

# **Highly Effective Instructional Strategies**



***The world is changing.  
Meet the future.***

**2010-2011**

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**LEARNING STYLES:** Every student has a favored method of interacting with, taking in, and processing information. You can help your students by assessing their learning styles and adapting your classroom to best fit those styles. Many students will have more than one learning style preference. One way to meet those learning needs is to address the students' sensory modalities. These are:

- Auditory learning which occurs through the spoken word.
- Kinesthetic learning which occurs through doing and interacting.
- Visual learning which occurs through looking at images, concept maps, graphic organizers, demonstrations, and body language.

Howard Gardner's Multiple Intelligence Model defines the ways we learn best as shown in the chart below.

<i>Intelligence Type</i>	<i>Capability and Perception</i>
Linguistic	Words and language
Logical - Mathematical	Logic and numbers
Musical	Music, sound, rhythm
Bodily - Kinesthetic	Body movement control
Spatial - Visual	Images and space
Interpersonal	Other people's feelings
Intrapersonal	Self-awareness
Naturalist	Environmental features

*What do I do?*

- ✓ Learn about the way your students learn best with the use of a survey.
- ✓ Use the information to guide your lesson planning.
- ✓ Sample surveys are provided along with a resource list for more information and online surveys.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## **How Do You Learn?**

*People learn differently. Do you prefer to use pictures? Do you like to work in a group? How do you learn the best? Here are three major factors that contribute to your learning style:*

- 1. The three senses - auditory, visual, and kinesthetic*
- 2. The two reasoning types - deductive and inductive*
- 3. The two environments - intrapersonal and interpersonal*

*Fill in **all** the bubbles that best describes the way you learn.*

### **The Three Senses**

- ☐ I prefer to follow verbal instructions rather than written ones.
- ☐ I find it comfortable to add spoken numbers mentally.
- ☐ I score high on tests that depend on reading comprehension.
- ☐ I can read formulas and understand them.
- ☐ I prefer maps to verbal directions when I am trying to find a place.
- ☐ When I write things down, it clarifies my thoughts.
- ☐ I have to manipulate formulas in order to understand them.
- ☐ I am good at using my hands. I enjoy lab classes.

### **The Two Reasoning Types**

- ☐ I like to look at the big picture first, then get the details.
- ☐ When learning a new game, I like to know all the rules before playing.
- ☐ In an argument, I state my premises first, then draw conclusions.
- ☐ I like to see some examples when first learning a new subject, before developing an overview.
- ☐ I prefer to learn the rules of a new game "as we go along."

### **The Two Learning Environments**

- ☐ When solving word problems, I have to figure it out for myself.
- ☐ Doing school work with a group often wastes a lot of time.
- ☐ Before making a decision, I usually discuss it with my family and friends.
- ☐ I like to do my homework with others.

Adapted from *How to be a Successful Student*  
By Donald Martin, 1991.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## How Do You Learn?

People learn differently. Do you prefer to use pictures? Do you like to work in a group? How do you learn the best? Here are three major factors that contribute to your learning style:

4. The three senses - auditory, visual, and kinesthetic
5. The two reasoning types - deductive and inductive
6. the two environments - intrapersonal and interpersonal

Fill in **all** the bubbles that best describes the way you learn.

### The Three Senses

**Auditory**

☐ I prefer to follow verbal instructions rather than written ones.

**Listening**

☐ I find it comfortable to add spoken numbers mentally.

**Visual**

☐ I score high on tests that depend on reading comprehension.

**Seeing**

☐ I can read formulas and understand them.

☐ I prefer maps to verbal directions when I am trying to find a place.

**Kinesthetic**

☐ When I write things down, it clarifies my thoughts.

**Moving, touching,  
writing, doing**

☐ I have to manipulate formulas in order to understand them.

☐ I like to draw pictures.

☐ I am good at using my hands. I enjoy lab classes.

### The Two Reasoning Types

**Deductive**

☐ I like to look at the big picture first, then get the details.

☐ When learning a new game, I like to know all the rules before playing.

☐ In an argument, I state my premises first, then draw conclusions.

**Inductive**

☐ I like to see some examples when first learning a new subject, before developing an overview.

☐ I prefer to learn the rules of a new game "as we go along."

### The Two Learning Environments

**Intrapersonal**

☐ When solving word problems, I have to figure it out for myself.

**Working  
alone**

☐ Doing school work with a group often wastes a lot of time.

**Interpersonal**

☐ Before making a decision, I usually discuss it with my family and friends.

**Working  
with others**

☐ I like to do my homework with others.

Adapted from How to be a Successful Student  
By Donald Martin, 1991

## How Many Ways Are YOU Smart?

**Directions:** Fold the paper vertically on the dark line so that you cannot see the list of multiple intelligences. Place a checkmark next in the box next to each line that best describes you. Unfold the paper and circle the each X that matches your checkmark. Total the columns at the bottom of the paper. How many ways are you smart?

		Nature Smart	Number/Logic Smart	Word Smart	Music Smart	Picture Smart	Body Smart	People Smart	Self Smart
I enjoy singing and I sing fairly well.					X				
I enjoy crossword puzzles and word games.				X					
I'm good at solving jigsaw puzzles.						X			
I can read maps easily.						X			
I learn best when I can talk over a new idea.								X	
Picture, line and bar graphs are easy to understand.						X			
I like to listen to music in my free time.					X				
I get along well with different types of people.								X	
I like writing about my thoughts and feelings.									X
Protecting the environment is very important to me.		X							
I enjoy caring for pets and other animals.		X							
I like drama and acting things out.							X		
I'm good at writing stories.				X					
I can understand difficult math ideas easily.			X						
I play a musical instrument (or would like to).					X				
People tell me I'm good at sports or dancing.							X		
I'm good at figuring out patterns.			X						
My best way to learn is by doing hands-on activities.							X		
I like spending my time by myself.									X
I find that I'm often helping other people.								X	
I'm naturally good at taking care of plants.		X							
I enjoy solving problems and brainteasers.			X						
Having quiet time to think over ideas is important to me.									X
I enjoy reading for pleasure.				X					
<b>TOTALS</b>									

Adapted from Teaching Resources by Laura Candler at <http://home.att.net/~teachings>

# For Elementary Students

## How Many Ways Are YOU Smart?

**Directions:** Fold the paper vertically on the dark line so that you cannot see the list of multiple intelligences. Place a checkmark next in the box next to each line that best describes you. Unfold the paper and circle the each X that matches your checkmark. Total the columns at the bottom of the paper. How many ways are you smart?

I enjoy singing and I sing fairly well.					X				
I like to play games with letters and words.				X					
I'm good at solving jigsaw puzzles.						X			
I can read maps easily.						X			
I learn best when I can talk over a new idea.								X	
Picture, line and bar graphs are easy to understand.						X			
I like to listen to music in my free time.					X				
I get along well with lots of different people.								X	
I like writing or draw about how I feel.									X
Taking care of the Earth is very important to me.		X							
I enjoy caring for pets and other animals.		X							
I like pretending and acting things out.							X		
I'm good at writing stories.				X					
I can understand math ideas easily.			X						
I play a musical instrument (or would like to).					X				
People tell me I'm good at sports or dancing.							X		
I'm good at figuring out patterns.			X						
I like to play with clay and make things.							X		
I like spending my time by myself.									X
I find that I'm often helping other people.								X	
I'm naturally good at taking care of plants.		X							
I enjoy solving problems and brainteasers.			X						
Having quiet time to think is important to me.									X
I enjoy reading.				X					
<b>TOTALS</b>									
	6	Adapted from Teaching Resources by Laura Candler at <a href="http://home.att.net/~teachings">http://home.att.net/~teachings</a>							

Nature Smart  
Number/Logic Smart  
Word Smart  
Music Smart  
Picture Smart  
Body Smart  
People Smart  
Self Smart

[http://www.education-world.com/a\\_lesson/03/lp319-01.shtml](http://www.education-world.com/a_lesson/03/lp319-01.shtml)

Online article and resource list to help with learning style inventories for all grade levels

<http://www.vark-learn.com/english/page.asp?p=questionnaire>

Online questionnaire; also provides student study suggestions.

<http://longleaf.net/learningstyle.html>

A Grasha-Riechmann student learning style survey; designed to help clarify attitudes and feelings toward the courses you have taken

<http://www.learning-styles-online.com/inventory/questions.asp?cookieset=y>

Memletics Learning Styles Questionnaire

<http://www.personal.psu.edu/bxb11/LSI/LSI.htm>

A 24-item survey to determine learning styles



**THINK, PAIR, SHARE:** Students need to make sense of new information they are taught. This strategy allows students time to formulate ideas and become actively involved in thinking about concepts learned in a lesson by sharing their ideas with a peer.

What do I do?

- ✓ Announce a discussion topic or ask a question
- ✓ Give the students 30 - 60 seconds to **"think"** about their own answer
- ✓ Have the students **"pair"** with a peer to discuss their thinking for 2-3 minutes
- ✓ Ask the students **"share"** their responses with the group.

Hints and tweaks...

Group in teams of four...

count off in #'s 1-4

discussion partners for "pair" are 1&2 and 3&4

"share" in the groups of four

each group chooses one idea or comment to share with whole group

Assign partners

Change discussion partners frequently

Give the students a chance to give a thumbs up or down when they are ready to share

Monitor discussions - clear up misunderstandings and check for understanding

Equalize participation - give each partner a certain amount of time to talk

Select students to share during "share" by having student names on a popsicle stick and drawing 3-4 sticks. The students whose names are drawn share with the entire group

**CLOCK PARTNERS:** All students need to learn the skills of collaboration. One simple way to encourage active involvement for all students is to use Clock Partners. Instead of you always having to make partners, pass out the Clock Partner handout.

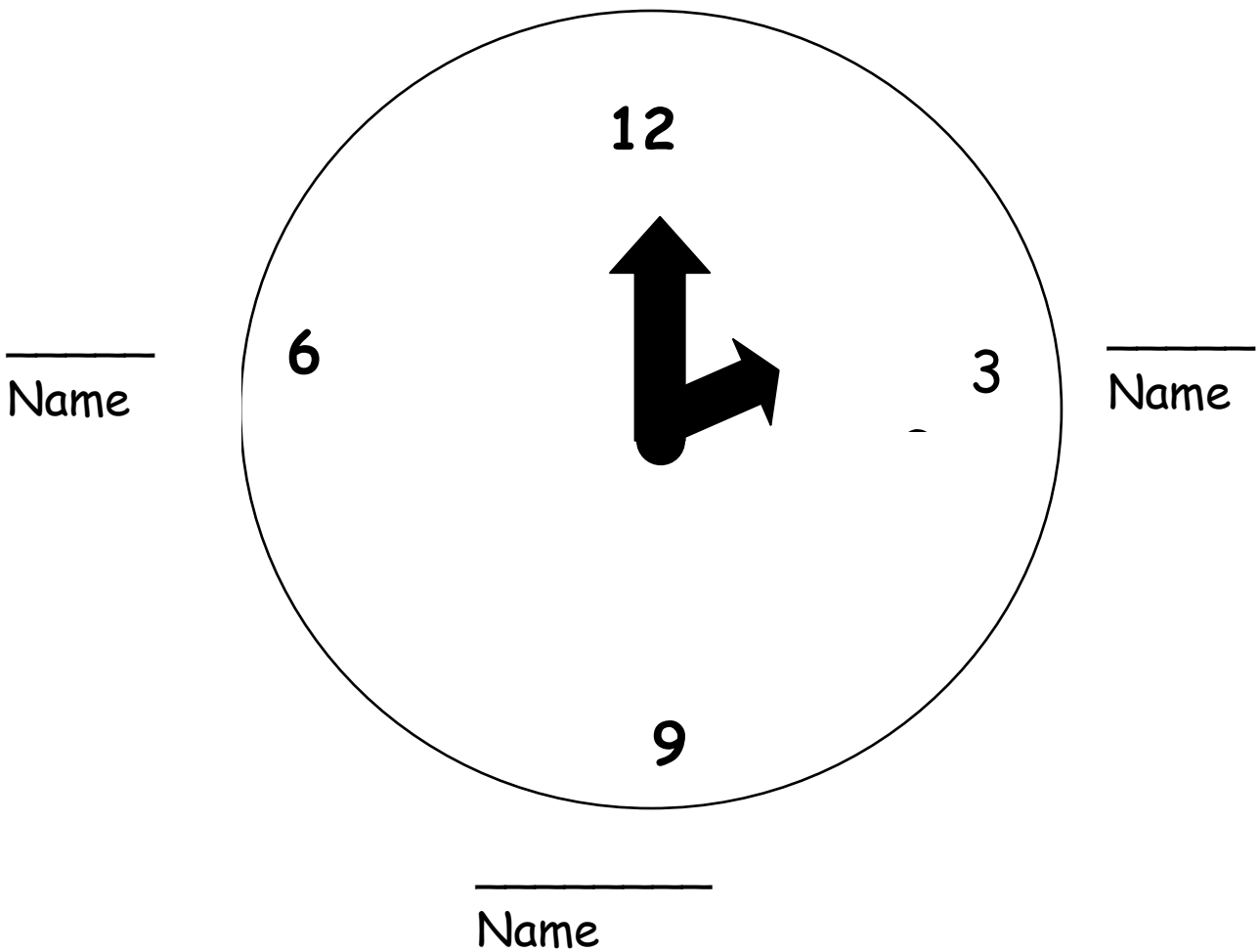
*What do I do?*

- ✓ Simply pass out the handout to each student and ask him/her to write his/her name in the center.
- ✓ Have each student ask classmates to write their names on the hours of the clock, filling in as many of the time slots as you direct.
- ✓ Be sure that the "owner" of the clock writes his/her name on the same hour of the other student's clock face.
- ✓ Example: Sam signs Sally's clock at 12, so Sally will sign Sam's clock at 12.
- ✓ When your class activity is at a sharing phase, simply ask the students to meet with, for example, their 10 o'clock partner.
- ✓ This gets students up, moving around, and interacting with each other with whom they may not usually spend time.
- ✓ A reproducible Clock Partner handout is provided.

# Clock Partners

Student name: \_\_\_\_\_

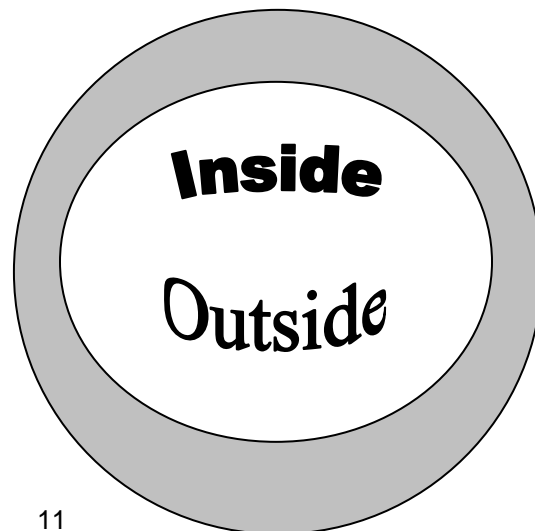
\_\_\_\_\_  
Name



**INSIDE OUTSIDE CIRCLE:** This tool is a kinesthetic activity that will involve all students especially those that may have a tendency not to interact with their classmates. This tool allows for short exchanges of information for the processing or reviewing of new material.

*What do I do?*

- ✓ First have students count off by 2's. Have the 1's form the inside concentric circle and the 2's form the outside concentric circle. Have the 1's face the 2's and identify a partner directly across from them.
- ✓ Next give the group a task, such as asking a review question from your last unit, for example: "Tell your partner five economic ramifications of the war in Viet Nam" or "List 5 characteristics of the main character." Have the student on the inside responds first by trying to name all five ramifications. If that student cannot, then the student on outside may help to fill in the missing material.
- ✓ Upon completion of the first question being answered, have the students in the inside circle move clockwise two (or three) people. You may repeat the first question or ask a new one. This time have the outside student answer the question first.
- ✓ Now have the outside person move counter clockwise two people. Again, you may repeat the same question or ask a new one. Follow this pattern until you feel students have a firm grasp on the material you are reviewing.
- ✓ Note: If there is not an even number of students in the classroom, the teacher becomes part of the activity. This is an excellent way to check for understanding.

