magazine: June 1992: pages 33-34.

## FILMS, SLIDES, VIDEOCASSETTES:

Title (*italics*), Medium (film, videocassette, etc.). Production Company. Date. Time.

*Bye Bye Blues*, Film, Atlantis/Alliance, 1989, 116 minutes.

## INTERVIEW:

Smarski, Arlene. Phone call. January 24, 1997.

## PAMPHLET:

Riopel, G.O. *Alberta: A History*, Edmonton: Research Bureau, 1997.

## INTERNET:

Willinski, Edward. "The Status of Technology in Education" (on-line)  
<http://www.etc.bb.ca/lists/muggs>

## TELEVISION AND RADIO PROGRAMS:

Title of Program (*italics*), Episode Number (if known), Writer, Director, Performers, Network (or TV Station or Radio Station), City, Date of Broadcast.

*Man Alive: Hockey Night in Harlem*, Tom Radford, Alan Bibby, CBC National, Edmonton, Sunday March 7, 1995.

—  
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## Organizing the Research and Presentation

### Research

Your research is over. Now you are getting ready to present. To select the best information from your research, think about the:

- purpose
- audience
- available information
- appeal and suitability
- match of information to topic
- length of presentation.

To plan an effective presentation and to pull your research together, use strategies such as:

- a report outline
- webs and mindmaps
- cards on a bulletin board
- retrieval charts
- Venn Diagrams.

Think of an interesting introduction, add some appealing information, find ways to involve the audience and finish with a great conclusion.

To help the audience enjoy your presentation, use ideas such as:

- visuals
- surveys
- skits
- special opener
- music and sound effects
- group involvement
- jokes
- cartoons.

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## Tips for Presentations

Ideas and materials you could use to make your presentation a success:

Advertisements  
Bulletin Boards  
Cartoons  
Charts  
Collections  
Computers  
Costumes  
Diagrams  
Displays  
Dioramas  
Dramatic Presentations  
Exhibits  
Guest Speakers  
Handouts  
Large-scale Drawings  
Maps  
Models  
Music  
Overhead Transparencies  
Photographs  
Posters  
PowerPoint  
Press Conference  
Puppet Show  
Radio Program  
Role Playing  
Slide Show with Sound  
Slides  
Tape Recordings  
Videos  
Whiteboard

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Name:

Tips for Presentations

# Planning the Presentation

Topic:

Audience:

Purpose:

Time Allotted:

Presentation Outline (What/Who)

Introduction:

Who?

Order of Presentation:

Who?

Conclusion:

Who?

Props/Audio/Visual:

Who?

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## Thinking about Research

1. I narrowed my topic and selected one feature as a focus for my report
2. I compiled a list of resources
3. I defined the purpose of my report
4. I found information about my topic
5. I developed an outline for my report
6. I learned something new by doing this project
7. I presented my project in an effective manner
8. I can transfer the skills I learned from doing research to other areas of study
9. I need to work on a certain skill
10. I do well in a certain aspect of the research process
11. I have established goals for the next research project

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Name:

## Reflections on the Research and Presentation

After completing the research and making the presentation, consider these questions.

1. What worked well?
2. What didn't work?
3. What would I do next time?
4. What did the audience tell me?
5. What have I learned about the topic?
6. How could I make better use of my time?
7. What did I like about the other presentations?
8. What did I learn from the other presentations?
9. What research techniques have I learned that will help in the future (focusing the topic, selecting resources, using the information, putting together an effective presentation)?

## 10. What other questions linger?

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# Quick References

- 4 questions to ask yourself
- 5 intellectual tools
- 6 Critical Challenge Types
- Critical Challenge Model
- Inquiry Model



# Quick References

- 4 questions to ask yourself
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- Critical Challenge Model
- Inquiry Model

## 5 Intellectual Tools

### Is my activity really critical thinking?

It is if you answer YES to all of the following questions.

