

Resources

Vocabulary Strategies

KIM Vocabulary Chart

The KIM vocabulary chart is simple to use and can be done as a student handout or students can set up pages in their notebook for this strategy. The strategy is based upon a 3 column graphic organizer. Students write the key term (K) in the left column, information (I) about that term in the middle column, and provide a memory clue (M) in the form of a drawing in the last column.

Frayer Circles

Frayer circles are graphic organizers consisting of a small inner circle which contains the term or concept being addressed surrounded by a larger outer circle divided into four sections in which students add additional information related to the original term. The original Frayer model labels these four sections as Definition, Characteristics, Examples, and Nonexamples. Many variations can be made by changing the sections to include illustrations, word usage, or characteristics.

Concept Definition Web

Concept definition webs assist students in gaining insight into the meaning and characteristics of key vocabulary. The webs are filled in as a student reads and studies about a particular term. The strategy here is to create a rich full understanding of the term by answer three basic questions: "What is it?" "What is it like?" and "What are some examples?" While a blackline master is provided for this graphic organizer I have found students would rather create their own using Cmap (freeware), inspiration, or SMART ideas software.

Reading Comprehension Strategies

Directed Reading/ Thinking Activity DR/TA

In the strategy students complete a graphic organizer that can be photocopied or reproduced in the student's notebook. Here the students are encouraged to be actively engaged in the material by accessing prior knowledge, predicting, checking on their predictions and summarizing. This strategy can be incorporated into several areas of the 5-E instructional model often used in science courses. It can be used to engage students, to explore a topic through reading, or can be used to evaluate students on knowledge gained from the reading assignment.

Text Mapping

Text mapping has been beneficial to many of the students I have been working with over the past two years, especially those who struggle remembering what they were assigned to read. This strategy combines elements of a concept definition web (Barton & Jordan) and those of the P.L.A.N. strategy (Caverly, Mandeville, & Nicholson). The text map is used both as a pre-reading and a during reading strategy. Students survey the assigned reading section of the text making note of the headings,

subheadings and boldface terms from the selection. Students then use this information to create a map of the assigned section. Students then review the map placing a check mark beside new vocabulary or concepts. Students can then add supporting information to the map as they read the assigned text. Students also enjoy this strategy using Cmap or other mapping software.

Four A's Text Protocol

For using the four A's text protocol we developed a graphic organizer for the students to use to complete their response to each of the four questions. This strategy is best used with articles from newspapers or magazines. The strategy actively engages students in reading while helping to develop critical thinking skills

References:

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Sources of Auxiliary Text

New York Times Science, www.nytimes.com/pages/science/

Reports the latest in headline science while not getting too technical for the classroom. Also provides enlightening essays and graphics on many scientific topics. Some of the graphics work very well for document based question discussions.

Science News The Magazine of the Society for Science and the Public www.sciencenews.org

This biweekly publication is a excellent source for the latest word in science although many articles will only be appropriate for honors or other advances courses.

Great Books Foundation www.greatbooks.org

The Great Books Foundation has three terrific volumes devoted to science topics. These include **The Nature of Life: Readings in Biology**, **Keeping Things Whole: Readings in Environmental Science** and **What's The Matter: Readings in Physics**. A class set of any of these anthologies will provide an excellent collection to supplement many programs. The material in these anthologies is taken from the original authors who made ground breaking discoveries in science.

Mapping Software

Cmap

A freeware mapping tool available at <http://cmap.ihmc.us/conceptmap.html>

SMART Ideas

Concept mapping software package from SMART Technologies. <http://www2.smarttech.com/st/en-US/Products/SMART+Ideas/>

Webspiration

An online mapping program. Great for use with projection equipment or SMARTboards. Students can even collaborate on mapping projects. Now in Beta from so subscription to the site is free!
<http://mywebspiration.com/>