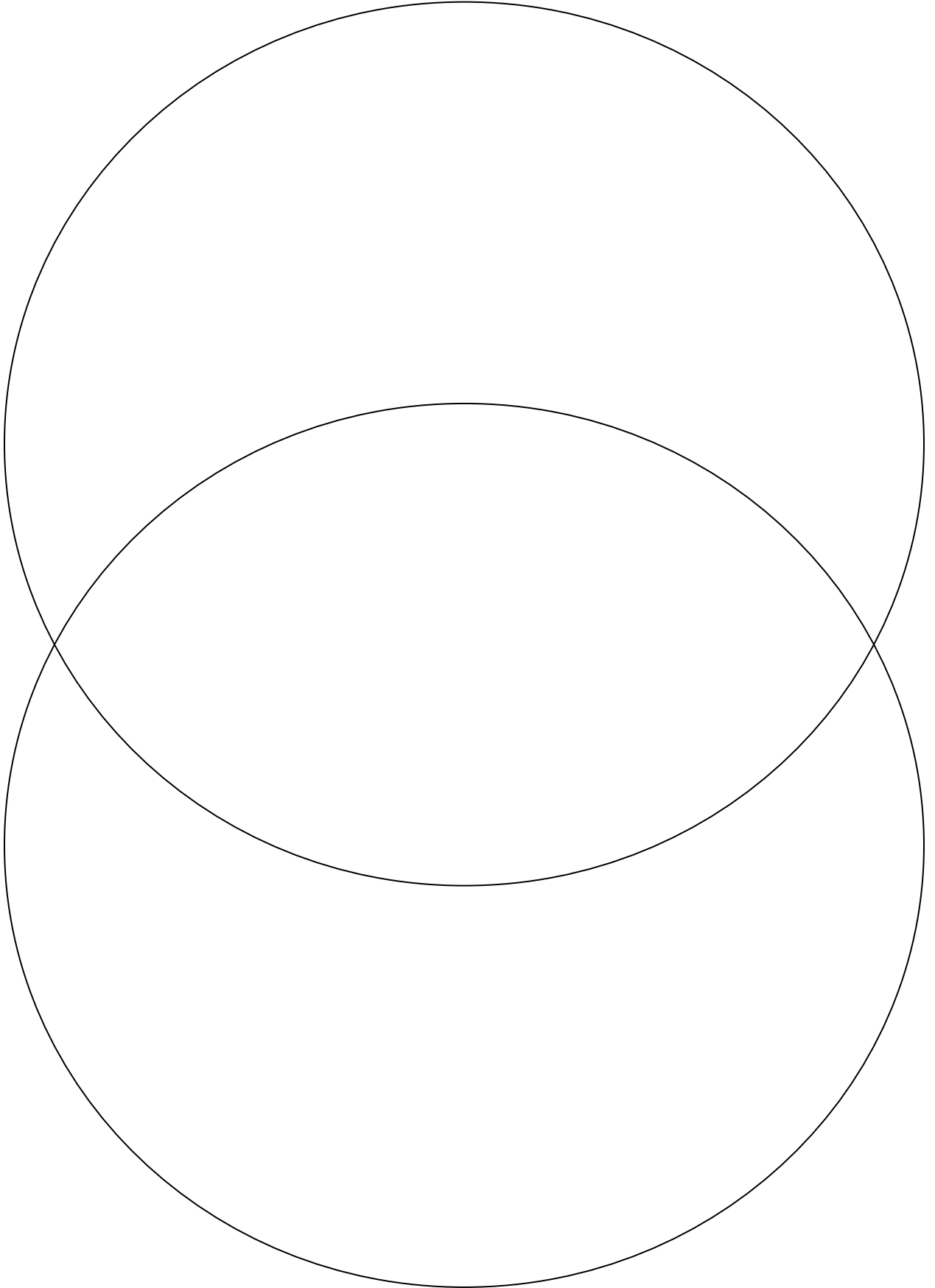


**VENN DIAGRAM:** This organizer is a visual tool used to compare two different items. This organizer will show the similarities and differences between the items selected. Often, this tool is used in mathematics to show relationships between sets. In language arts instruction, Venn Diagrams are useful for examining similarities and differences in characters, stories, poems, etc. Frequently this tool is used as a prewriting activity to enable students to organize thoughts or textual quotations prior to writing an essay.

*What do I do?*

- ✓ Select the two items that you want to compare.
- ✓ Label the top of each circle on the graphic organizer with the item selected to be compared.
- ✓ Have students' list characteristics that belong to each item in each circle.
- ✓ Have students list the characteristics that are common to both items inside the intersecting part of the two circles.
- ✓ For students to further expand their content knowledge can complete a progression of Venn diagrams. For example: Diagram 1 could compare the Rain Forest and Desert. Diagram 2 could compare the Amazon Rainforest and the Mojave Desert climates. Diagram 3 could compare the Amazon Rain Forest and the Mojave Desert animals.

# Venn Diagram



# Venn Diagram



**COMPARISON ORGANIZER MATRIX:** The main purpose of this tool is to enhance and enrich a student's ability to compare and contrast the knowledge they are learning. The key to effective comparison is to identify the critical characteristics-those that will augment students' understanding of the similarities and differences between the items. The deeper and more finite you make the characteristics to be compared, the deeper the students have to think.

*What do I do?*

- ✓ When students are first learning this model it is best to give them more of the information that they need to complete the task. For example, in the beginning you might identify the items to be compared and the characteristics to use in the comparison.
- ✓ Give each student a comparison organizer form and have them complete the activity. The items to be compared are usually listed across the top of the matrix and the characteristics are usually listed down the left side.
- ✓ Remember to have students write an analysis of their findings based on the similarities and differences.
- ✓ As students become more comfortable with this process, you can give less structure and guidance. You may start by giving them the items to compare and allowing them to decide on the characteristics for comparison. By allowing the students to have more freedom in their choices and become more independent workers.
- ✓ Once you feel students are proficient in the concept, allow them to decide the entire content of their matrix. This will give you better information on whether they totally understand the concept of their intended learning
- ✓ Know that you can use this type of matrix as a formative or summative assessment to determine their detailed understanding of specific items.



# Comparison Organizer

	Items to be Compared				
	A.	B.	C.	D.	E.
Characteristics					
1.					
2.					
3.					
4.					
5.					
6.					
Conclusions about Similarities and Differences					

# Comparison Organizer

	Items to be Compared				
	A	B	C	D	E
<b>Characteristics</b>	1 cm square	2 cm square	Rectangle: Width 4 cm Length 6 cm	Rectangle: Width 3 cm Length 7 cm	Rectangle: Width 3 cm Length 8 cm
<b>1. Perimeter</b>	4 cm	8 cm	20 cm	20 cm	22 cm
<b>2. Area</b>	1 sq. cm	4 sq. cm	24 sq. cm	21 sq. cm	24 sq. cm
<b>3.</b>					
<b>4.</b>					
<b>5.</b>					
<b>6.</b>					
<b>Conclusions about Similarities and Differences</b>	Two rectangles can have the same perimeter, but different areas. That also means that a square and a rectangle could have the same perimeter, but different areas. In addition, two rectangles can have the same area but different perimeters. If you double the size of a square, the perimeter doubles, but the area increases 4 times.				

## CLASSIFICATION ORGANIZER

The purpose of this tool is to get students to look at the same content in many different ways. Classifying is a complex process that involves grouping things into specific categories based on like characteristics. This process gives students a systematic strategy that has rules and expectations that govern category membership. The rules we set for that membership influences our perceptions of the content. When we change the rules, we change our perceptions. Having students design different rules for the same content can influence how a student views and thinks about what they are learning.

### *What do I do?*

- ✓ Determine which graphic organizer you want students to use. The activity will determine whether you want to use a circle organizer or a column organizer.
- ✓ In the beginning, you may need to provide the item(s) to classify as well as several ideas of characteristics or categories they can use. Once students are comfortable with the process, you can allow them to design their own categories. Follow the process below:
  - Have students select what seems to be an important item, describe its key characteristics, and identify other items that have the same characteristics.
  - Create the category by specifying the characteristics that the item(s) must have for membership in the category. (How are these things alike?)
  - Select another item, describe its key characteristics, and identify other items that have the same characteristics. (What other groups can I make?)
  - Create a second category by specifying the characteristics the items must have for membership in this category. (How are the things in each group alike?)
  - Repeat these steps until all items are classified and the specific characteristics are identified for membership in each category. (Does everything fit into a group now?)
- ✓ A second classifying activity would be to give students a graphic organizer completely filled out and then ask them to *reclassify* and asking the following questions:
  - What steps did you take to reclassify the items?
  - What do you see differently about the items now that you have reclassified them?
  - What are the benefits of reclassifying? What have you learned?
- ✓ It is always key to have students write their reflections about their learning.

# Classification Organizer

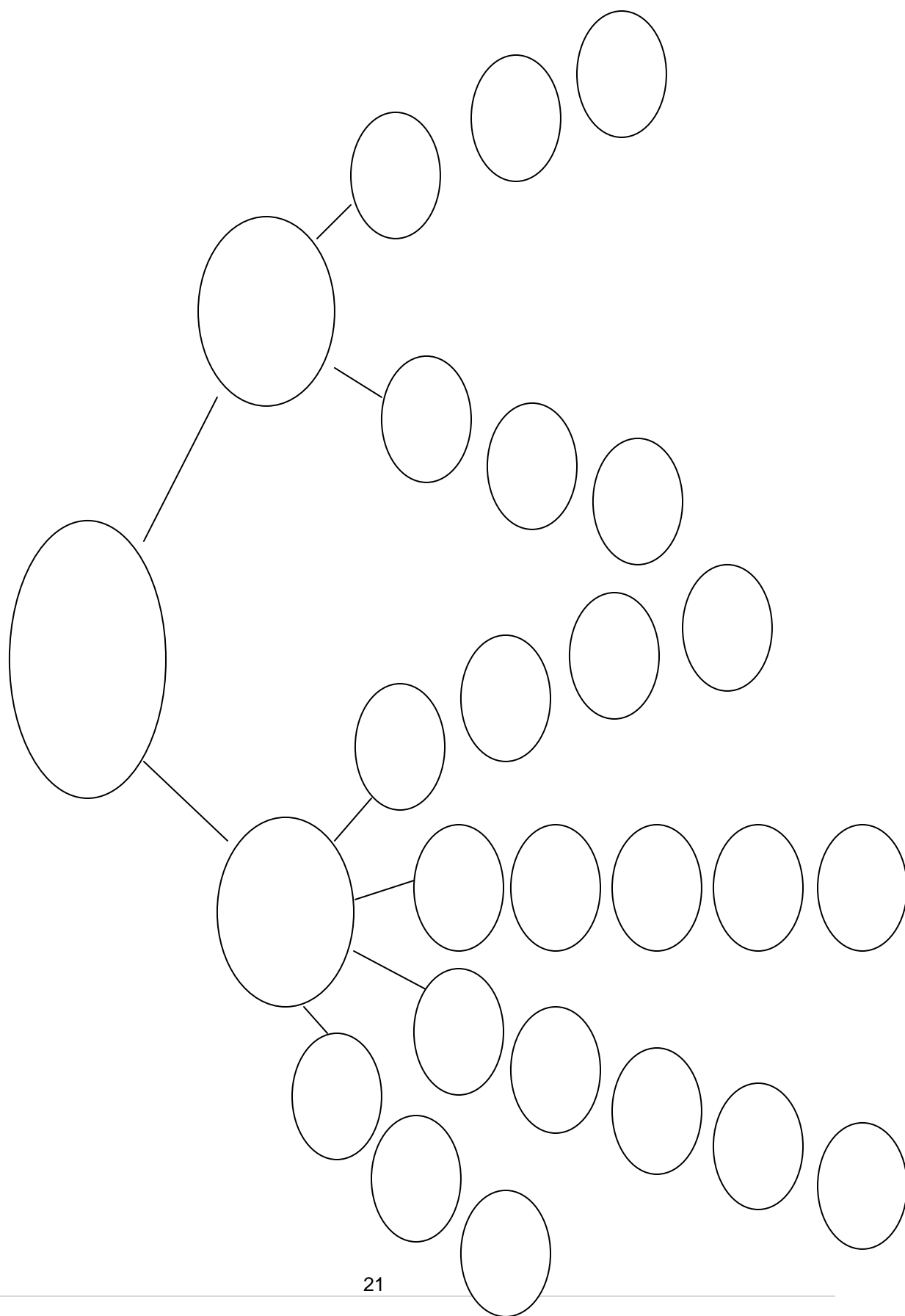
Categories

Items				

# Classification Organizer

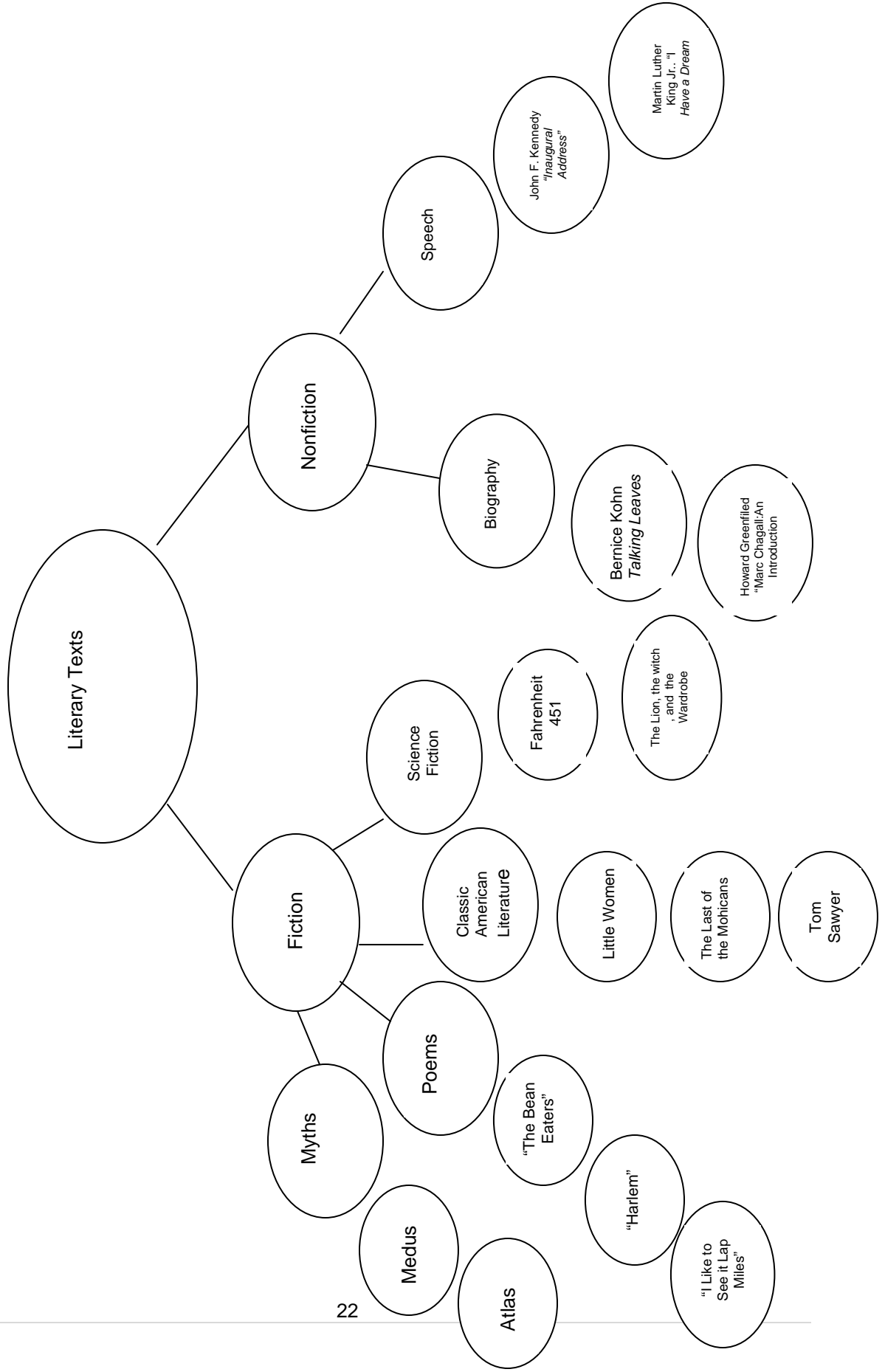
Items	Categories		
	Art Materials	Art Techniques	Art Processes
	Paint	Overlapping	Adding in sculpture
	Clay	Shading	Subtracting in sculpture
	Charcoal	Varying Size	Casting jewelry
	Pencil	Varying Color	Constructing jewelry
		Collage	Mixing color
		Perspective	
		Stippling	
		Glaze	