1. Does the questions or task require judgement?
2. Will the challenge be meaningful to my students?
3. Does the challenge address key aspects of the subject matter?
4. Do students have the tools or can they reasonably achieve the tools needed to address the issue?

## 5 Intellectual Tools

<p><b>Background Knowledge</b></p> <p>The information about a topic required for thoughtful reflection</p>	<p>Students can not think deeply about a topic if they know little about it. Two questions to ask in developing this tool.</p> <ol style="list-style-type: none"> <li>1. What background information do students need for them to make a well-informed judgement on the matter before them?</li> <li>2. How can students be assisted in acquiring this information in a meaningful matter?</li> </ol>
<p><b>Criteria for Judgement</b></p> <p>The considerations or grounds for deciding which of the alternatives is the most sensible or appropriate</p>	<p>Critical thinking is essentially a matter of judging which alternative is sensible or reasonable. All judgements are based on criteria of some sort or other. Students need help in thinking carefully about the criteria to use when judging various alternatives. Examples.</p> <ul style="list-style-type: none"> <li>- Is my estimate accurate?</li> <li>- Is the interpretation plausible?</li> <li>- Is the conclusion fair to all?</li> <li>- Is my proposal feasible?</li> </ul>
<p><b>Critical Thinking Vocabulary</b></p> <p>The range of concepts and distinctions that are helpful when thinking critically</p>	<p>Students require the vocabulary or concepts that permit them to make important distinctions among the different issues and thinking tasks facing them. These include the following.</p> <ul style="list-style-type: none"> <li>- inference and direct observation</li> <li>- generalization and over generalization</li> <li>- premise and conclusion</li> <li>- bias and point of view</li> </ul>
<p><b>Thinking Strategies</b></p> <p>The repertoire of organizing devices, models and algorithms that may be useful when thinking through a critical thinking problem</p>	<p>Although critical thinking is never simply a matter of following certain procedures or steps, numerous strategies are useful for guiding one's performance when thinking critically.</p> <ul style="list-style-type: none"> <li>- Making Decisions, models and procedures to guide students through the factors to consider</li> <li>- Organizing Information, graphic organizer, webbing diagrams, ven diagrams, pro/con charts to represent what students know</li> <li>- Role Taking, students putting themselves in others positions and imagine others feelings</li> </ul>
<p><b>Habits of Mind</b></p> <p>The values and attitudes of a careful and conscious thinker</p>	<p>Being able to apply criteria and use strategies is of little value unless students also have the habits of mind of a thoughtful person.</p> <ul style="list-style-type: none"> <li>- open-minded</li> <li>- fair-minded</li> <li>- independent-minded</li> <li>- Inquiring or critical attitude</li> </ul>

## Types of Critical Challenges

<b>Critique the Piece</b>	Assess the merits/shortcomings of a person, product or performance.
<b>Judge the Better or Best</b>	Judging between two or more options, which best meets the identified criteria.
<b>Rework the Piece</b>	Transform a product or performance in light of additional information or an assigned perspective, genre, focus, etc.
<b>Decode the Puzzle</b>	Suggest and justify a proposed solution, explanation or interpretation to a confusing or enigmatic situation.
<b>Design to Specs</b>	Develop a product that meets a given set of criteria/conditions.
<b>Perform to Specs</b>	Perform or undertake a course of action that meets a given set of criteria/conditions.



# Critical Challenge

Outcome

Outcome

Outcome

## Challenge Type:

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

Problem:

Is the problem...

- Judgement?
- Engaging?
- Significant?
- Focused?

## Criteria

Criteria for \_\_\_\_\_

- teacher generated
- student generated

## Other Intellectual Tools

- Background Knowledge
- Critical Thinking Vocabulary
- Thinking Strategies
- Habits of Mind

**Assessment**  
Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

Method?

Self-Assessment?