Socratic Seminar Information

<http://www.greece.k12.ny.us/instruction/ela/SocraticSeminars/overview.htm>

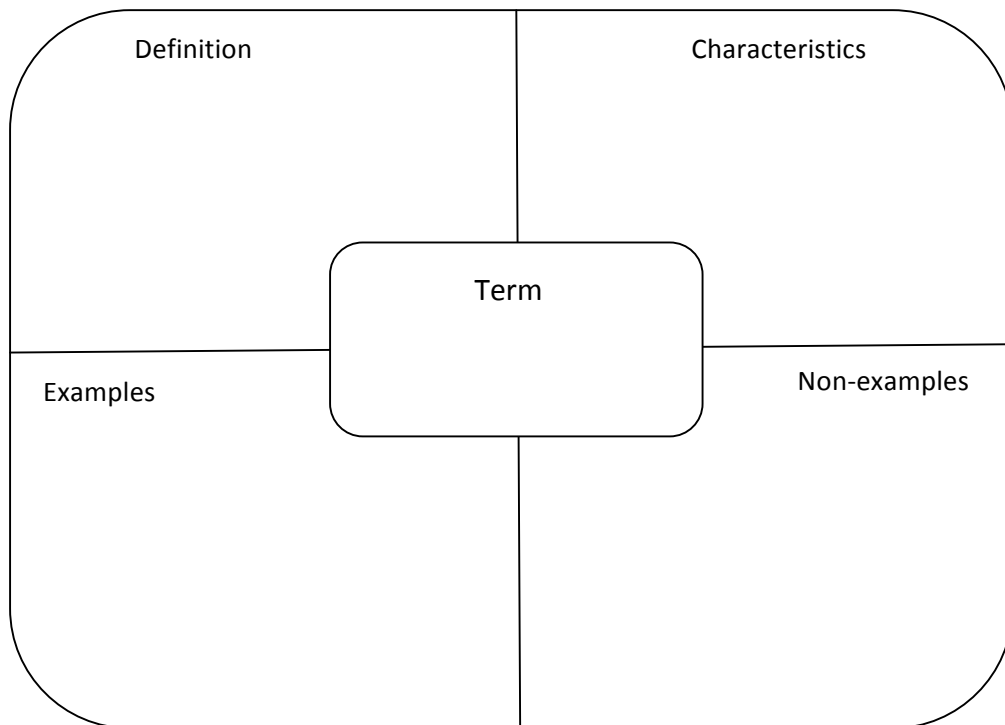
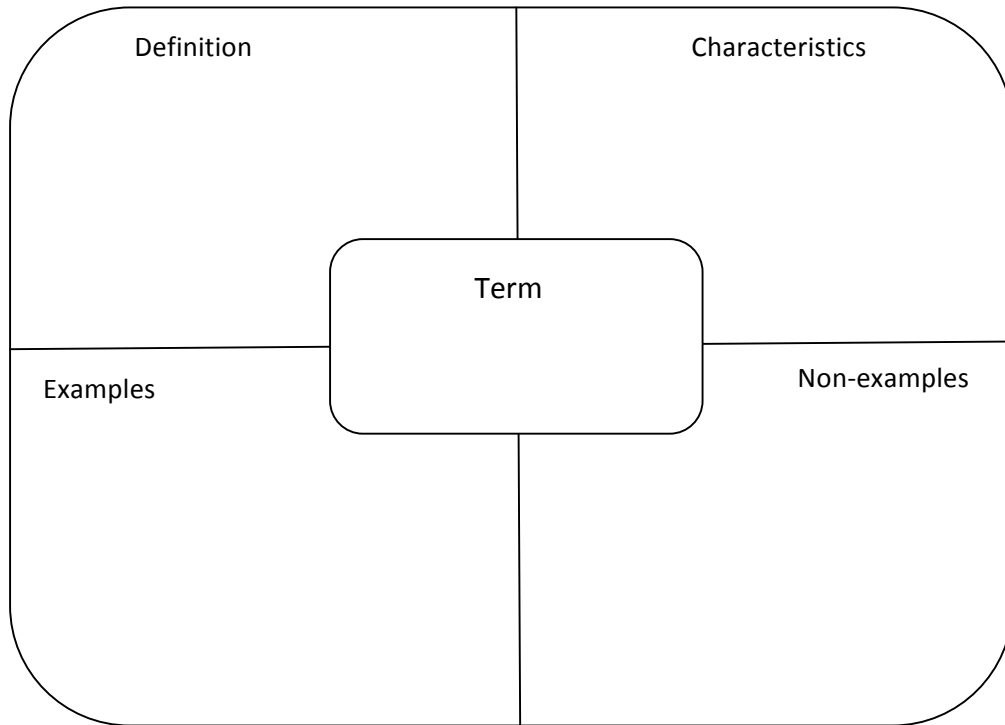
<http://www.socraticseminars.com/education/whatare.html>