# Classification Organizer: Circle template



# Classification Organizer:

## Circle template



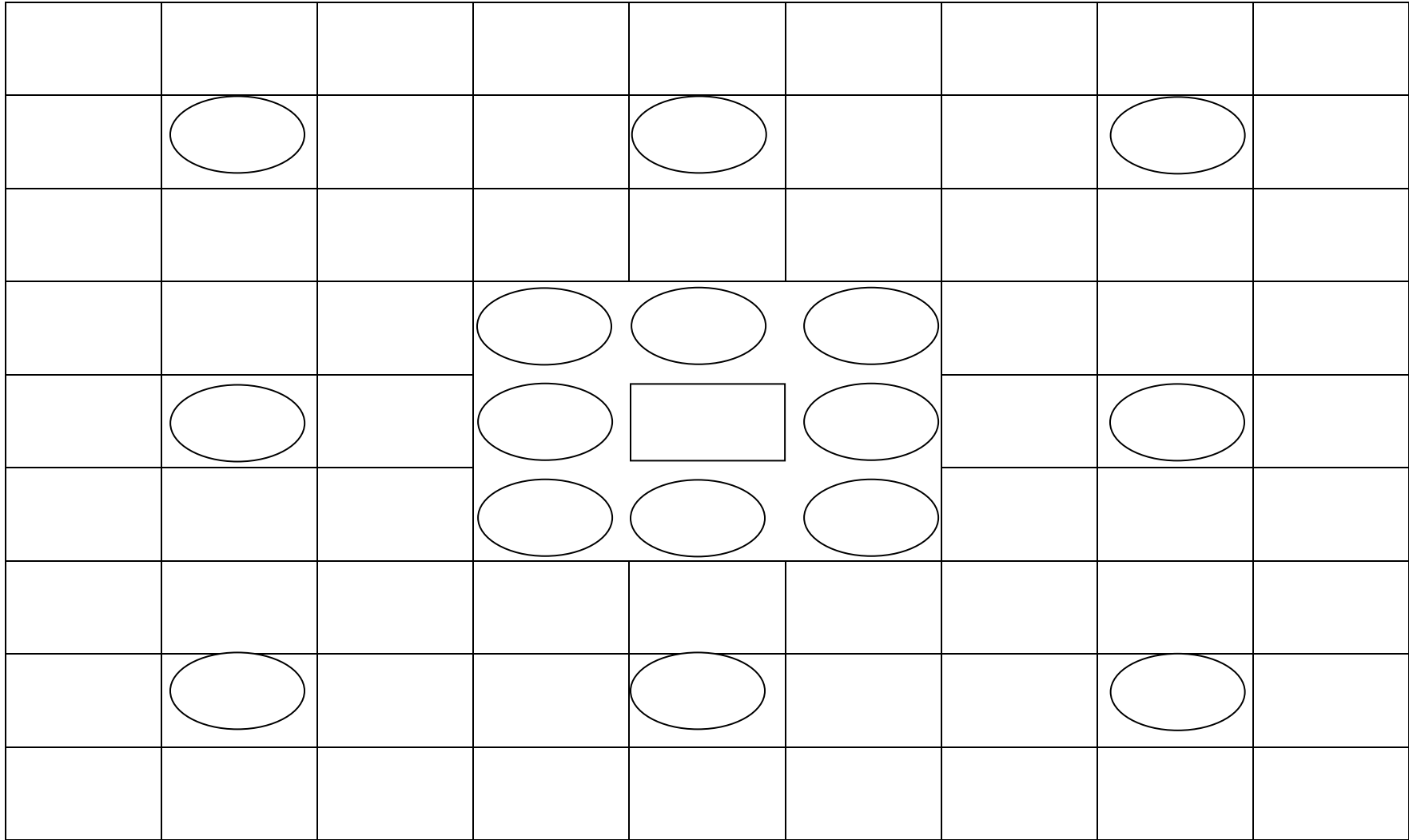
**LOTUS DIAGRAM:** This graphic organizer is an analytical, organizational tool for breaking broad topics into smaller thematic components. This specific tool can help students expand upon or clarify a specific topic.

*What do I do?*

- ✓ Determine the topic to be studied and state it clearly.
- ✓ Write that topic in the center rectangle of the Lotus Diagram.
- ✓ Have students develop 8 sub-topics or related components that expand upon the initial topic. Place the 8 new topics in the ovals surrounding the center box.
- ✓ Students can also draw pictures, instead of writing responses. For example, the center rectangle can have a picture of George Washington. Students would then be asked to draw 8 new pictures depicting momentous occasions in his life.
- ✓ Yet another way to use this template is by "sounds". The center rectangle can have the "sh" listed and students can be asked to write words with the same sound.
- ✓ A "super" lotus diagram can delve into each of the new 8 topics, by expanding each one of those into 8 entirely new topics, now giving you 64 related or expanded ideas from the first initial topic of study ( see the Super Lotus Diagram Organizer). This is a great way to get students to "open up" their thinking.
- ✓ The example template you have been given is a "super" lotus. If you choose not to use the expanded version, just have your students use the center portion.



# Lotus Diagram



# Lotus Diagram

	Outline			Bibliography			Note-Taking Strategy	
			Outline	Bibliography	Note-Taking Strategy			
	Mini Lessons		Mini Lessons	Research Report	Format		Format	
			Oral Lessons	Multiple Resourc	6 Trait Writing			
Good Paragraph structure	Topic sentences	Step-up format						
Strong conclusions	Oral Lessons	5-Paragraph format		Multiple Resources			6 Trait Writing	
Using quotes	Citations	Note-taking strategies						

## ANALOGY ORGANIZER

Analogies, like metaphors, help us to see how seemingly dissimilar things are similar and therefore, increase our understanding of new information. Often they take the form of  $A:B::C:D$  (A is to B as C is to D). This tool will help to identify the "relationship between relationships".

### *What do I do?*

This tool is used in several different formats. Each activity will use the same Analogy organizer.

- ✓ The first version of a teacher directed format:
  - Provides the student with a great deal of structure.
  - Students are given the two items with a relationship. Students would have  $A:B$  and  $C:D$ , the rectangles on the organizer are preset.
  - Students would then be asked to explain how the relationships are similar (how is  $A:B$  similar to  $C:D$ ). Students would explain their answer in the center section of the organizer.
- ✓ The second version of a teacher directed format:
  - Would be to leave one of the four elements missing in the analogy, either A, B, C, or D.
  - Students would then fill in the missing component and finish the diagram explaining the relationship that exists.
- ✓ The student directed format invites much more input and critical thinking by the student.
  - Students would be given one set of elements, either  $A:B$  or  $C:D$ .
  - Students would then develop the other pair of elements and describe the relationship between the two sets of elements.

# Analogy Organizer

**A**

*Is to*

**B**

*As*

**C**

*Is to*

**D**

# Analogy Organizer

**A**

Stock Market Crash  
Of 1929

**B**

U.S. economy

*Is to*

Something attacks a system  
And weakness its ability to  
Prevent serious affliction

**As**

**C**

Exposure to germs

**D**

Human body

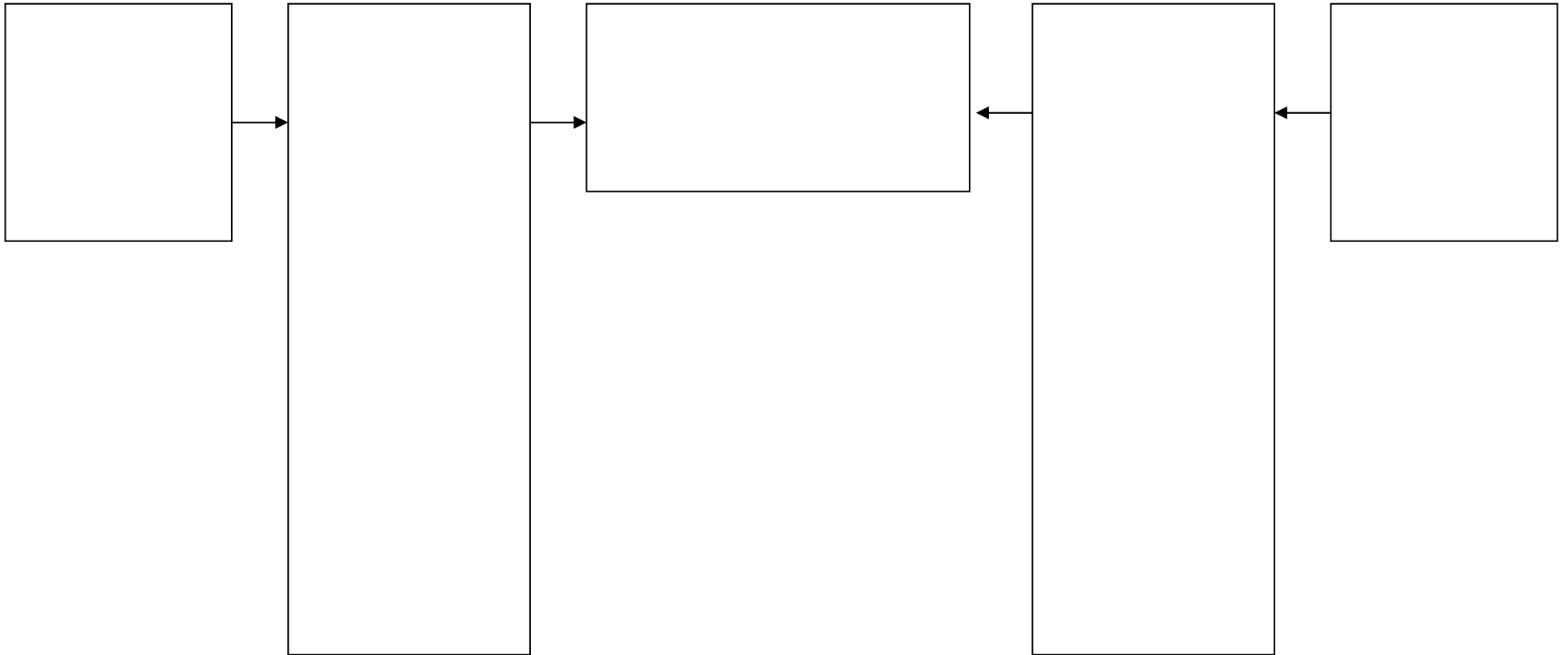
*Is to*

**METAPHOR ORGANIZER:** This tool is used to help students make connections between a given element or idea and a second element or idea that has similar qualities and an abstract relationship. This tool can create strong mental images for students, which can lead to deeper levels of investigation into a specific element or idea. "Chemistry is a monster" or "The internet is an information superhighway" are examples of how two elements have somewhat different literal patterns, but share a common abstract pattern. Using this tool will help students to understand and experience one element in terms of another.

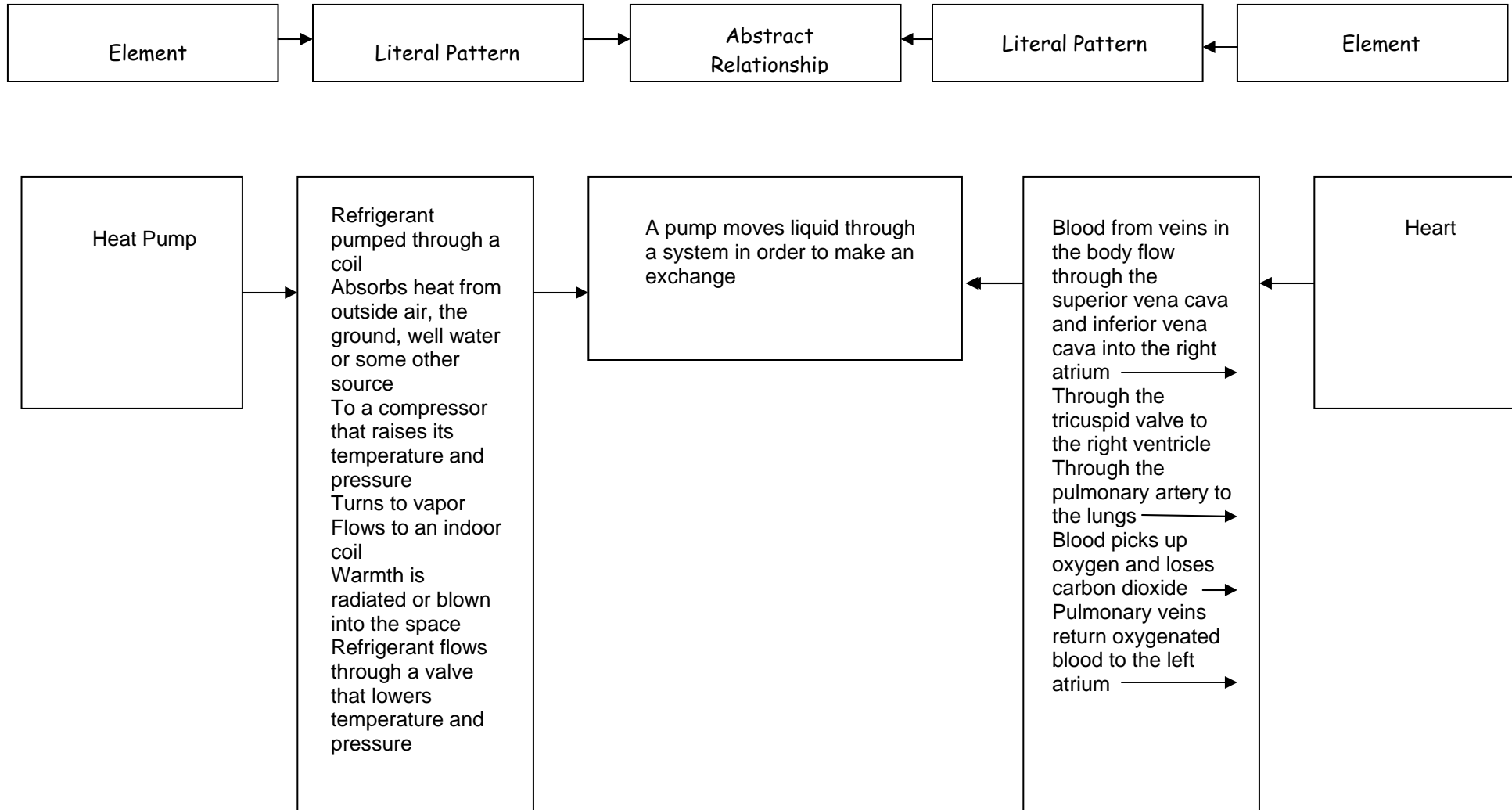
*What do I do?*

- ✓ Initially, students will need help understanding how to scaffold this process. They may need modeling on how to identify the literal parts of the metaphor and then how to describe the abstract relationship between the two items.
- ✓ First, identify what is important. What is the basic element you are trying to work with? Write this element in the box in the left hand column of the organizer.
- ✓ Next, identify the second element of the metaphor that you want to relate to the initial element. Write this element in the column on the right side of the organizer.
- ✓ Now ask students how they can say the same thing in a more literal way.
  - These "literal" patterns need to be specific about describing what the element means or represents. Write each of these new literal patterns in the column directly adjacent to their element.
- ✓ Finally have students deduce the abstract relationship that connects the two initial elements of the metaphor. This conclusion should be written in the center column of the organizer.

# Metaphor Organizer



# Metaphor Organizer



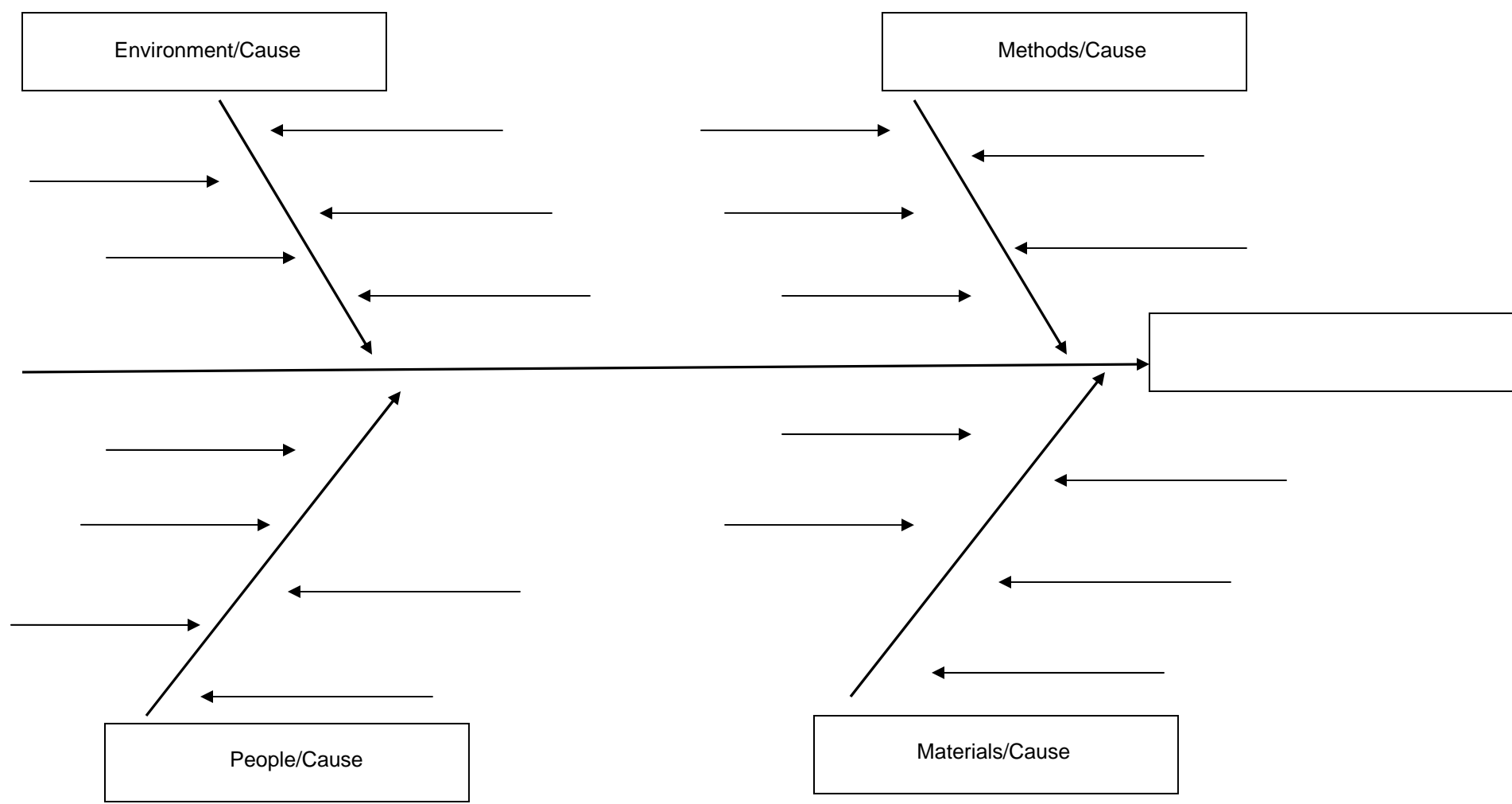


**FISHBONE DIAGRAM (Cause and Effect):** This tool is used to identify and analyze the root cause of a problem. It will show the various factors that contribute to that known cause. This organizer will help to visually represent the relationship between and effect and its causes.