# Critical Challenge

## Outcomes

### Assessment Which tools will you assess?

- Criteria
- Background Knowledge
- Vocabulary
- Thinking Strategies
- Habits of Mind

### Method? Self-Assess?

### Other Intellectual Tools

- Background Knowledge
- Thinking Strategies
- Vocab.
- Habits of Mind

### Criteria for \_\_\_\_\_

- teacher generated
- student generated

### Prompts

- Critique the Piece
- Judge Better/ Best
- Rework the Piece
- Decode the Puzzle
- Design to Specs
- Perform to Specs

### Problem

- Judgement?
- Engaging?
- Significant?
- Focused?

# Inquiry Process

Outcome

Outcome

Outcome

Problem:

Is the problem...

- Judgement?
- Engaging?
- Significant?
- Focused?

Retrieving

Processing

Criteria

Criteria for \_\_\_\_\_

- teacher generated
- student generated

Other Intellectual Tools

- Background Knowledge
- Critical Thinking Vocabulary
- Thinking Strategies
- Habits of Mind

Sharing/ Acting on Ideas

Assessment

Which tools will you assess?

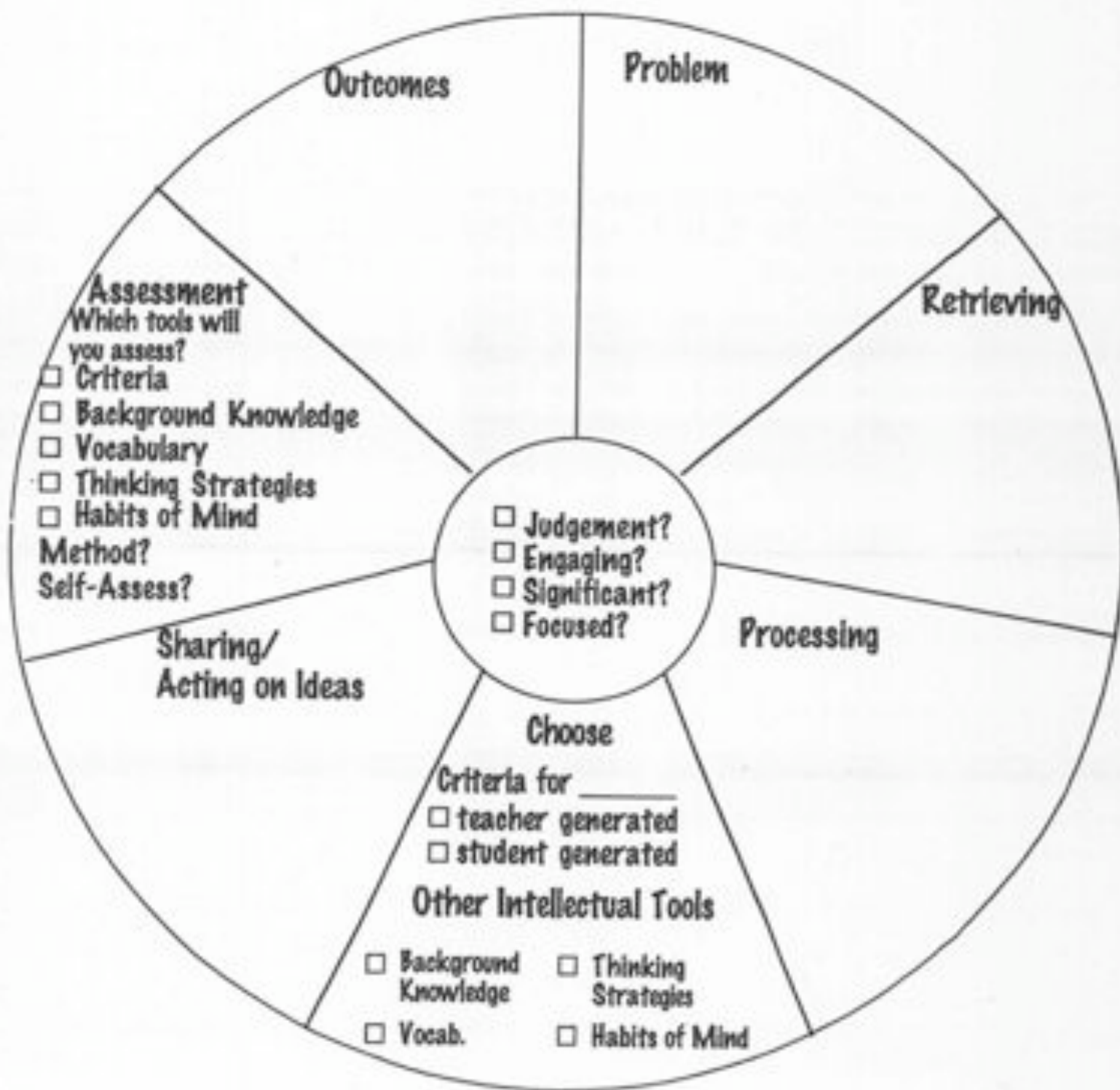
- 194
- Criteria
  - Background Knowledge
  - Vocabulary
  - Thinking Strategies
  - Habits of Mind