<http://www.paideia.org/content.php/system/index.htm>

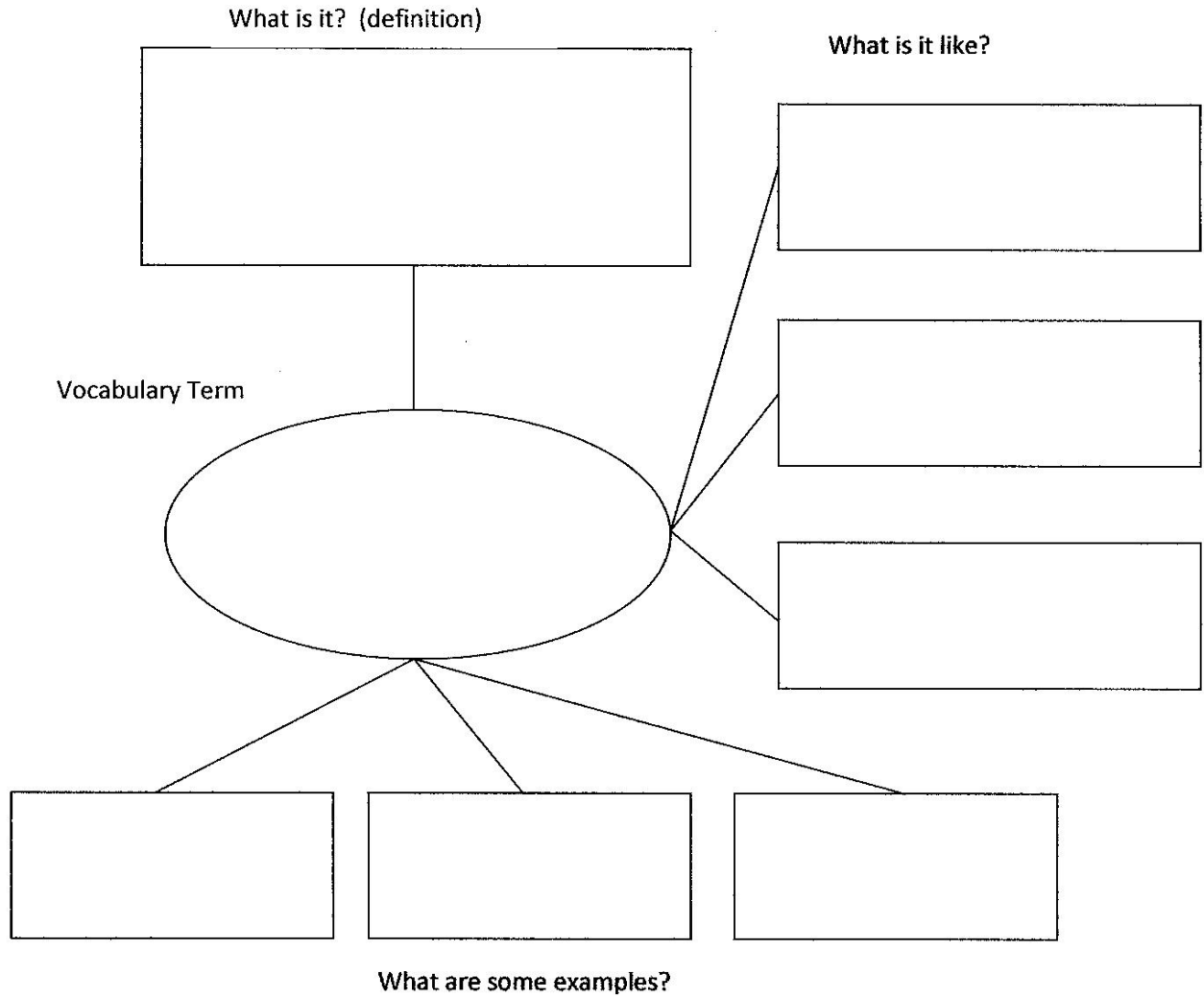
KIM Vocabulary Chart

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Frayer Vocabulary Circles



Concept Definition Web



Barton, Mary Lee & Deborah L.Jordon. Teaching Reading in Science 2nd edition. Aurora: MCREL, 2001.

DRTA: Directed Reading Thinking Activity

Directed Reading/Thinking Activity
What do I already know about this topic?
What do I think I know about this topic?
What do I think I will learn from this reading?
What do I know that I learned from this reading?