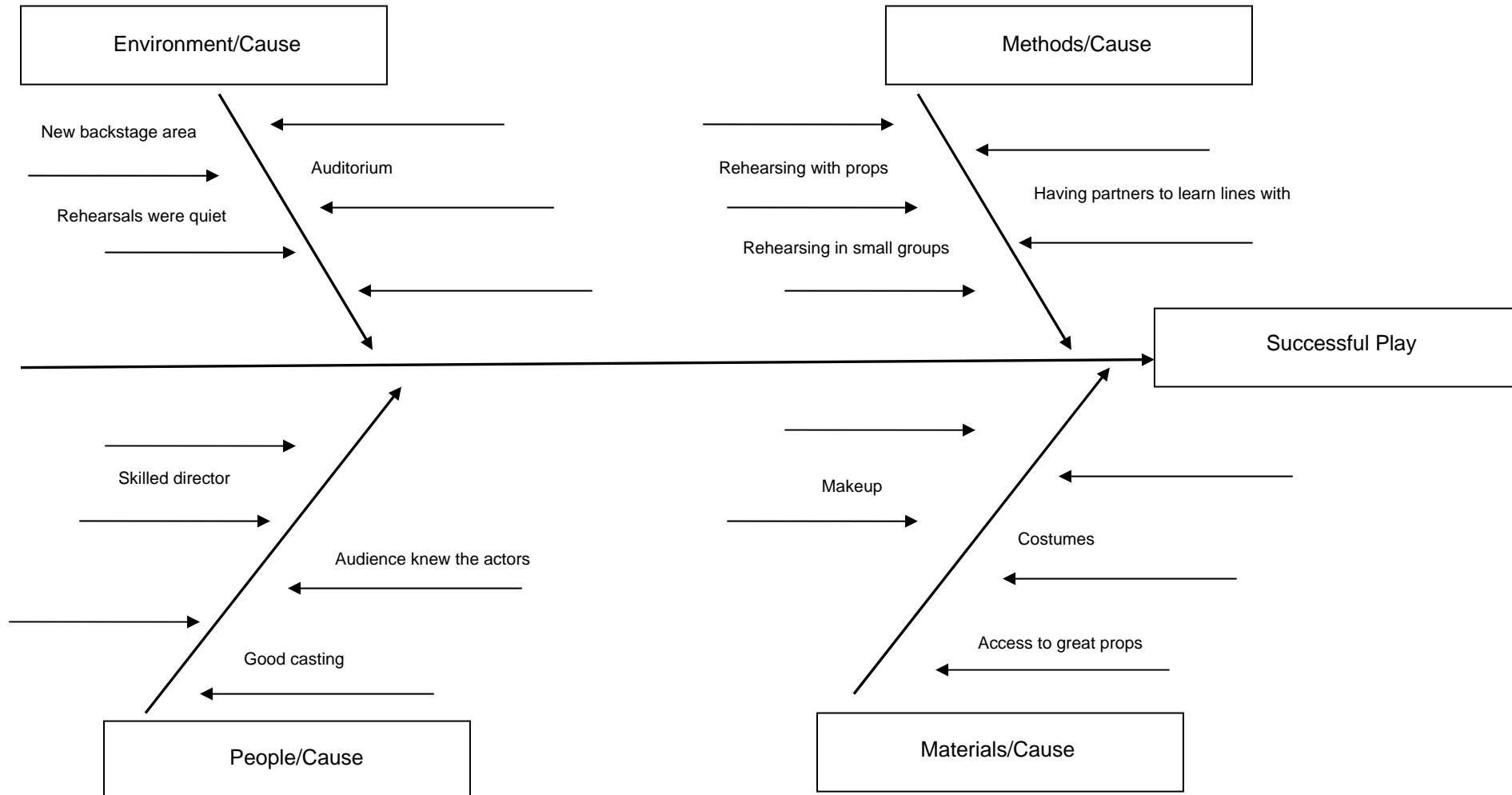
*What do I do?*

- ✓ Decide on the problem or effect to be analyzed.
- ✓ Write that problem or effect in the statement box on the right side of the diagram. Include as much information as possible in this statement such as "what", "when", "where", and "how much".
- ✓ Brainstorm as a group what the "major" bones or "causes" of the problem are. These thoughts become the lines connected to the backbone of the diagram. Label each "bone" with a title.
- ✓ NOTE: In a true fishbone the traditional "bones" or causes reflect upon Environment, People (the human element), Methods(how the work is done), and Materials(things needed to do the work).
- ✓ Have students break into small groups and discuss the contributing factors to each of the identified "bones". Draw smaller lines out from each of the bones to identify each of the contributing factors.
- ✓ Have each group ask "why" repeatedly for each cause added to the "bone".
- ✓ This process will begin to illuminate the true causes of the problem. Check to see if the same cause radiates off of more than one "bone".

# Fishbone Diagram



# Fishbone Diagram

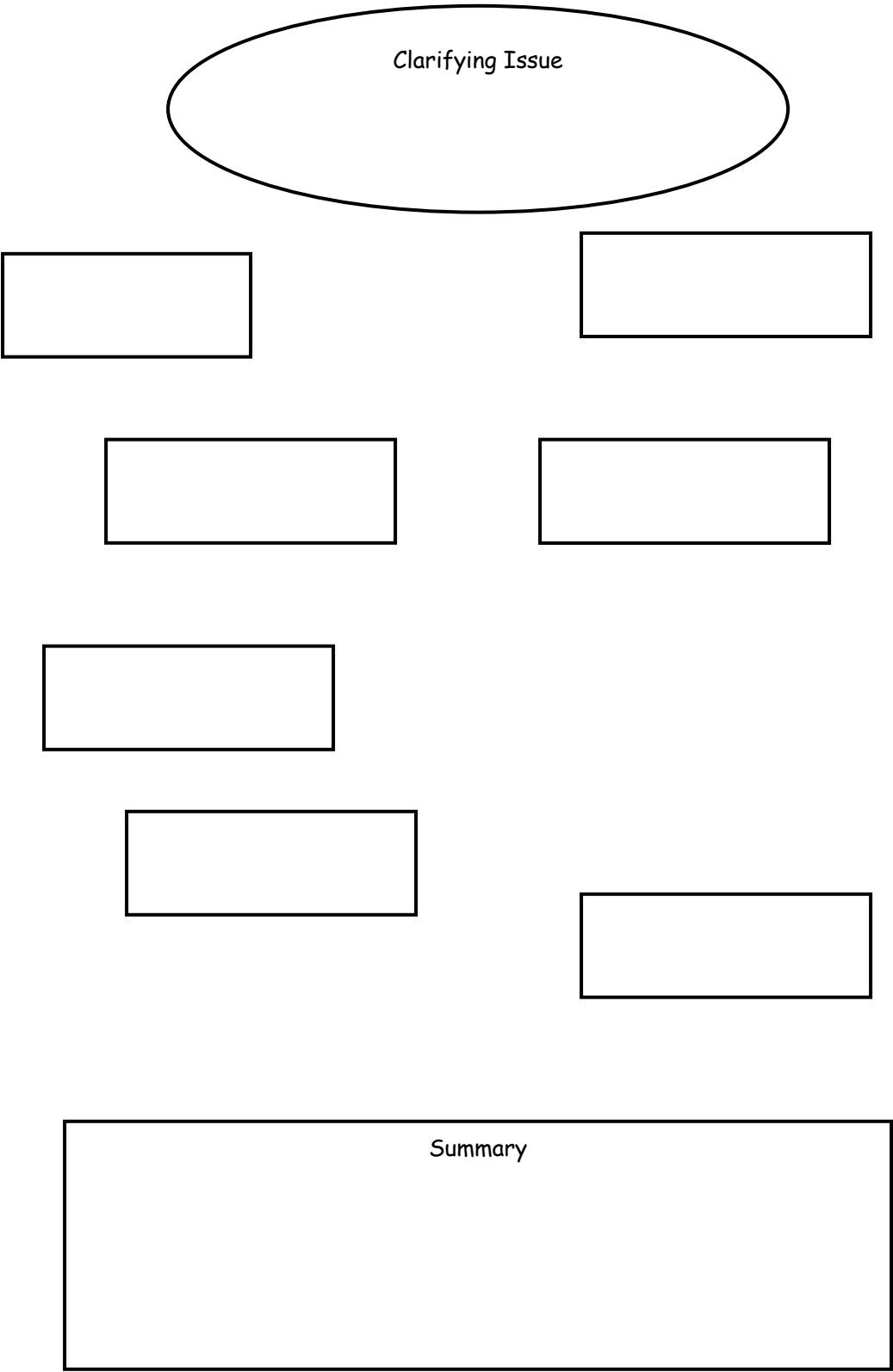


**RELATIONS DIAGRAM:** A relations diagram, like brainstorming can be a group tool. It helps everyone in a group to understand complex issues. This tool helps to sort out cause and effect relationships as well as what causes what. It also provides clarity on how different aspects of a specific issue are related.

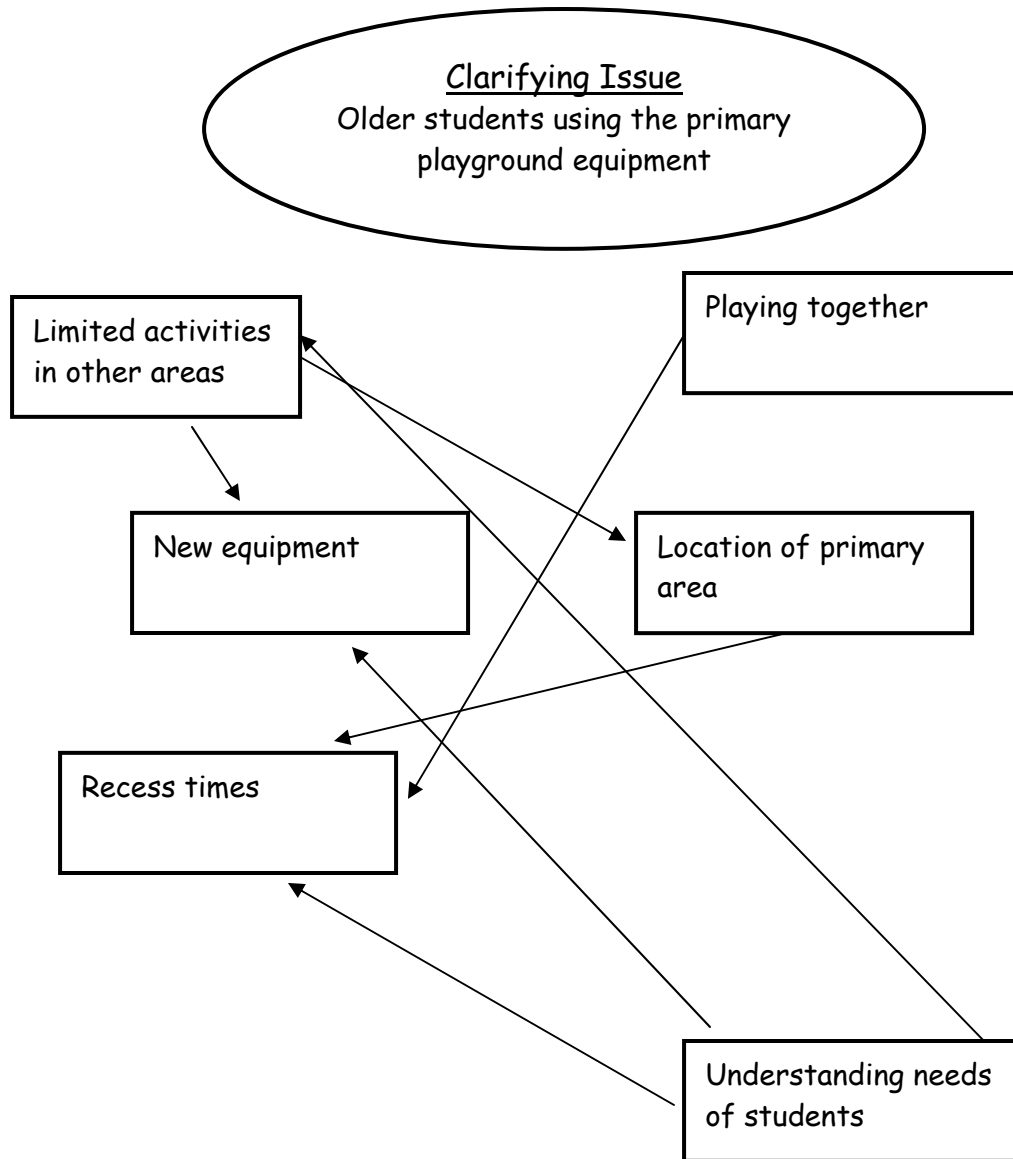
*What do I do?*

- ✓ Clarify the issue, problem or topic you want to begin with. Write that item at the top of the diagram.
- ✓ Brainstorm ideas around the issue, problem, or topic and write them in separate boxes below the initial topic.
- ✓ Starting with one of the brainstormed topics ask the question "Does this idea cause or influence any other idea?" Draw arrows from each idea to the ones it causes or influences. Repeat this question for every idea.
- ✓ Analyze the diagram:
  - Count how many arrows "in" and "out" each idea has. The topics with the most arrows are key ideas.
    - Note which ideas have primarily outgoing (from) arrows. These are the basic causes.
    - Note which ideas have primarily incoming (to) arrows. These are final *effects* that also may be critical to address.
- ✓ Have students summarize what they learned.

# Relations Diagram



# Relations Diagram



## Summary

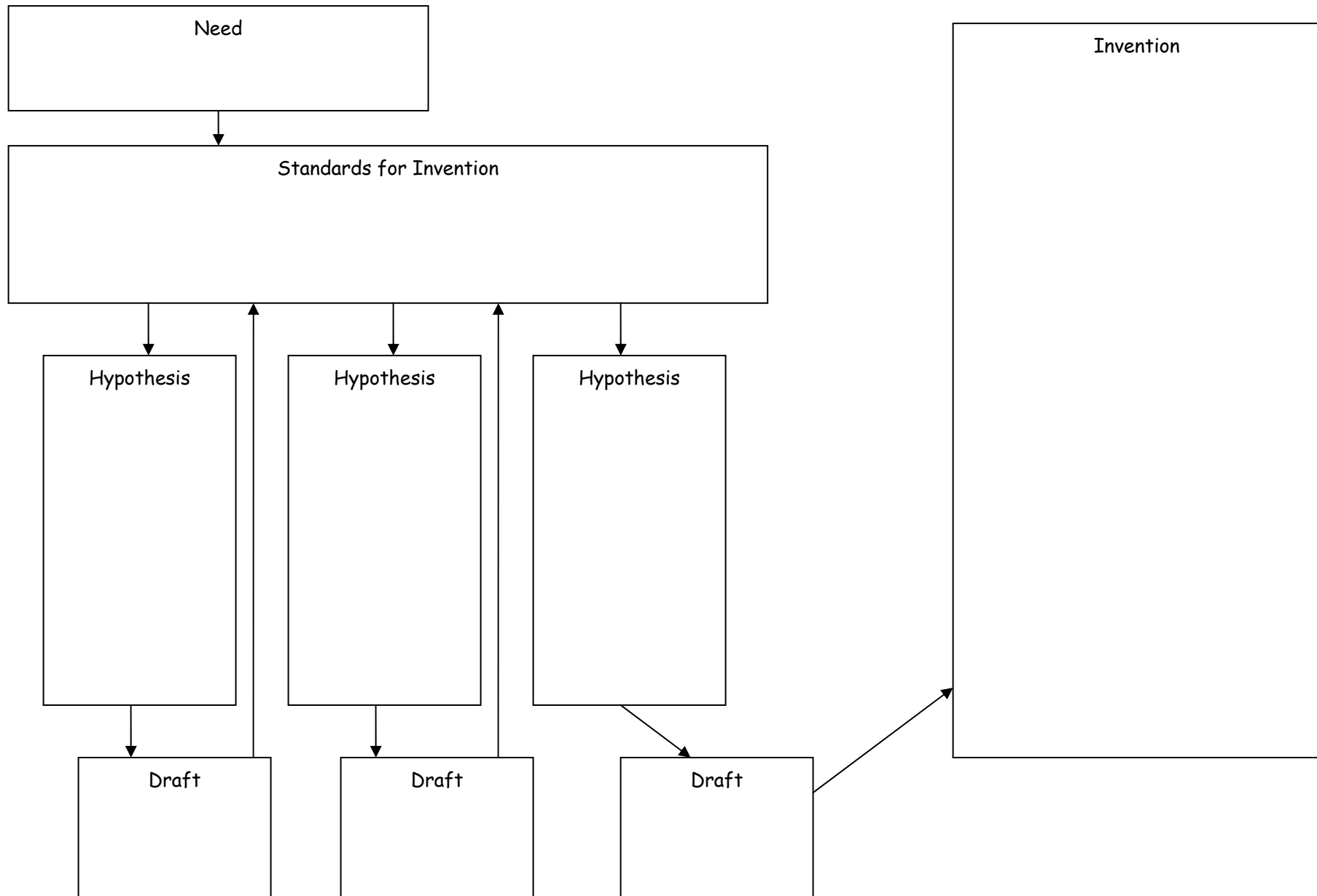
The topic with the greatest number of arrows out is "understanding the need of students". The topic with the greatest number of arrows in is "recess time". We need to better understand what the students needs really are.