Method?

Self-Assessment?

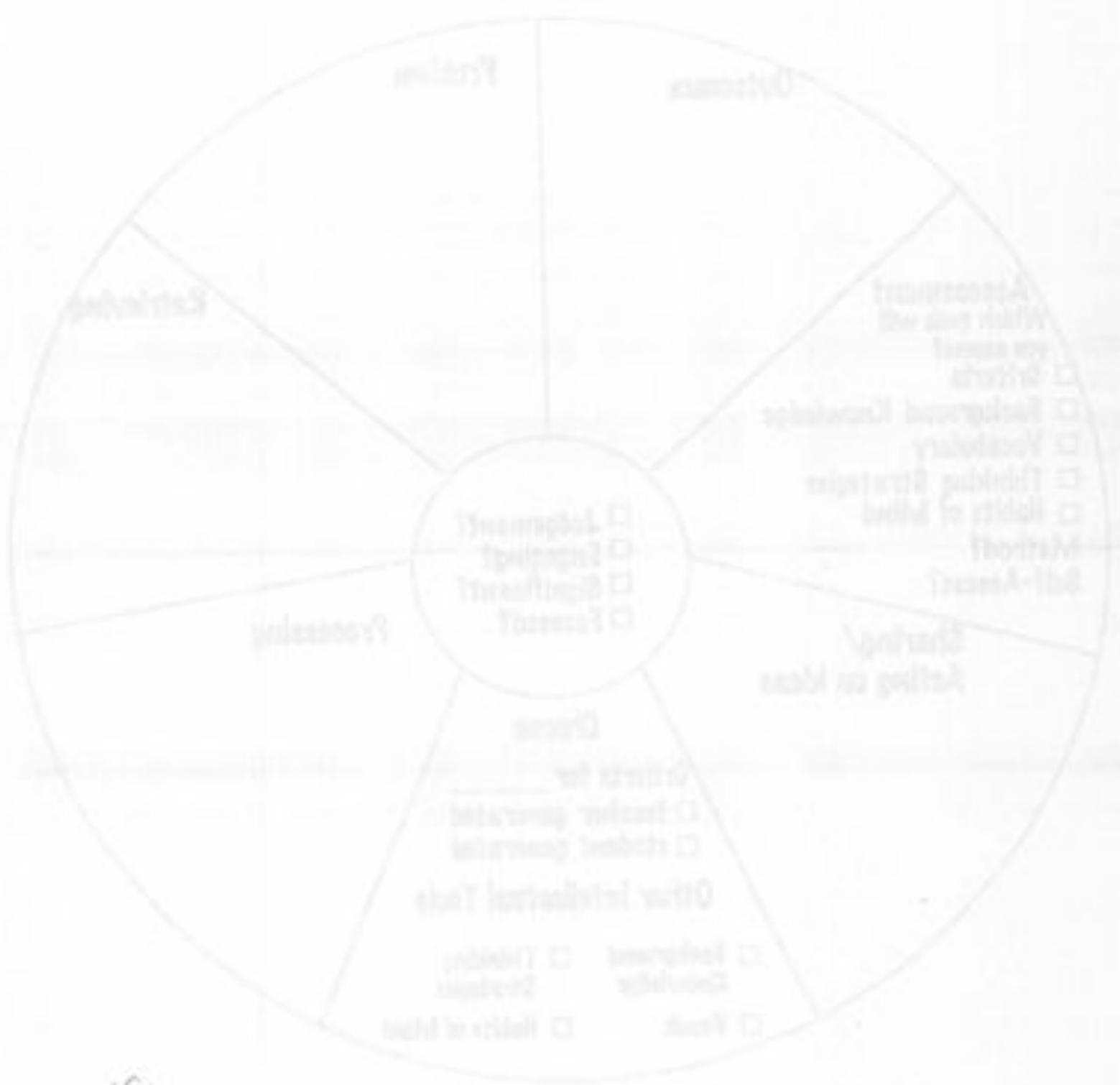


# Inquiry Process





Learning Process



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# Resources

We used them, you should to!

# Resources

We need them, you should too!

## Resources we used and you should too...

### General Information - Critical Thinking and Inquiry

TC Squared. The Critical Thinking Consortium

Website, Conference Presentations and Multiple Publications

Series Editors, Roland Case and LeRoi Daniels

[www.tc2.ca](http://www.tc2.ca)

Focus on Inquiry. A Teacher's Guide to Implementing Inquiry-Based Learning

Alberta Learning

2004

<http://www.georgiastandards.org/elaframework.aspx>

Georgia Department of Education

Accessed 2006

<http://www.nctt.net/index.html>

The National Center for Teaching Thinking

Accessed 2006

### Sample Lessons and Templates Resources

From Sandstone to Settlers. Writing on Stone District History

Masinasin Historical Society

Researching and Making Presentations. Grade 5-12

Alberta Learning, English Language Arts CD-ROM

2001

<http://gk.k12.ga.us/pandp/critthink/homeog.htm>

Georgia Department of Education, Kathy Cox, Superintendent of Schools

2003



**Our Canada. Origins, People, Perspectives**

Publisher: Thomas Nelson

2006

**Sightlines 9**

Publisher: Prentice Hall

1999

**Science Focus 7. Science, Technology, Society**

Publisher: McGraw-Hill Ryerson

2001

