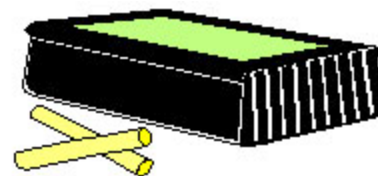




Teacher Information

Lesson Title: Venn diagram



Lesson Description: This lesson will teach students how to compare and contrast two different objects and draw a Venn diagram to communicate their ideas. The students will be able to use the Venn diagram as a strategy for analyzing items throughout the modules.

Learning Outcomes: Students will be able to:

- Draw and label an accurate Venn diagram
- Compare and contrast two different entities and determine 3 similarities and 3 differences
- Use a Venn diagram to compare and contrast two new terms
- Use the internet to help acquire information on new terms
- Make a quick presentation to the class or another student summarizing the new knowledge

Materials Needed:

Part I: Overhead projector and pens for notes, drawing compass for constructing circles, and the worksheets labeled “Venn Diagram” (one per student)

Part II: Internet access for every 2 to 3 students. Check ahead of time with the computer lab to be sure students have the proper access to the Internet.

Method for Part II: Use a computer and LCD projector to demonstrate the lesson to the whole class. Every student is responsible for completion of the worksheet.

Time Requirements:

45 minutes for teaching the skill of using a Venn diagram

45 minutes in the computer lab with an Internet connection

MST Standards: See overview chart

Assessment: Students will participate in a class discussion, complete a team Venn diagram, complete their own worksheet.



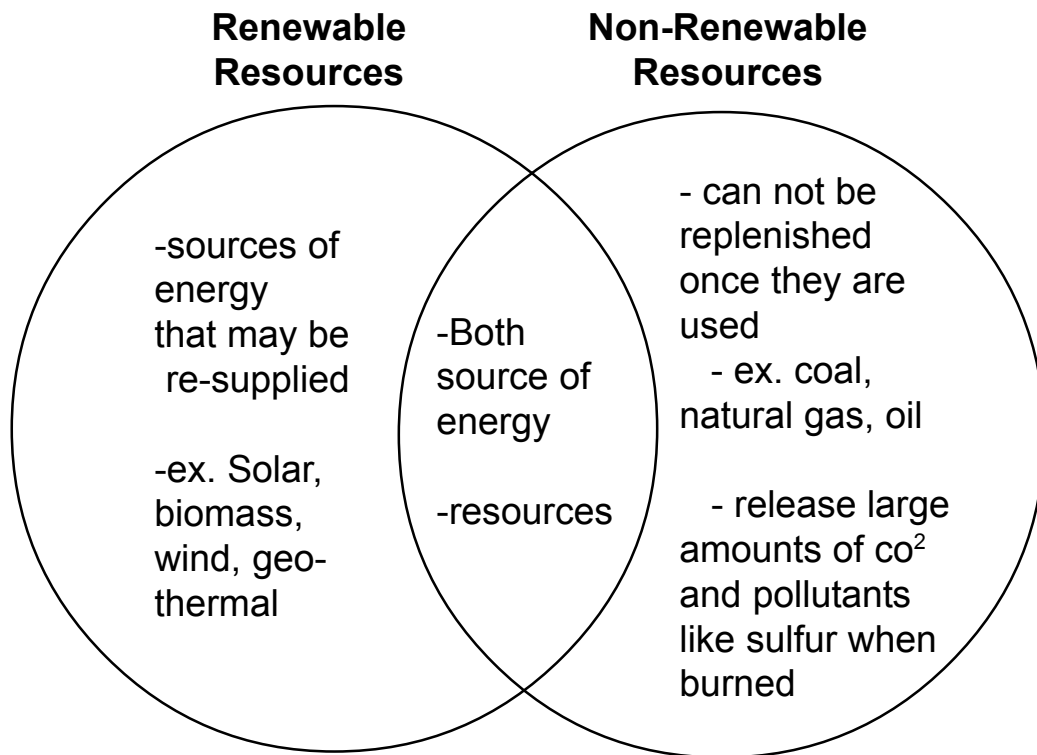
Teaching a Venn diagram: The Venn diagram is a wonderful mind organizer that requires students to analyze two different objects. It forces the students cognitive level of thought to operate in a higher domain. This module will make use of this process. Here are some aids to help teach this skill.



Step 1

Large Group Session

On the board construct two intersecting circles. Label one circle renewable resources and the other circle non-renewable resources. Ask the students to brainstorm about renewable resources. Place appropriate comments in the renewable resource circle. Ask the students to explain non-renewable resources and record these results in the other circle. Now discuss how the two terms are similar and record this information in the intersecting section. Make sure that the key information you want the students to know is included. If the discussion fails to generate some critical information then provide this example for the students.