**INVENTION DIAGRAM:** This is an excellent tool to use to help students critically think through a process. If the question could be asked "Shouldn't there be a better way to.....?" then this is the tool to help students answer that question. This diagram will involve hypothesizing, developing an idea and then testing the invention and if the results are unsatisfactory, doing it again until one proves effective.

*What do I do?*

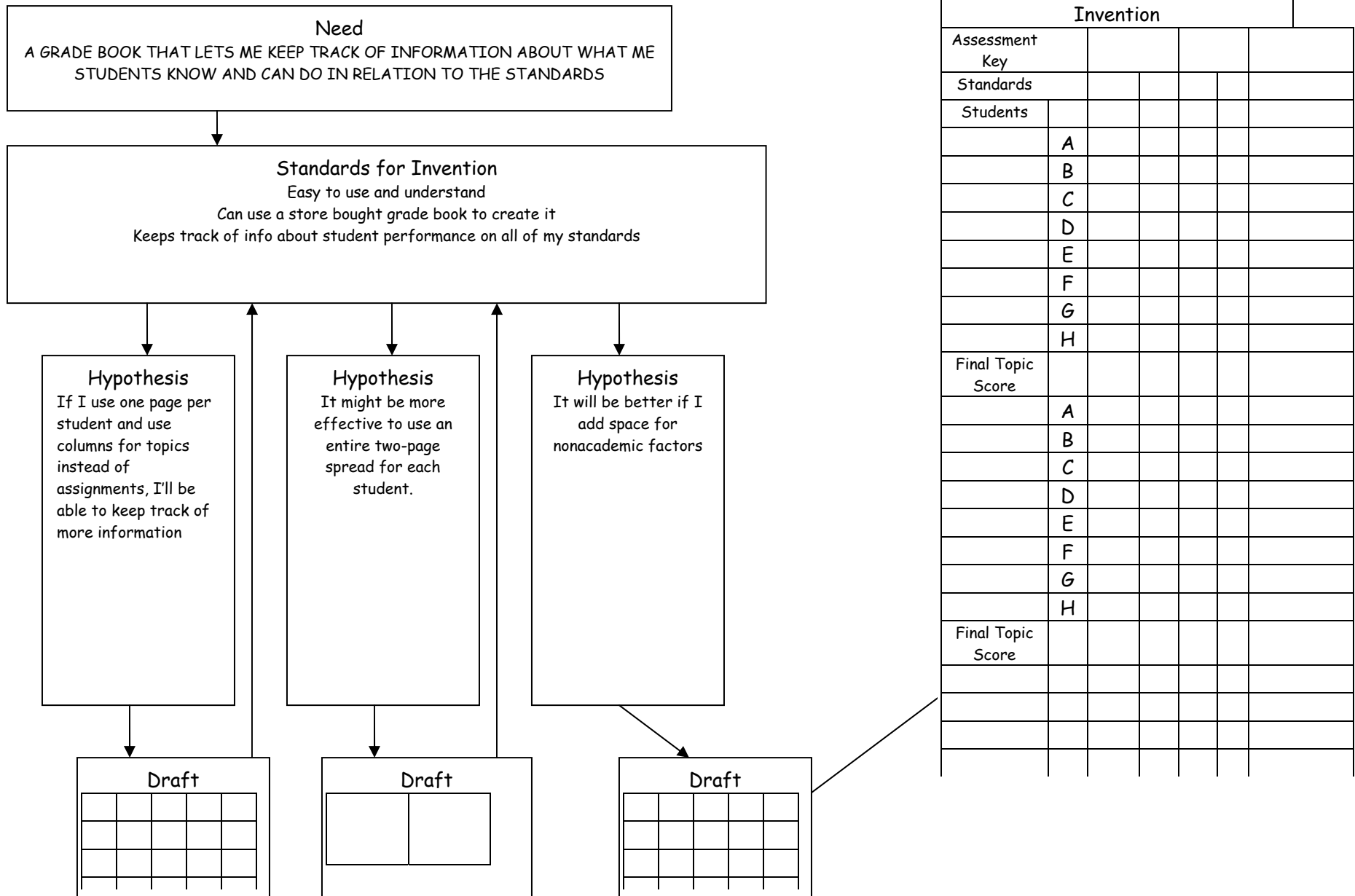
- ✓ Describe a situation that needs improvement or a need you must respond to. What do I want to make? Or what do I want to make better? Have students write this situation or topic in the "Need" box in the organizer. In the beginning, you may want to give the students the topic to address until they are comfortable with engaging in the process themselves.
- ✓ Have students identify specific standards for the invention that would improve the situation or topic identified. Students will list these standards in the "Standards for Invention" rectangle in the organizer.
- ✓ Students will then brainstorm ideas and hypothesize the likelihood that each will work. Students will write out their hypothesis in each of the indicated rectangles. Make sure they list only one idea per box.
- ✓ In the next step, students will conduct tests or design and sketch out concepts to determine if their idea does in fact work. If the concept does not work, they must revise until it reaches the standard they set out to meet.
- ✓ It is extremely important for students to be able to explain their conclusions. Although there is not an actual place on the organizer to write the explanation, you may consider having them articulate their conclusion on the reverse side if the "Invention" rectangle is occupied by a design.

# Invention Organizer





# Invention Organizer



**CORNELL NOTES:** The Cornell Note-taking System provides a powerful learning tool for students. It was developed by Walter Pauk in 1949 at Cornell University because of his frustration over low test scores. This system has been adopted by the AVID program and most law schools as the preferred note-taking method.

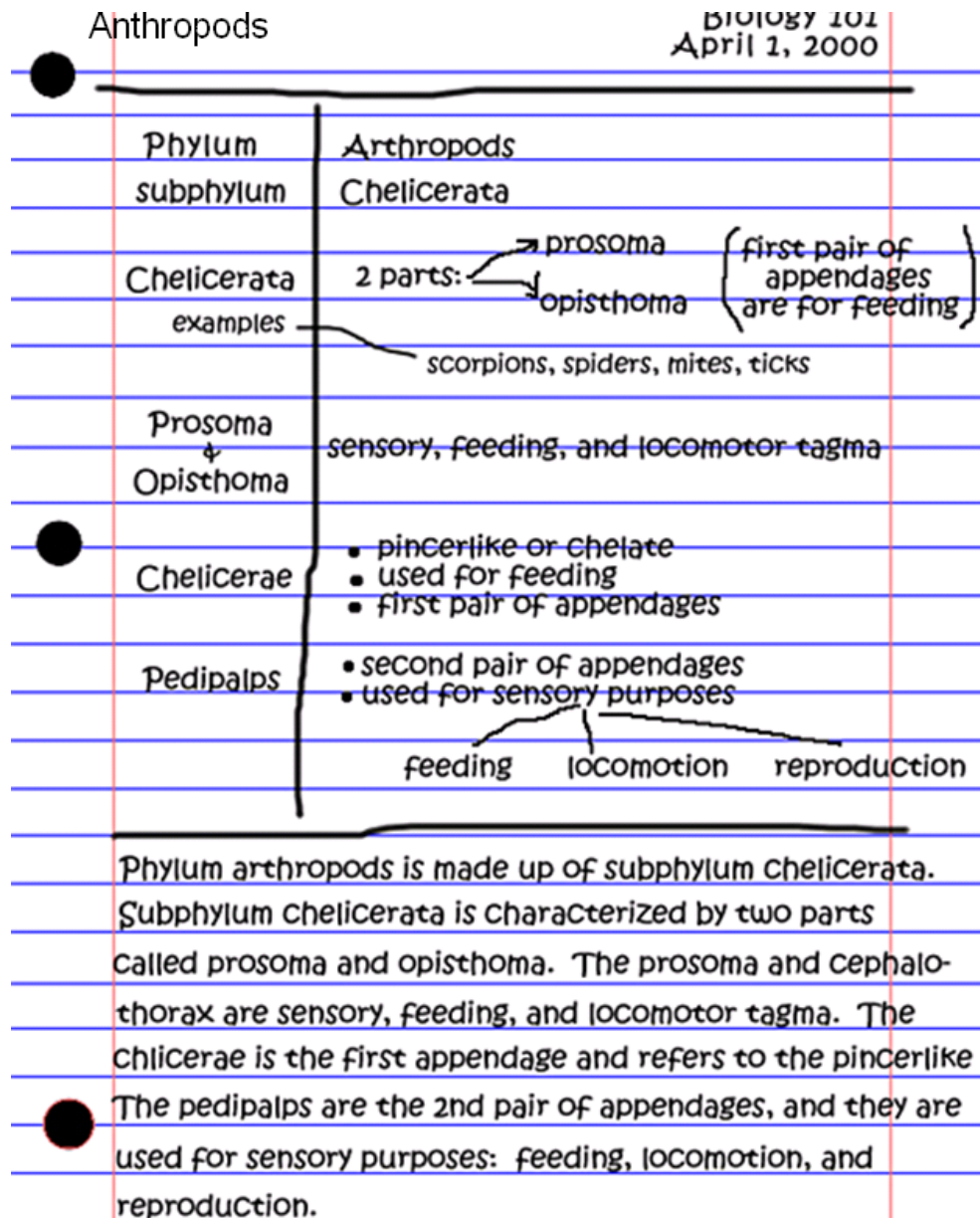
*What do I do?*

- ✓ The key point of focus is that Cornell Note-taking is a system, not just a note format. Model the system to the students.
- ✓ Format note paper as shown.

<b>Topic</b>		<b>First and Last Name</b> <b>Class Title</b> <b>Period</b> <b>Date</b>
<b>Questions, Subtitles, Headings, Comments ETC.</b>	<b>Class Notes or Notes from Text</b>	
<b>Summary:</b> <b>Do on the bottom of each page, just at the end of the notes, or a combination of both.</b>		

- ✓ Teach the six steps for this note-taking system. See the handout for a recap of the steps and how to use those steps with the above format.
1. **RECORD:** During the lecture or while reading the text, students will write down facts and ideas on the right side of the paper. Being flexible in the requirements for this portion will provide the opportunity to differentiate to meet the all learning styles. Students should be encouraged to use what works for them (bullets, symbols, sketches, diagrams, even adjusting to three columns here). After the lecture or reading, students must return to these notes to fill in blanks, make scribbles more legible, or clarify any misconceptions.
  2. **REDUCE or QUESTION:** Students write on the left column key words or phrases, questions that might guide the learning, or comments about the material from the recorded. This should be in the students' own words, not just copied from the text or teacher's notes.
  3. **RECITE:** Students then cover the notes and read the key words and questions from the left column. They recite the fact or idea brought to mind by that key word or question. This is a great activity to do with partners or in triads. Students compare notes and share important details. This step requires students to verbalize their learning in their own words.
  4. **REFLECT:** The note-takers then think about what they have learned. This is a great time to assign a reflective paragraph as an assignment.
  5. **REVIEW:** It is critical to provide opportunities for students to use their notes as a study tool and regularly review what they have learned.
  6. **RECAPITULATION:** At the bottom of each page, students summarize the main idea from that page. Students need to use complete sentences and put the ideas into their own words. This step takes learning to a deeper level.

- ✓ A helpful website for Cornell Note format is:  
<http://incompetech.com/graphpaper/>
- ✓ A sample of student's notes is shown below.



Topic:

2. REDUCE or QUESTION:

~ Write key words, phrases or questions that will cues for the material covered  
 ~ Cue questions and phrases should be in your own words

3. RECITE:

~ Cover notes and read each key word or question  
 ~ Recite the fact or idea brought to mind by each key word or question

1. RECORD

During the lecture or while reading the text:

~ Write down facts and ideas  
 ~ Use abbreviations  
 ~ Use what works for you (bullets, symbols, sketches, diagrams, even adding an extra column in this section)  
 After the lecture or reading:  
 ~ Fill in the blanks  
 ~ Make scribbles more legible

4. and 5. REFELCT and REVIEW

~ Think about what you have learned  
 Review notes periodically be reciting individually and with a peer

6. RECAPITULATION

~ Summarize each main idea covered on this page of notes  
 ~ Use complete sentences

## **RSVP: *Read, Summarize, Verify, Prediction Corrections***

This strategy is used to activate students' prior knowledge as well as to assess their understanding of the topic. This strategy promotes active reading. That means students are thinking about what they are reading.

### *What do I do?*

- ✓ Give the students a list of 10 to 12 words, terms, or phrases in the order in which they appear in the textbook passage they are going to read.
- ✓ Have each work in partners or independently to think of connections or clues in the list and then write a possible summary of the text. Students must keep the words in order in which they receive them when writing their versions of the textbook passage.
- ✓ Have the students read the textbook and compare to their versions.
- ✓ Have the students verify and/or correct their initial predictions by rewriting their summaries after they have read the text.
- ✓ Always prepare your list of words, terms, or phrases ahead of time.
- ✓ Students may also work in pairs. Use Clock Partners.

**TEXTBOOK TALK-BACK NOTES:** Learning and comprehension can improve when students are involved with reading materials. With these notes, students are able to transfer the book information into their own words.

*What do I do?*

- ✓ Provide enough copies the Textbook Talk-back Notes so each student will have one for each page of his/her reading.
- ✓ Have students attach a note strip in the margin of each page using non-permanent tape.
- ✓ Encourage students to think aloud and to write their thoughts or questions concerning the text on the note strips as they read each page.
- ✓ Have students save these notes so they can review them while answering homework questions on the material.
- ✓ Give left-handed students the option of taping the notes on the left side of the page.
- ✓ Chapter notes can be stapled together for later review.
- ✓ A handout for the notes is provided.

# Textbook Talk-back Notes

[illegible]



**POTLUCK READING:** This strategy is similar to "jigsawing" and accommodates a wide range of reading abilities in a content area. It also allows students the opportunity to learn from one another as well as practice summarizing information from the textbook. This allows all students to be successful and participate actively.

*What do I do?*

- ✓ Arrange students into groups of three to four individuals.
- ✓ Give each group member a different section of the textbook chapter to read.
- ✓ Have each student read his/her section independently, taking notes to record important information.
- ✓ Regroup the students who read the same passage into "expert groups." All the 1s together, all the 2s together, etc. Have these experts compare their notes and come up with a consensus of the main points in their section of the textbook.
- ✓ Ask students to return to their original groups and share the pertinent information from their section of the text. Each group member is responsible for taking notes on every other member's presentation so that all students are accountable for all the material in the textbook chapter.
- ✓ Select reading passages ahead of time.
- ✓ Eventually you may let each student choose for him/herself the section of the textbook chapter to read.

**ACTIVE BOOKMARKS:** This is a non-threatening strategy to help engage students during reading and keeps them focused on the textbook content.

*What do I do?*

- ✓ Give each student an Active Bookmark sheet with due dates filled in.
- ✓ Have students follow the directions on the sheet:
  - Cut apart the bookmarks.
  - Randomly open the textbook and place the bookmarks throughout the pages of the chapter. For example, put the first one toward the front of the chapter, the second toward the middle, and the third toward the end of the chapter.
  - Record the page where each bookmark is located and the due date for it.
- ✓ During the reading of the textbook chapter, when a student comes to the page where a bookmark is located, he or she completes the assignment on the bookmark and turns it in at the appropriate time.
- ✓ Be sure the bookmark sheets are prepared in advance and the students understand how to use them.
- ✓ As a follow-up activity, have the students share their completed bookmarks in small groups.
- ✓ Your students' bookmarks should be on different pages since each student randomly opens his/her book in the front, middle and end of the chapter.
- ✓ A handout for bookmarks is provided.

### Active Bookmarks

Directions to Students: Cut these three bookmarks apart, then place one bookmark towards the front, middle and end of the assigned reading. Record the page numbers on this sheet in case the bookmarks fall out of the book. Write the date each section is due. Enjoy your reading!

