

Technical Reading

By: Nancy Volk

Introduction

Reading technical materials requires a different skill set than reading for pleasure. In this set of activities, there will be an emphasis on strategies that can assist with reading technical materials. You will need to keep a notebook for these activities, and have the following materials: highlighter, pencil, pen and eraser.

In today's world there is so much information available that it can be overwhelming. Learning how to handle the quantities of information, and how to process this, is an extremely important skill.

Organizing, summarizing, skimming, and capturing the main idea are just a few skills needed to process information efficiently.

Read Together

We will look at some information from the NASA website to help us out. Use the article on Jason-1 and OSTM (Ocean Surface Topography Mission) found at:

science.nasa.gov/missions/jason-1/

or go to www.nasa.gov and type Jason-1 into the search bar. Select the title: "Missions-Jason-1-NASA Science". Work through the steps using the article. Investigate the question, "How do we find out information about our Oceans?"

Like any skill, practice improves the ability level, and makes the process easier. We will practice some of the skill areas in the following steps for reading a technical paper:

1. Quickly scan the paper or article for headings or headlines.
2. Use the headings to help you create a mind map.
3. Skim the paper, and highlight the key sentence or idea in each paragraph.
4. Add the key ideas to the mind map.
5. Read the article and add any items that stand out that have not been noted.
6. Review your mind map.
7. Underline and define any unknown terms.
8. Summarize your understanding in writing or verbally.

MOST*

HELPFUL TERMS

Altimeter

Ocean Eddies

Ocean Topography

Oceanography

Radiometer

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New York State Standards

Elementary

Classifying, communicating, comparing and contrasting, gathering and organizing data, inferring, interpreting data, manipulating materials, observing

Standard 1: Scientific Inquiry: Key Idea 1: s1.1a, s1.1b, s1.3

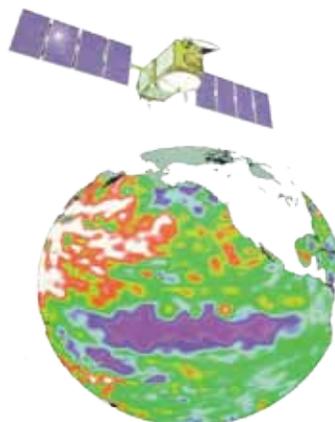
Skills and Strategies for Interdisciplinary problem solving:

Working effectively, gathering and processing information, presenting ideas

General Skills:

i, iii, iv, ix, x, xii, xiii, xvii, xviii

Standard 4: The Living Environment
Key idea 3: 3.1a



Activity: Technical Reading Application

What to do:

1. Quickly scan the paper/article for headings.

This article is short, and does not have headings. It is interesting to note the information highlighted under the picture of Jason-1:

- Phase: Operating (ongoing)
- Program Title: Earth Systematic Missions.

What did you note?

2. Use the headings in order to create a mind map.

A mind map is a diagram used to represent: words, ideas, tasks, or other items that can be connected to a central key word or idea (wikipedia).

3. Skim the paper and highlight the key sentence or idea in each paragraph.

This may generate more ideas to add to or fine-tune your mindmap.

4. Add the key ideas to the mind map.

See figures added in green on the mind map.

5. Read the article, and add any items that stand out that have not yet been noted.

6. Review your mind map.

New items added to mind map in red.

7. Underline and define any unknown terms.

Write out the meaning of any acronyms.

8. Summarize your understanding in writing or verbally.



MOST*

MATERIALS NEEDED

Directions

Article to Read and Evaluate

Notebook

Students should be able to:

Read a technical article, and complete a mind map

Summarize the key points in a technical article

Define unknown terms in a technical article

Process Questions

Name: _____

Date: _____

1. Did you add more items to your mind map as you went through the steps? Explain your process.

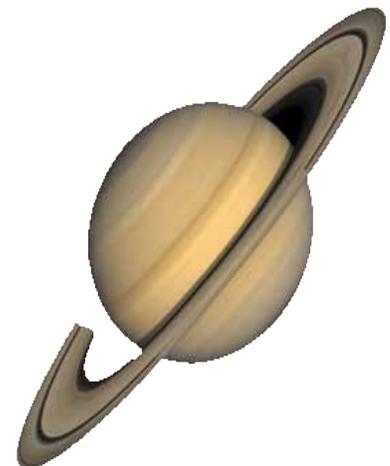
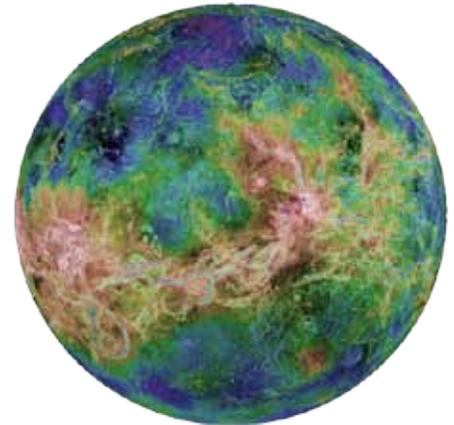
2. Were you able to summarize the main ideas at the end of the steps?

3. What steps seemed most helpful to your process?

4. Do you have other strategies that you use to help you read and remember information from a technical article? If so, please share this information.