**Worksheets Don't Grow Dendrites. Conference Presentation**

Dr. Marcia Tate

2006

## Assessment Resources

**AAC Fall Conference - Feedback**

Ruth Sutton

2006

**Knowing What Counts Series. Setting and Using Criteria**

Anne Davies, Kathleen Gregory, Caren Cameron

1997

**Knowing What Counts Series. Self Assessment and Goal Setting**

Anne Davies, Kathleen Gregory, Caren Cameron

1997

**Talk About Assessment, Strategies and Tools to Improve Learning**

Damian Cooper

2006

## EVALUTION OF CRITICAL THINKING RESOURCE PROJECT

Please respond to the following statements regarding the critical thinking manual with 5 as the highest rating, 1 as the lowest rating.

1. The information in the manual is easy to understand.

1                      2                      3                      4                      5

Comments \_\_\_\_\_  
\_\_\_\_\_

2. The lesson plans provide useful models for my own critical thinking challenges.

1                      2                      3                      4                      5

Comments \_\_\_\_\_  
\_\_\_\_\_

3. I plan to use the graphic organizers and assessment ideas/ templates in my classroom.

1                      2                      3                      4                      5

Comments \_\_\_\_\_  
\_\_\_\_\_

Please provide any additional feedback regarding the manual that you consider relevant.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