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

Bookmark #1 page: \_\_\_\_\_

Bookmark #2 page: \_\_\_\_\_

Bookmark #3 page: \_\_\_\_\_

-----  
Due Date: \_\_\_\_\_

Bookmark #1: Write about how the elements of the textbook (chapter headings, charts, footnotes, etc.) have helped you understand what you are reading.

Name: \_\_\_\_\_ Page #: \_\_\_\_\_

-----  
Due Date: \_\_\_\_\_

Bookmark #2: Make a graphic aid to help you understand what you have read to this point.

Name: \_\_\_\_\_ Page #: \_\_\_\_\_

-----  
Due Date: \_\_\_\_\_

Bookmark #3: Describe what part of the information sticks in your mind.

Name: \_\_\_\_\_ Page #: \_\_\_\_\_

Adapted from *Differentiating Textbooks: Strategies to Improve Student Comprehension & Motivation* by Char Forsten, Jim Grant and Betty Hollas

**A NEW KWL(H) or C4:** The main purpose of the KWL (What I Know? What I Want to know? and What I Learned?) is to establish the students' prior knowledge and set the focus. The "H" can be added feature to ask the question "How can we learn more?" The C4 model uses this format: CONNECT-This is what I know, CONFIRM-I was right, CORRECT- I need to change this, and COLLECT-This is what I have learned. This can become more powerful when the activity invites collaborative learning. By encouraging students to interact (triggering discussion) and using the graphic organizer, you can increase students' motivation and interest. In addition, struggling students benefit from the discussion with others. Students can learn to see each other as information sources. This strategy is particularly helpful to students who tend to begin reading without even thinking about the topic. Both format templates will be included.

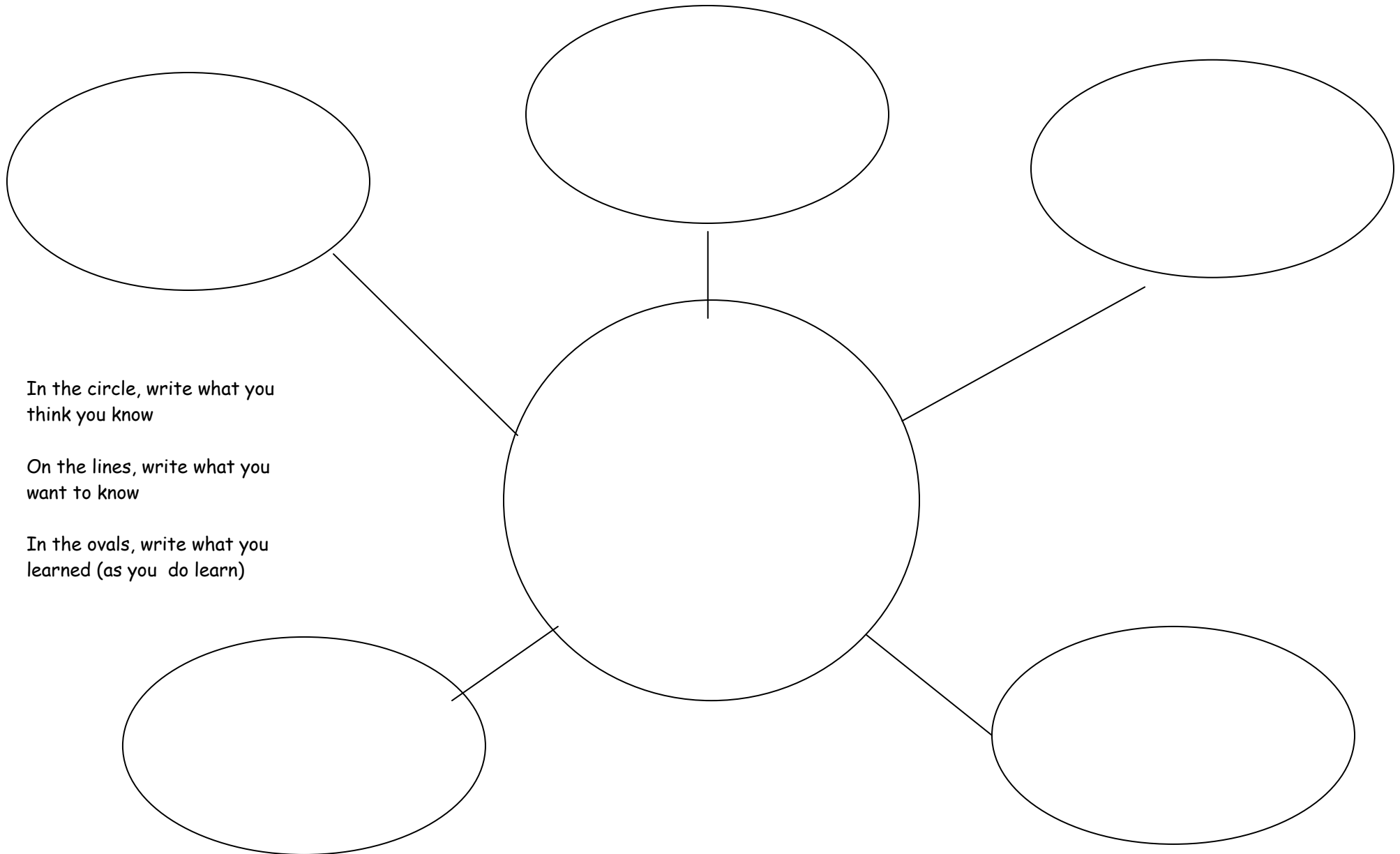
### *What do I do?*

- ✓ Divide students into small groups and give each student a copy of a concept map.
- ✓ Discuss with the whole class what they "think they know" about the topic and ask each small group to list those items in the circle on the map.
- ✓ Facilitate whole class discussion about what categories of information students wonder about or what they would like to learn as they study the text. Then ask each small group to write these categories on the lines projecting from the circle.
- ✓ Have students use the categories of information they wonder about or want to know about to create a concept map that serves as a visual tool, helping them to integrate what they knew before reading and what they learned as a result of reading.
- ✓ After they read, ask each group to finish filling in their concept map.
- ✓ With their concept map, have each group report to the whole class what they originally thought they knew about the topic, what they wanted to know, and finally, what they learned.
- ✓ Remember to circulate among student groups and note misconceptions so you can use these for further discussion.
- ✓ You may want to select a struggling student to be the reporter. This could motivate the student to be on task and be willing to gain more information through discussion.

# New KWL Concept Map

Name \_\_\_\_\_

Date \_\_\_\_\_



In the circle, write what you think you know

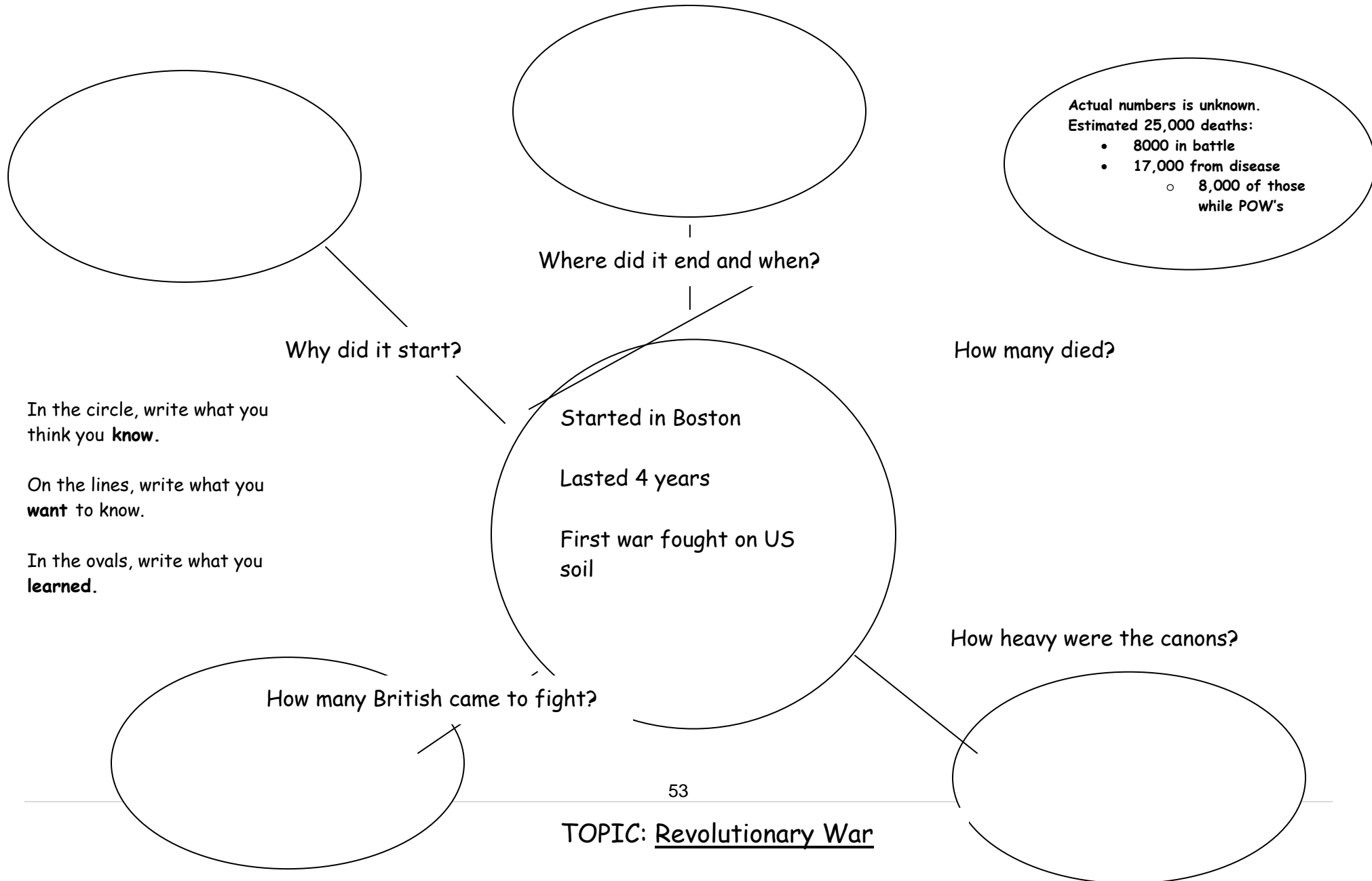
On the lines, write what you want to know

In the ovals, write what you learned (as you do learn)

# New KWL Concept Map

Name \_\_\_\_\_

Date \_\_\_\_\_



## C4- KWLH

<b>CONNECT</b> This is what I know.	<b>CONFIRM</b> I was right.	<b>CORRECT</b> I need to change this.	<b>COLLECT</b> This is what I have learned.

**BRAINSTORMING A-Z** is a simple strategy to encourage students to think. It can be used for pre-assessment, formative assessment or to review content. Using the information obtained in this activity can help you to differentiate instruction based on your students learning levels. Those students whose answers show a lack of understanding for the topic will need more direct instruction. Students whose answers show mastery will benefit for more in-depth or complex projects related to the content.

*What do I do?*

- ✓ Either provide students with a blank Brainstorm A-Z handout (see sample) or ask students to write the alphabet out on the side margin of their paper.
- ✓ Ask students, or small groups of students, to write down, for each letter of the alphabet, a word that is related to the topic of study.
  - For example, if the students are working on a geometry unit, students might write down angle for A, circle for C, etc.
  - You can vary levels by asking some students to brainstorm basic math terms while the advance students might be challenged to brainstorm all ways they see a decimal point used on the way home from school.
- ✓ Invite active listening by asking students to jot down words to that could answer a specific prompt question. These words could come from a class reading or a discussion.
- ✓ After studying a topic, students could be asked to write down as many words that relate to that topic. For instance, students could write out adjectives to describe a character.

Samples are adapted from *Differentiating Instruction in a Whole-Group Setting* by Betty Hollas



# BRAINSTORMING A- Z

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

Topic \_\_\_\_\_

A	N
B	O
C	P
D	Q
E	R
F	S
G	T
H	U
I	V
J	W
K	X
L	Y
M	Z

# BRAINSTORMING A- Z

Student Name Sally

Topic Verbs

A	N
B bite	O
C carry	P
D dig	Q quit
E eat	R run
F	S skip
G	T trot
H	U
I	V
J	W walk
K	X
L leap	Y
M	Z

**3 - 2 - 1:** This strategy provides structure for students to summarize "key points" in a learning experience and encourages independent thinking. The prompts, questions or topics can be created to match the content area and level of thinking you want your students to do.

*What do I do?*

- ✓ Plan a learning experience for the students. Possibilities include but are not limited to: a discussion, a reading, a video or a field trip.
- ✓ Engage the students in the experience as a group or individually
- ✓ Following the experience, the students are asked to write:

3 - important facts that I discovered

2 - interesting pieces of information that I learned

1 - question I still have/or make a personal connection

*Example:* Following a video or reading on President Lincoln...

3 important events in the life of President Lincoln

2 interesting facts that I learned

1 question I would like to ask

**Differentiation for individual assignments when students have a range of writing abilities...**

*Non-strugglers:* write on lined paper

*Students who struggle:* provide a handout with the questions and spaces to write the answers to the questions

*Students who struggle with organization, and processing:* Provide a handout with fill in the blank spaces...

*Example:*

3 important events in the life of President Lincoln

1. President Lincoln was born in the state of \_\_\_\_\_ on \_\_\_\_\_.

2. President Lincoln wrote the \_\_\_\_\_.

3. The assassination of President caused \_\_\_\_\_.

2 interesting facts that I learned

1. \_\_\_\_\_

2. \_\_\_\_\_

**EXIT CARDS TO SUMMARIZE:** This strategy is a great way to complete a formative assessment. You will be able to see the student progress and understanding. It also helps students reinforce what they have learned, as well as clarify their areas of interest in the topic.

*What do I do?*

- ✓ Have students write either on an index card or in their journals.
- ✓ Right before the end of the class, give students five to ten minutes to write about the following:
  - Three things that I did not know before and learned today are...
  - A question I still have is...
- ✓ Come up with a variety of exit card questions. For example:
  - In science, have students draw an illustration that captures at least three things they learned today.
  - In history, have students write a limerick about a person they studied.
  - In math, have students make up their own examples of problems studied that day and include the answers.
  - Or ask students to create riddles for others to answer about what was learned.

**GAME FORMAT:** Using games engages students. Games stimulate attention because they involve missing information. This is your opportunity to let your creativity soar. Grab the students' interest with spin-offs on popular TV shows.

*What do I do?*

- ✓ Jeopardy: Develop sets of answers under categories appropriate for what is being studied. Students will give a question that would lead to the answer. PowerPoint is a great tool to make this game more interactive.
- ✓ Name the Category: This is like the TV game show Pyramid. Students try to determine a category as the teacher or another player give out terms or clues that will help others determine the category.
- ✓ Bingo: Students fill in a 5 X 5 grid with keywords or other answers. Teacher asks the questions and students are able to mark off the correct answers. Winner will "bingo" when getting five correct answers in a row. Other topics could take the place of "BINGO" such as "MAPLE" when studying Canada.
- ✓ Scavenger Hunt: This is a great activity to use when introducing a new textbook or novel. It allows students to become familiar with the text. This activity may also be used for review. Just as with any scavenger hunt, provide the students with a list of items to find. Students may work independently, with partners or in small groups. You can differentiate the questions based on students' needs for each group.
- ✓ For more great ideas to implement a game format, check out [http://www.education-world.com/a\\_tsl/archives/pe.shtml](http://www.education-world.com/a_tsl/archives/pe.shtml)

## Including Students with Special Needs:

*Strategies from: What Successful Teachers Do in Diverse Classrooms,*

Neal Glasgow, Sarah McNary and Cathy Hicks, 2006

- 1) *Teach acceptance of students with moderate and severe disabilities.*
  - Provide knowledge about a specific disability to help decrease fear and facilitate social interaction, however, be CAUTIOUS so the efforts do not embarrass a student or make him/her feel uncomfortable.
  - Model positive behaviors, provide informal or formal education for the general education students and consider inviting the student to discuss their specific disability.
- 2) *Avoid **excessive** drill and repetition when teaching math*
  - Research shows teaching students with disabilities a math strategy rather than using direct instruction with **excessive** drill and repetition improved their math skills
  - Use a guided instructional delivery where the class moves through the strategy together, give the students problems to apply the strategy. Reteach as needed to assure student success.
- 3) *Teach key concepts, rather than trying to cover it all*
  - Isolate the key concepts and spend more time on selected knowledge skills rather than covering all. "Less is more" says Ted Sizer, a well known progressive educator.
  - Modify to prevent overload and minimize extraneous detail (ie., highlight the essential items, give bonus point for extra items completed, tape responses, slower readers...read a related story that teaches the same concept, cut a long worksheet into smaller parts...give out one segment at a time)
- 4) *Offer specific feedback that is positive...avoid criticism*
  - Giving explanations of what a student did well coupled with pointing out errors and how to correct the errors is helpful for student improvement.
  - Encourage students to ask questions if the comments they receive are not clear. Careful not to use praise that is too general or patronizing)
- 5) *Use instructional strategies to support students with ADHD*
  - Strategies that include personal attention, leadership or helper roles and use of preferred incentives are more effective than strategies that withhold activity or rewards
  - Avoid lengthy spans of time and sedentary work
  - Use hands on manipulative activities
  - Break assignments into smaller pieces and check for understanding

## Including Students with Special Needs:

*Strategies from: What Successful Teachers Do in Diverse Classrooms, Neal Glasgow, Sarah McNary and Cathy Hicks, 2006*

- 1) Teach acceptance of students with moderate and severe disabilities.*
- 2) Avoid **excessive** drill and repetition when teaching math*
- 3) Teach key concepts, rather than trying to cover it all*
- 4) Offer specific feedback that is positive...avoid criticism*
- 5) Use instructional strategies to support students with ADHD*

**BLOOM'S REVISED TAXONOMY:** Using Bloom's Revised Taxonomy is one of the best ways to differentiate your instruction to meet the needs of your students. The six levels of thinking provide a framework for planning units and questions using low to high-level thinking activities so that you can plan for students at all levels.