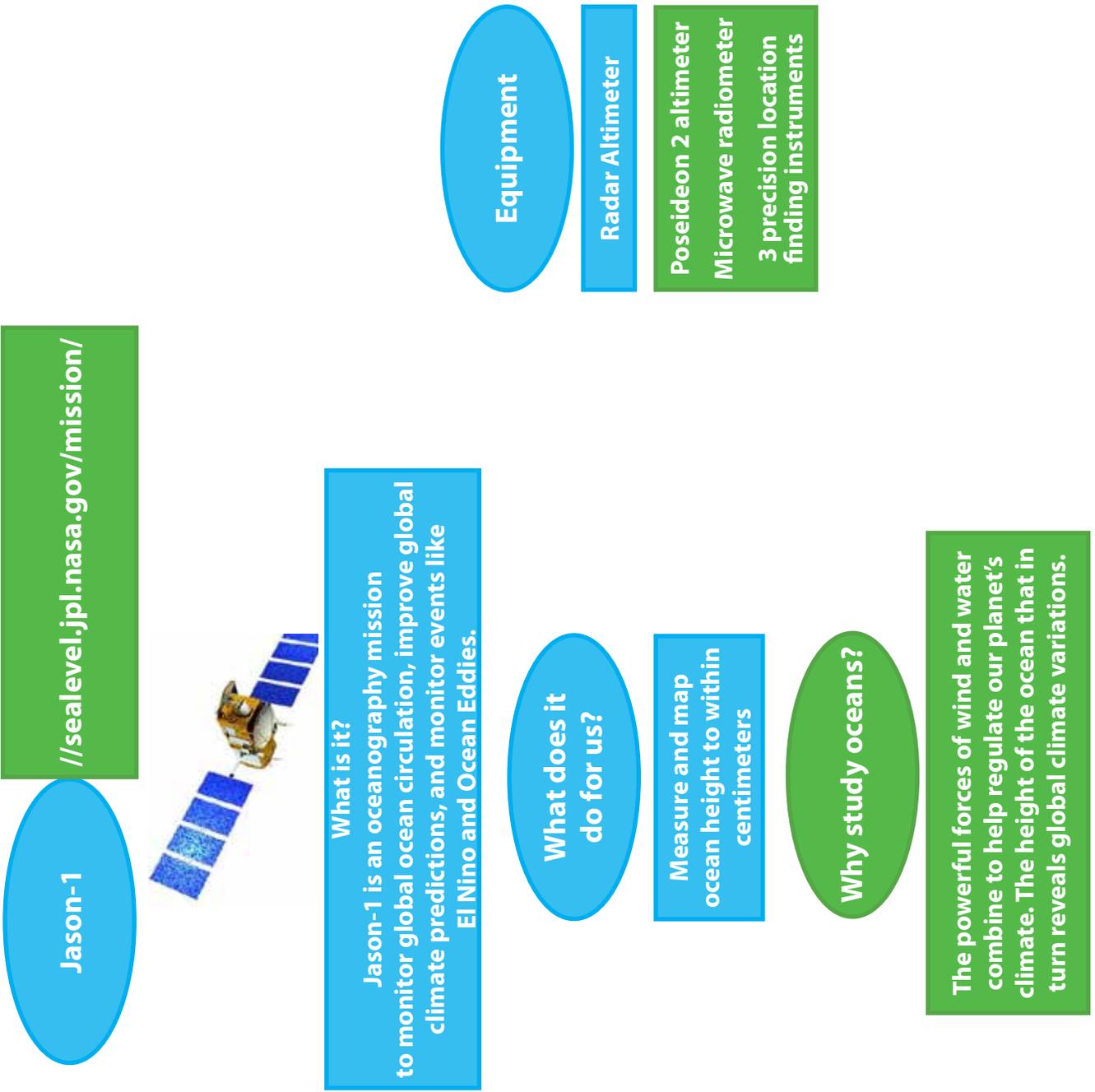
Helpful Tips:

Search the main NASA website; www.nasa.gov, for an article that interests you. Repeat the same steps, using your science notebook to write down the information. Be prepared to share your information with the class. Be prepared to turn in your mind map, and vocabulary list to your instructor.



- Step 1 and 2
- Step 3 and 4
- Step 5 and 6

Mind Map



Jason-1

[//sealevel.jpl.nasa.gov/mission/](http://sealevel.jpl.nasa.gov/mission/)

What is it?
 Jason-1 is an oceanography mission to monitor global ocean circulation, improve global climate predictions, and monitor events like El Nino and Ocean Eddies.

What does it do for us?

Measure and map ocean height to within centimeters

Why study oceans?

The powerful forces of wind and water combine to help regulate our planet's climate. The height of the ocean that in turn reveals global climate variations.

Details

Currently operating.
 (Launched on December 7th, 2001)

Original Plan to last 3 years.
 Joint project between NASA, and France's Centre National d'Etudes Spatiales.

Equipment

Radar Altimeter

Poseidon 2 altimeter
 Microwave radiometer
 3 precision location finding instruments

Information for the Teacher

If you would like to cover other topic areas, such as various space missions, then assign parameters for the search on the NASA website. Search for topics like the names of missions, topics such as weather or global warming, etc.

Complete the technical reading, using each of the planets names and articles found on the NASA website (simply add the name of the planet in the search engine, and select the World Book). Divide the class up into groups, assigning each group a different planet to research. Have each person complete their reading, and fill out a planet information sheet along with their mind maps. Share the information with the class.

Planet Activity Sheet: _____

Name of the Planet: _____

Period of Rotation: _____

Period of Revolution: _____

Mass: _____

Distance from the Sun: _____

Moon(s): _____

Distinguishing Features: _____