Text Mapping

Text mapping has been beneficial to many of the students that I have been working with during this term. The strategy combines elements of a concept definition web (Barton & Jordan 2001) and those of the P.L.A.N. strategy (Caverly, Mandeville, & Nicholson 1995). The Text map is used as both a pre-reading and during reading strategy.

Students survey the assigned reading section of the text book making note of the headings, subheadings, and boldfaced terms from the selection. Students then use this information to create a map of the section of text. Students then review the map placing a check mark beside new vocabulary or concepts that may be new and unfamiliar to them. An example of one of these maps is shown in below.

This strategy allows the student to see vocabulary that is associated with larger concepts and to focus on new information. The maps also serve as a very useful tool to reviewing information.

One of the selling points of this strategy was the use of readily available software packages to assist students in creating the maps. Software such as SMART Ideas by Smart Technologies works great for teachers wishing to demonstrate any type of concept map or web to the class. The software can be obtained from Smart technologies and is not very expensive for a single license for use with a smart board or projector. An even better alternative especially for the students is Cmap. Cmap, while not offering quite as many design elements as SMART Ideas, works great for simple mapping. The software is free and students and teachers can install it on their computers. Students can select different shapes or colors to aid in keeping ideas together.

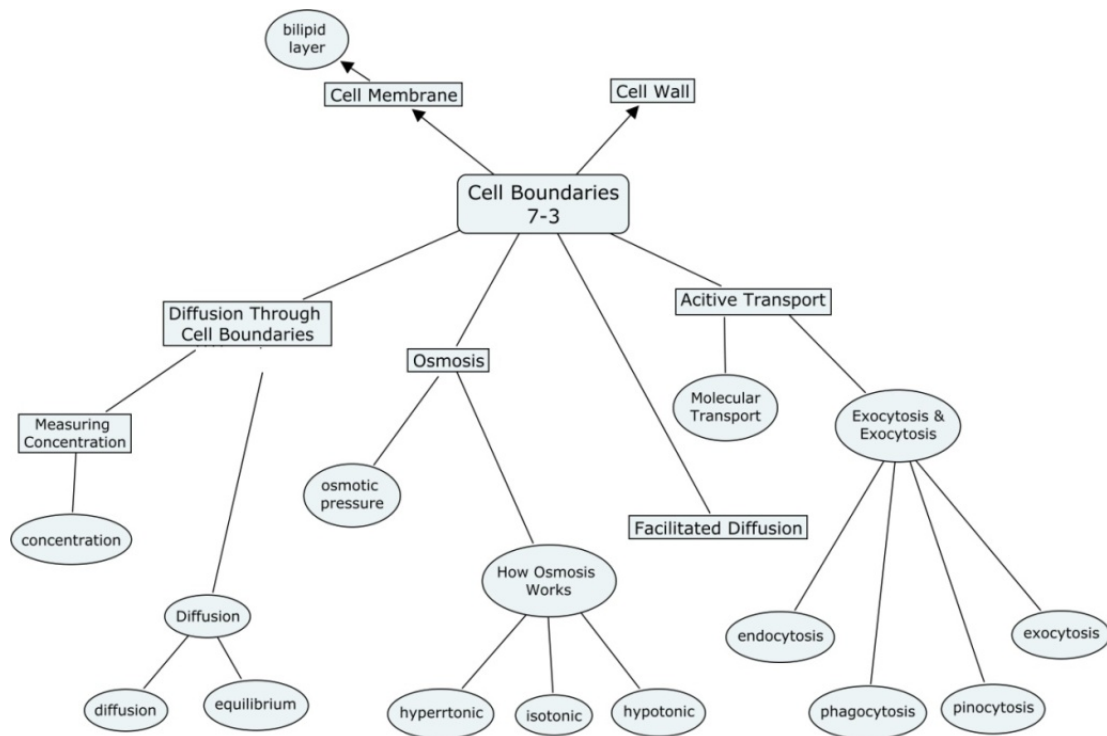


Figure 1 Sample text map for section 7-3 of student textbook.

Four A's Text Protocol

Title of Article: _____ Author: _____

Source: _____

What ***Assumptions*** were made by the author?

What do you ***Agree*** with in the text?

What do you want to ***Argue*** with in the text?

How does this text ***Apply*** to you?