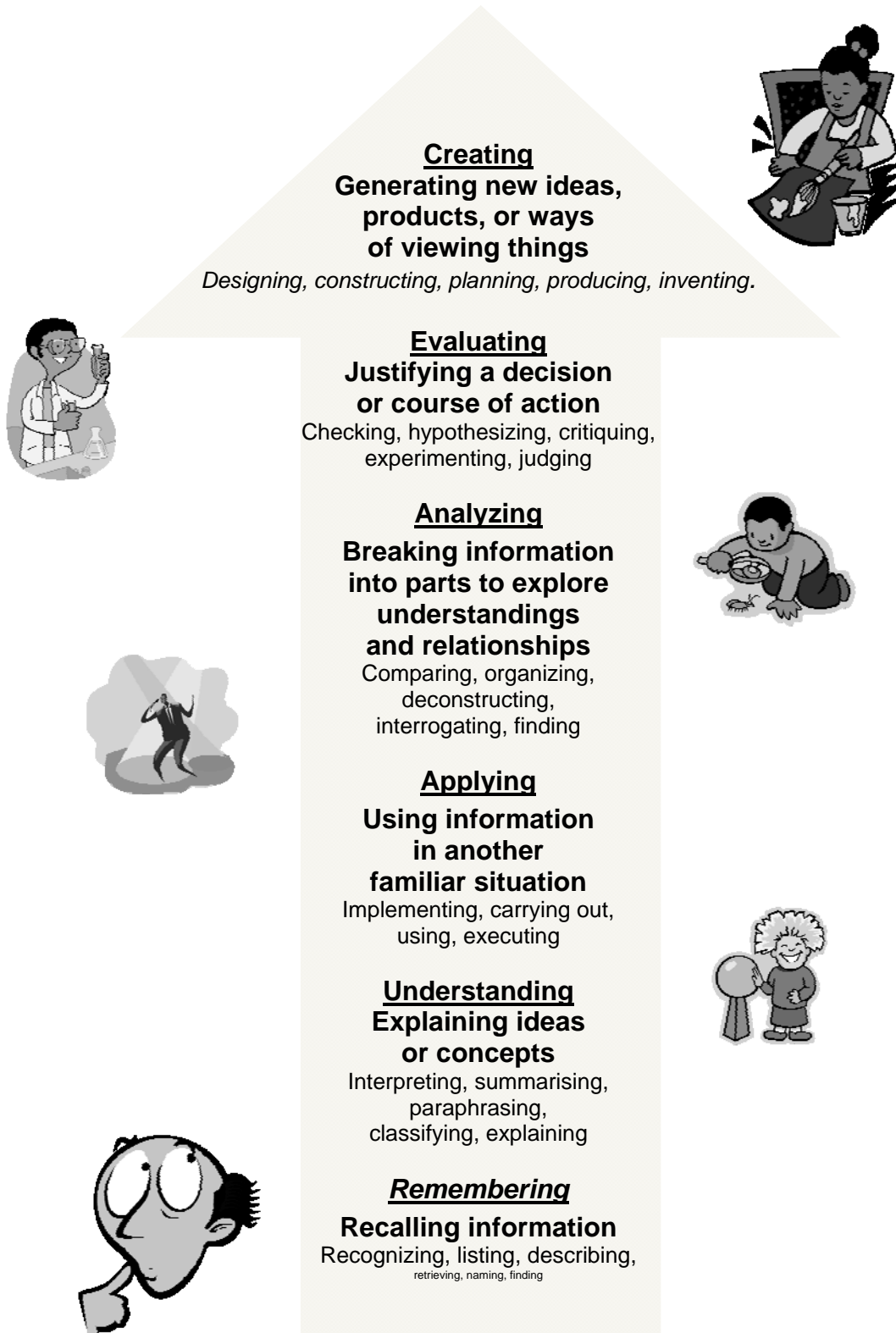
*What do I do?*

- ✓ Learn about your students' abilities and needs.
- ✓ Familiarize yourself with the levels Bloom's Revised Levels and the types of questions or activities that match each level.
- ✓ Use the provided planning grids to provide differentiated instruction for your students.
- ✓ Challenge yourself to combine Bloom's Taxonomy with Multiple Intelligences to meet all learning styles of your students.
- ✓ Handouts available are:
  - Bloom's Revised Taxonomy Chart
  - Bloom's Revised Taxonomy Planning Framework
  - Investigate a Book
  - Blooming Smarts Master Planning Matrix



# BLOOM'S REVISED TAXONOMY

*"Think left and think right and think low and think high. Oh, the thinks you can think up if only you try! - (Theodor Seuss Geisel)*



<i>Bloom's Revised Taxonomy Planning Framework</i>				
4		<i>Actions</i>	<i>Products</i>	<i>Learning Activities</i>
	<u><b>Creating</b></u>  (Putting together ideas or elements to develop an original idea or engage in creative thinking).	Designing Constructing Planning Producing Inventing Devising Making	Film Story Project Plan New game Song Media product Advertisement Painting	
	<u><b>Evaluating</b></u>  (Judging the value of ideas, materials and methods by developing and applying standards and criteria).	Checking Hypothesising Critiquing Experimenting Judging Testing Detecting Monitoring	Debate Panel Report Evaluation Investigation Verdict Conclusion Persuasive speech	
	<u><b>Analyzing</b></u>  (Breaking information down into its component elements).	Comparing Organising Deconstructing Attributing Outlining Structuring Integrating	Survey Database Mobile Abstract Report Graph Spreadsheet Checklist Chart Outline	
Lower-order thinking	<u><b>Applying</b></u>  (Using strategies, concepts, principles and theories in new situations).	Implementing Carrying out Using Executing	Illustration Simulation Sculpture Demonstration Presentation Interview Performance Diary Journal	
	<u><b>Understanding</b></u>  (Understanding of given information).	Interpreting Exemplifying Summarising Inferring Paraphrasing Classifying Comparing Explaining	Recitation Summary Collection Explanation Show and tell Example Quiz List Label Outline	
	<u><b>Remembering</b></u>  (Recall or recognition of specific information).	Recognising Listing Describing Identifying Retrieving Naming Locating Finding	Quiz Definition Fact Worksheet Test Label List Workbook Reproduction	

	<i><b>Word Smart</b></i>	<i><b>Math/Logic Smart</b></i>	<i><b>Picture Smart</b></i>	<i><b>Body Smart</b></i>	<i><b>Music Smart</b></i>	<i><b>Group Smart</b></i>	<i><b>Self Smart</b></i>	<i><b>Nature Smart</b></i>
<b><i>Remembering</i></b> ➤ Recognizing ➤ Listing ➤ Describing ➤ Identifying ➤ Retrieving ➤ Naming ➤ Locating ➤ Finding								
<b><i>Understanding</i></b> ➤ Interpreting ➤ Exemplifying ➤ Summarizing ➤ Inferring ➤ Paraphrasing ➤ Classifying ➤ Explaining								
<b><i>Applying</i></b> ➤ Implementing ➤ Carrying out ➤ Using ➤ Executing								
<b><i>Analyzing</i></b> ➤ Comparing ➤ Organizing ➤ Deconstructing ➤ Attributing ➤ Outlining ➤ Structuring ➤ Integrating								
<b><i>Evaluating</i></b> ➤ Checking ➤ Hypothesizing ➤ Critiquing ➤ Experimenting ➤ Judging ➤ Testing ➤ Detecting ➤ Monitoring								
<b><i>Creating</i></b> ➤ Designing ➤ Constructing ➤ Planning ➤ Producing ➤ Inventing ➤ Devising ➤ Making								

<http://www.kurwongbss.eq.edu.au/thinking/Bloom/investigate%20a%20book%20the%20blooming-smart%20way.doc> (accessed 10/2007)

# Investigate a Book - Fiction or Non-fiction

K.Torrisi (page 1 of 4)

	Word	Logic and Maths	Space and Vision	Body	Music	People	Self	Nature
Remembering	<ul style="list-style-type: none"> <li>* Write an Acrostic poem using the main aspect of the book.</li> <li>* Make an A to Z list from your book.</li> <li>* Use your white hat and list information about your text.</li> </ul>	<ul style="list-style-type: none"> <li>* Draw a pie graph to illustrate facts from the text.</li> <li>* Construct a timeline relating to your text.</li> </ul>	<ul style="list-style-type: none"> <li>* Make a visual chart of things from your book - Write 5 words to describe them.</li> <li>* Do a drawing of an interesting part of the book.</li> </ul>	<ul style="list-style-type: none"> <li>* Basic mime - happy, sad etc. discuss and model steps for miming.</li> <li>* Move like something from your text. Play statues.</li> <li>* Use your face to create some emotions you may have felt when reading your book, or emotions portrayed by characters.</li> </ul>	<ul style="list-style-type: none"> <li>* Does music play a part in this text? Describe how.</li> <li>* Learn a new song about this topic.</li> <li>* Look for song about the text.</li> <li>* Name sounds you would hear in the text- list them.</li> </ul>	<ul style="list-style-type: none"> <li>* Work with others to make a list of the "Top 5" most important parts of the text.</li> <li>* Tell a partner 10 things you know about your book.</li> </ul>	<ul style="list-style-type: none"> <li>* Write a learning log - what you have gained or learnt from the book.</li> <li>* Draw and write about your favorite part of the book.</li> <li>* Do you already know anything about this book or had any experiences relating to the text. If so, write about them.</li> </ul>	<ul style="list-style-type: none"> <li>* Are there any animals or natural settings in your book? If yes, draw and describe them. If no, could their have been? Draw and describe them.</li> </ul>
Understanding	<ul style="list-style-type: none"> <li>* Retell an interesting part of the book in your own words.</li> <li>* Recount own experience in relation to the book.</li> </ul>	<ul style="list-style-type: none"> <li>* Design a puzzle or maze that presents the main setting / topic of the text.</li> <li>* Develop a "How to ..... relating to the text.</li> </ul>	<ul style="list-style-type: none"> <li>* Design a bookmark featuring the title author and a summary of your book. Decorate the bookmark with pictures about the book.</li> </ul>	<ul style="list-style-type: none"> <li>* Play charades with names of books you have read on this topic.</li> <li>* Act out movements from your book.</li> <li>* Do some mimes</li> </ul>	<ul style="list-style-type: none"> <li>* Choose a passage from the text. Read aloud and make sound effects with different objects to link with the text.</li> <li>* Describe the</li> </ul>	<ul style="list-style-type: none"> <li>* Role play an important part from your book.</li> <li>* In a group, design 5 questions that could be put on a test about your book.</li> </ul>	<ul style="list-style-type: none"> <li>- Draw a picture about how the text makes you feel.</li> <li>* Explain in a diary entry how the text makes you feel.</li> </ul>	<ul style="list-style-type: none"> <li>* Find Photographs in magazines which could be included in your book. Under each picture write why and where they would be included.</li> </ul>

	<p>*Make a wordsearch from the text.</p> <p>* Write a set of true or false questions about the book.</p>		<p>*To show what you know about the book make a picture book/ mural/ poster/ collage.</p> <p>* Illustrate the main idea of the book.</p>	relating to your book.	<p>sounds you would hear in the text.</p> <p>* Record sound effects for your book.</p>			
	Word	Logic and Maths	Space and Vision	Body	Music	People	Self	Nature
Applying	<p>*Write a radio advertisement for your book telling people why they should buy it. Refer to title and author.</p> <p>*Write a postcard to someone about your book.</p> <p>*Locate 5-10 words you found difficult to read or understand. Use a dictionary to find the meaning of these words. Write the words and their</p>	<p>* Make up a number problem relating to the text.</p> <p>*Draw a plan/map to scale relating to your book.</p> <p>* Compile all the information from your text you would need in order to solve a problem.</p>	<p>* Make the following relating to your book so students could learn while they are using them;</p> <ul style="list-style-type: none"> <li>- a cartoon</li> <li>- pop-up book</li> <li>- mural</li> <li>- jigsaw</li> <li>- poster</li> <li>- collage</li> <li>- puppets</li> <li>- maps</li> <li>- diorama</li> <li>- wanted poster</li> <li>- mobile</li> </ul>	<p>* Use sign language to teach skills or information from your book to others.</p> <p>*Do Theatre sports relating to your book.</p>	<p>*Write words for a radio jingle about the book to encourage people to read it.</p>	<p>* Play celebrity heads relating to your book.</p> <p>*Share some of your work with the class.</p> <p>* Sharing circle - share your thoughts/beliefs and opinions about the book with others.</p>	<p>*What was good, not so good and interesting - complete a PMI relating to your book.</p> <p>* Write a diary entry from the main character or the authors point of view about the most interesting part in the book.</p> <p>* Are there any problems in your book? If so list the problems and write how you would solve them.</p>	<p>* Could this book help you in any way with the study of the environment? If yes how?</p>

	meanings.							
Analyzing	<p>*Compare and contrast - Storylines, characters, attitudes using a Venn Diagram.</p>	<p>* Play 20 questions relating to your text.</p> <p>* Do a PMI ( Plus Minus Interesting) relating to your text.</p> <p>* Design a survey and graph the results relating to your book.</p>	<p>* Design a new front cover for the book you have read. Make it visually appealing so it will attract readers. Refer to other book covers to see what to include.</p> <p>* Use a Venn diagram or semantic web to display the main concept of your book.</p>	<p>* Write and present a play or a skit about your book.</p> <p>* Physically demonstrate a "How to....." relating to your book.</p>	<p>* Create a soundscape for your favorite part of the book. Tape and play it for the class/ group.</p>	<p>* Debate with a friend-The reasons not to miss this book - Why not to read this book.</p> <p>* Conduct an interview with another person who has also read your book. Take notes and present it to the class.</p> <p>* Analyse a problem from the story from 2 different perspectives.</p>	<p>* If you met the author or a character from your book what 5 questions would you most like to ask them? List them.</p>	*
	Word	Logic and Maths	Space and Vision	Body	Music	People	Self	Nature
Evaluating	<p>*Review the book from someone else's perspective.</p> <p>* Write recommendations to.....</p>	<p>* Use your Black/ Yellow/ Red hats to clarify your perspectives on the book.</p> <p>* Give your book a rank or rating. Write why you gave it this rating, compared to other books.</p>	<p>* Do you think this book needs illustrations? Write 3 reasons why or why not by referring to the text. Explain and draw some illustrations you would include.</p> <p>*What changes</p>	<p>* Evaluate your own performance, write criteria and give yourself an overall comment with recommendations for improvement.</p> <p>*Evaluate someone else's performance</p>	<p>* Choose a sound to represent each of the characters in the book. List them.</p>	<p>* Develop a set of 5 criteria to decide if the book will interest other people. Survey students.</p> <p>* Write a letter to someone recommending they read your book - give</p>	<p>* Explain your feeling to a particular part of the book - why do you think you feel this way?</p>	

			would you make to the illustrations? Draw some.  *Develop criteria for evaluating book covers. Create a checklist.	using the criteria above.		reasons why.		
Creating	<p>*Use the information you have gained from the book to create a debate. Write pro's and con's.</p> <p>*Write a new ending for the book.</p> <p>* Design a set of test questions that the teacher might give to someone who has read this book. Include an answer sheet.</p>	<p>*Create a board game about the text. Give it a name. Make the board, rules etc. Teach and play it with a friend.</p> <p>* Create a code relating to your book.</p> <p>* If the answer is..... Write 5 questions for each answer.</p> <p>*Create a crossword puzzle about your book.</p>	<p>*Draw a new ending for your book. Write about it.</p> <p>*Design an all new board game relating to your book.</p>	<p>* Devise an entertaining puppet play relating to your book.</p> <p>* Create your own sign language which would help others understand the book.</p> <p>*Design a rap, dance or mime which displays your understanding of the book.</p>	<p>* Create a sound for each of your six favorite</p> <p>*Make up and perform a TV.Ad using your jingle.</p> <p>*Write a song or nursery rhyme with the same title as y2007)our book.</p>	<p>* With a partner or in a group conduct a debate relating to the book.</p> <p>*Devise an educational campaign to promote reading. Mention your book as an example for students to read..</p>	<p>*Explain what you are still confused about/ don't understand from the book. Create a list of things that could help you to better understand when reading.</p> <p>* Make some predictions about what might happen in the future - relating to the book.</p>	<p>* Collect material from nature to create a picture/ scene to compliment your book. Write about the process you undertook and why you chose the picture. Also write which part of the book it compliments and why.</p>

Based on Bloom Taxonomy, Gardners Multiple Intelligences and De Bono's Six hats <http://www.kurwongbss.eq.edu.au/thinking/Bloom/investigate%20a%20book%20the%20blooming-smart%20way.doc> (Accessed 10/07)

**QUESTIONING STRATEGIES** are an excellent way to challenge gifted students. This is especially true with students who mastered specific unit concepts. Gifted students need to move from a focus on knowledge to critical analysis and creative thinking questions in specific curriculum. Teachers need to also ask probing questions and encourage students to generate their own questions\*.

*What do I do?*

- √ Record several higher level thinking questions on an index card before a discussion. This can help teachers feel more comfortable, especially if they are new to leading discussions.
- √ Allow an appropriate wait time for higher level thinking questions (5 seconds or longer), and be prepared to probe and challenge comments by students. Probing can include statements such as what did you mean by...., or tell me more about what you said. Also encourage different responses from students after asking a question. In other words, don't settle for one response!
- √ Have questioning stems taped to student's desks. Students can formulate questions using the stems either before a discussion, or after reading a body of information as a means to study the material.
- √ Teachers can increase their repertoire of questioning strategies by taking district courses such as Jr. Great Books, Socratic Seminar, and differentiation for gifted students.

\*Please note that the question strategy examples are a small sample of options.



## **Questioning Strategies- examples**

### ***Bloom's Taxonomy:***

- Knowledge- recalling facts, observations or definitions.
- Comprehension- giving descriptions, stating main ideas and comparing.
- Application- applying or generalizing information to a new setting; applying techniques and rules
- Analysis- making inferences and generalizations and identifying motives or causes
- Synthesizing- creating new solutions, solving problems and making predictions.
- Evaluation- giving opinions about issues, judging the validity of ideas and assessing the merit of solutions to a problem.

### ***Creative Problem Solving:***

- Fact Finding- list all that is known about a problem
- Problem Finding- list alternative problem statements, such as "In what ways might we..."
- Idea finding- generate solutions
- Solutions finding- generate criteria to evaluate the solutions, and select one or more of the best ideas
- Acceptance finding- formulate an action plan addressing who is involved, what will occur, and when and where the plan will take place

### ***Creative Thinking Behaviors:***

- Fluency- generate many ideas
- Fluency- generate ideas using different perspectives
- Originality- create solutions that are unique and unusual
- Elaboration- adding on to ideas

### ***Scamper (can use during brainstorming; or use separately)***

- S- substitute- what could be substituted to solve the problem?
- C- combine ideas- what ideas could be combined to solve the problem?
- A- adapt- what else is this problem like?
- M- modify, magnify or minify- what could you make smaller or larger to solve the problem?
- P- put to different uses- how could you put this to a different use?
- E- eliminate- what could you eliminate to solve the problem?
- R- rearrange, reverse- what could you rearrange to help solve the problem?

**CUBING** uses Bloom's Taxonomy as a means to organize specific activities. Bloom's Taxonomy is typically used by teachers to frame the asking of questions, but for cubing it's used to frame the implementation and complexity of activities.\* Therefore, gifted children typically complete the higher level activities, such as analysis and evaluation. Cubing activities may address different learning styles; e.g., auditory, visual, kinesthetic. Cubing is implemented after specific concepts have been taught and students' readiness levels have been assessed.

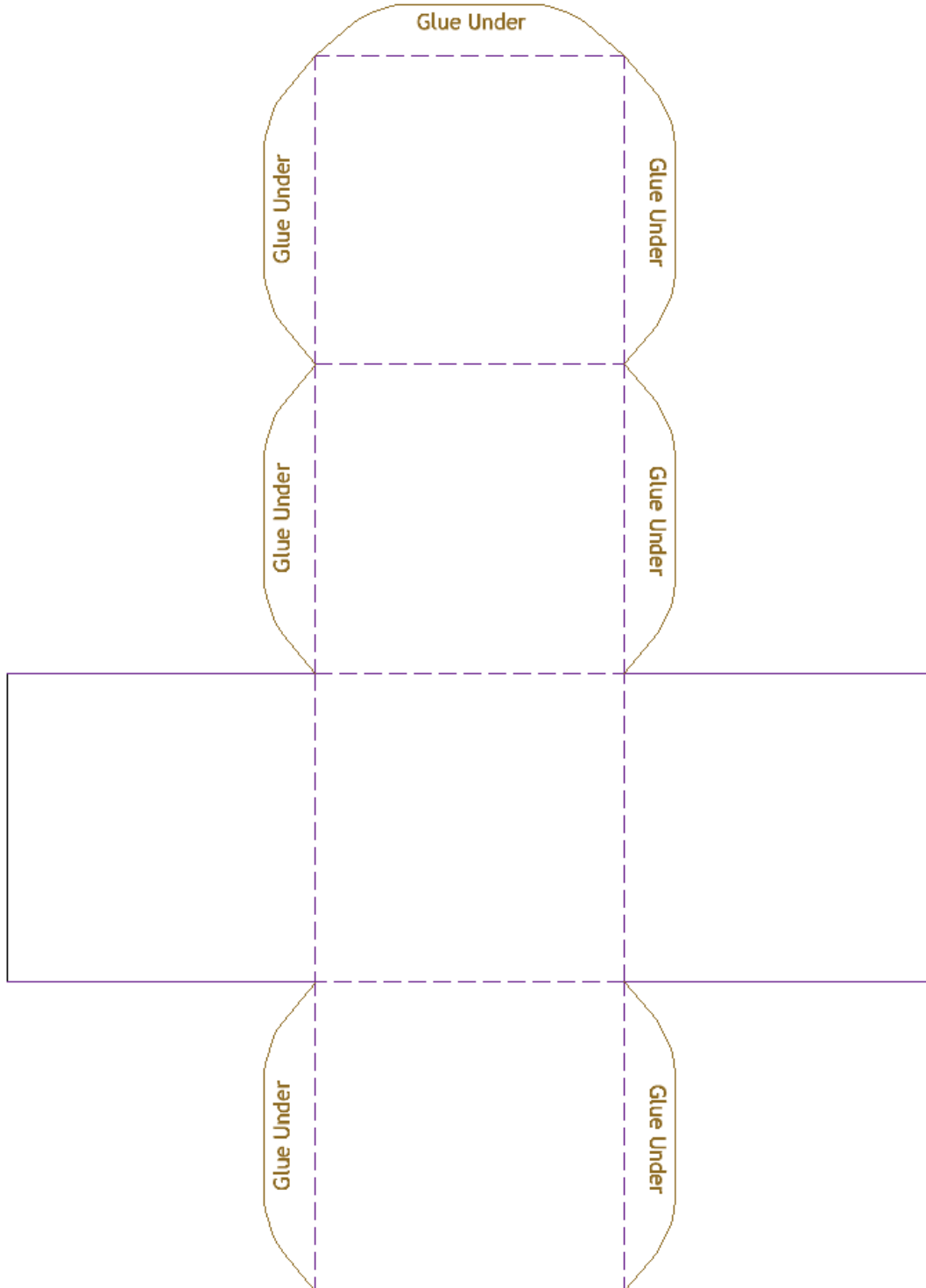
*What do I do?*

- √ One option is to distribute the cube to those students who mastered the unit concepts. The teacher and/or the student may select one or more activities to complete; e.g., analysis, application. Periodically, the teacher may create a rubric to assess the completed activities.
- √ Another option is to group students in a general classroom by readiness levels. Therefore, students who achieved mastery of unit concepts would be grouped together and complete the advance cube activities, while students struggling with unit concepts, complete activities focused on knowledge and comprehension levels. The teacher may allow the grouped students to choose from 2-3 activities that correspond to their readiness level. Consider color coding the cubes to specific readiness levels.
- √ The third option is to give each student a handout identifying the activities they can select based on their readiness level. Cubes would be given to a group of students, and activities would be selected and completed. The teacher may allow students to choose from 2-3 identified activities that correspond to specific readiness levels. Teachers may select an activity for a student to complete, and the second activity is selected by the student.
- √ Cubes can also be used to address interest. For example, cubing activities could address students interested in investigating scientific inventions, famous people and/or the arts during the Civil War.

\* The cubing example uses Carol Tomlinson's revision of Bloom's Taxonomy, in which synthesis is replaced by associate, and application is located under evaluation in the taxonomy.

## Cubing Template

After you create the cube, print it on heavy paper and assemble



## Cubing Example

After you create the cube, print it on heavy paper and assemble it.

**Science standard:** Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.

	<b>Describe:</b> using instruments in the room, collect the current temperature, precipitation, humidity and air pressure and record the data on a graph.	
<b>Compare:</b> create a venn diagram displaying the similarities and differences between recorded temperatures in Colorado Springs and another location in the world for a month	<b>Associate:</b> write a story and describe the feelings of an animal adapting to different weather conditions during the four seasons.	<b>Analyze:</b> collect and graph weather data over the year. Give a presentation describing why specific patterns occurred, and support opinions with specific facts. Include visuals.
	<b>Apply:</b> work with a scientist, collect and record weather data to solve a real-life weather problem in the community.	
	<b>Evaluate:</b> research whether the U.S. is moving toward global warming or not. Make a presentation supporting one viewpoint of the global warming issue citing specific data.	

**TIERED ACTIVITY** is an assignment that is taught at different levels of difficulty. Tiered activities are implemented after specific benchmarks and concepts have been taught and students' readiness levels have been assessed. A teacher can pre-assess and tier assignments based on specific unit benchmarks and concepts, skills such as using a compass or protractor, or thinking and reading ability. Tiered activities are not easy to write initially, but they are an excellent way to challenge advanced students and manage the grouping of students, especially if the class has a wide range of ability and/or skill levels.

*What do I do?*

- √ Determine specifically what will be pre-assessed after benchmarks and concepts have been taught. A teacher can pre-assess for mastery of benchmarks and concepts, skills, reading and/or thinking ability.
- √ After the pre-assessment has been administered, create an assignment that is at different levels of difficulty. Be sure there are common elements between the different leveled activities. For example, the tiered assignments will require students to read a book, write a paper or generate questions.
- √ Make sure that the tiered assignments are interesting, high level and cause students to use key skill(s) to understand a key idea.
- √ The advance level of the assignment should move from the familiar to the unfamiliar. The focus should be more complex, abstract, encourage greater independence and have students define their own problem. In contrast, the foundational portion of the assignment should be more concrete, structured, clearly defined and at a slower pace.
- √ For tiered assignments to be effective, the time requirement for each tier should be approximately the same. The lower tiers usually require a greater level of support than the higher tiers do, but the **amount** of work should be similar.

## **Tiered Activity: Elementary Example**

**Benchmark:** Find perimeter of squares and rectangles on a grid.

**Readiness:** Knowledge, skills (measuring, scale), and thinking skills

**All students will:**

- Measure objects and draw them on paper
- Label and determine perimeters for each object

**Group #1 (foundational level)-** Students will measure different objects in the classroom and draw the objects to scale on a sheet of paper; e.g., top of desk, books, etc. Once the objects have been drawn, students will label and determine the perimeter for each object.

**Group #2 (advanced level)-** Students will measure several rooms in their home and draw them on a piece of paper using a different scale. Once the rooms have been drawn, students will label and determine the perimeter for each room.

## **Tiered Activity: Secondary Example**

**Benchmark:** Read, respond to, and discuss literature that represents points of view from places, people, and events that are familiar and unfamiliar.

**Readiness assessed:** reading, writing and thinking skills

**All students will:**

- Read a play written by Shakespeare
- Recite passages using appropriate pronunciation.
- Create and wear costumes reflective of Elizabethan England.

**Group #1 (foundational level)-** Students will read a play written by Shakespeare. Parts will be assigned and students will recite passages using appropriate pronunciation. They will also create and wear costumes reflective of Elizabethan England.

**Group #2 (advance level)-** Students will read a play written by Shakespeare. They will research and write an original play using words that were used during Elizabethan England. Students will recite the passages from their original play using appropriate pronunciation. They will also create and wear costumes reflective of the times.

## Tiered Product: Example

### Language Arts Example

**Standard:** Students speak for a variety of purposes and audiences

**Product:** Students will create a successful sales presentation to ensure a company will purchase their product

**Criteria for all students in the classroom:**

- Research a successful sales presentation and listen to a salesman describe how to give a successful sales pitch.
- Write a one-page paper outlining the main points of the presentation.
- Include at least two visual components that enhance the presentation. The visuals should be neat and original.
- Presenters will include knowledge of the new company; e.g., citing figures.
- The presenter will concentrate on word choice and eye contact.
- The sales presentation will last at least five minutes.

**Criteria for specific gifted students:**

- The presenter will also include inflexion, volume, phrasing and physical gestures in the sales pitch.
- The presenter will cite specific tips from research and the professionals interviewed.
- Besides the visual component, the sales presentation will include at least two elements that are original.

**TIC-TAC-TOE** uses a menu approach to enrich and extend curriculum, especially for students who mastered specific unit concepts. The students can either choose or are assigned specific activities. Tic-tac-toe activities for gifted students are most appropriate when Bloom's Taxonomy is implemented, and higher level tasks are selected or assigned; e.g., evaluation, analysis, etc.

*What do I do?*

- √ Prepare a list of activities focused on a topic of study and/or specific concepts. Be sure to include several advanced activities that challenge gifted and advanced students.
- √ One option is to assign analysis, application or evaluation activities to advanced students who mastered specific unit concepts. The students may work on the assignments alone or in cluster groups.
- √ Another option is to have advanced students select specific assignments, or establish a balance between the teacher assigning one higher level assignment and the students selecting one.



## Tic-Tac-Toe Template

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


Note: Students can pick three in a row. To meet the needs of all students, arrange the activities in a manner to address a variety of learning styles or academic levels.

## Tic-Tac-Toe: Example

Topic: Plants and trees

Write a first-person story in which the main character is a giant plant that has recently been placed in a family's home.	Do a research study about an organization that is working to save endangered plants from extinction. Plan a campaign to save a plant or tree you admire, using visuals.	Read ten or more poems about plants. Write poetry about plants that interest you.
Read about plants that have been reintroduced to new environments. Create a mural that depicts the effects of these plants being reintroduced.	<b>Student Choice</b> <i>Discuss your choice with your teacher before you begin...</i>	Plan and present a debate about the merits of preserving an area for exotic and rare plants. The other side of the debate would give reasons to develop the area into homes or shopping.
Pretend you're a botanist who has just discovered a fossilized plant. Share information about how the plant lived, why it became extinct, and how it might have been saved from extinction.	Imagine that your family acquires an unusual plant. Present information about some of the joys and challenges of having the plant.	Create a composite plant or tree with elements of several plants. Convince someone else that it's the best plant or tree in the world.

**CURRICULUM COMPACTING** is used to "buy back" time for students who mastered the main concepts and benchmarks of a unit of study. Therefore, pre-testing before a unit of study becomes essential. Pre-testing can include a pencil/paper assessment, interviewing students, reviewing class work or having specific students work on the most difficult problems of the upcoming unit. Students who meet mastery level on a pre-test (85%-90%), are either accelerated to the next unit of study or provided extensions. Students are encouraged to provide input on the type of extension they complete, especially if it's centered on independent research.

*What do I do?*

- √ Pre-test before a unit of study. Determine mastery level and the type of pre-test administered.
- √ Determine whether a student who achieves mastery should be accelerated to the next unit of study or provided an extension. If the latter is selected, decide the type of extension, the degree the student has input and the outcome. Sometimes the extension may be in a content area that a student has great interest, but wasn't compacted in.
- √ Document the pre-test result and the type of extension (including acceleration to the next unit of study). See the examples documenting the curriculum compacting.
- √ Determine how you plan to manage your classroom while one or more students are being compacted. For example, when will the student work on the extension? How will the compacted student notify you concerning when he or she needs help?

# Curriculum Compacting: example of documenting

Student's Name: Jennifer (3<sup>rd</sup> grade)

Areas of Strength	Mastery level	Alternate Activity
Social Studies: Use latitude and longitude to locate specific places.	Pretest: 90%	While hiking with parents, use a compass to determine specific locations on a topographical map.
LA: Draw inferences and conclusions from text	Reading discussion observation: 95% accuracy	Research and create a presentation comparing and contrasting lifestyles during the Roman Empire with current lifestyles in Colorado Springs.

Student's Name: Juan (6<sup>th</sup> grade)

Areas of Strength	Mastery Level	Alternate Activity
Social Studies: Identify the factors that contributed to population movement.	Pretest chapter test: 85%	Identify an area in the world that has significant population growth. Research and make recommendations on how to curb the area's population growth.
LA: Write a thesis and supportive evidence	Written thesis met scoring guide criteria "4" or higher	Learn how to create a list of prime Fibonacci numbers on the computer.*

\*Sometimes an extension may address a content area different from what was assessed, especially if a student is passionate about the content area.