Step 2 Partner Work

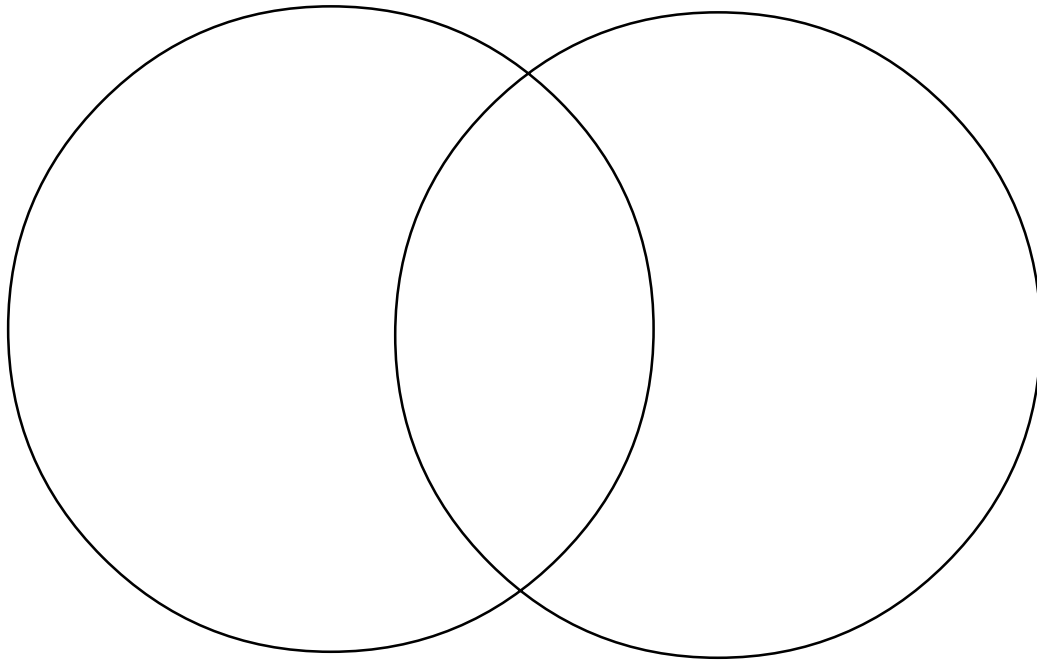
After completing the class discussion and a practice Venn diagram on renewable and non-renewable resources, break the class into partners or teams of three. Ask the teams to complete their Venn diagram worksheet on weather vs. climate. (A smaller version of the worksheet is presented below).

Name _____ Partner(s) initials _____

Date _____

Venn Diagrams

Directions: Label one of the circles below Climate and the other Weather. Complete the Venn diagram using the example activity. List at least three different ideas for each location.



After the students complete their team worksheet, have them share their results with another team. Highlight a few observations from their discussions.

Step 3

Individual Task:

You are now ready to use the Venn diagram activities found throughout the module. The students should proceed to the Electromagnetic Wave Venn diagram worksheet. Every student should complete his or her own worksheet. The completed worksheet will be your assessment tool for the Venn diagram lesson.



Recommended Rubrics: Rating out of 4

1pt = clearly labeled Venn diagram

1pt = web pages correctly accessed

1pt = notes taken for ultra violet and infrared waves

1pt = completed Venn diagram with 3 pieces of information in each portion

(Student worksheet smaller version below)

Name _____ Partner(s) initials _____

Date _____

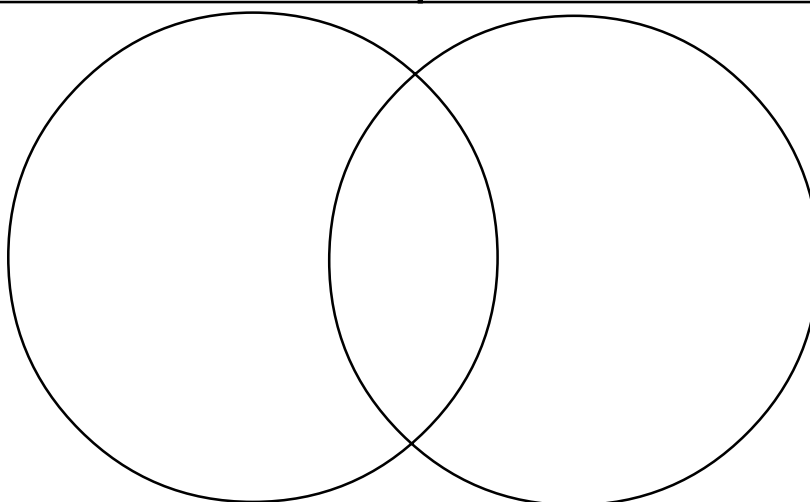
Ultraviolet vs. Infrared radiation

Directions: Label one of the circles ultraviolet radiation and the other infrared radiation. Complete the Venn diagram. List at least three different ideas for each part. (web site references)

http://www.smgails.org/physics/infrar_1.htm

http://www.smgails.org/physics/uv_1.htm

Notes on Ultraviolet Radiation	Notes on Infrared Radiation
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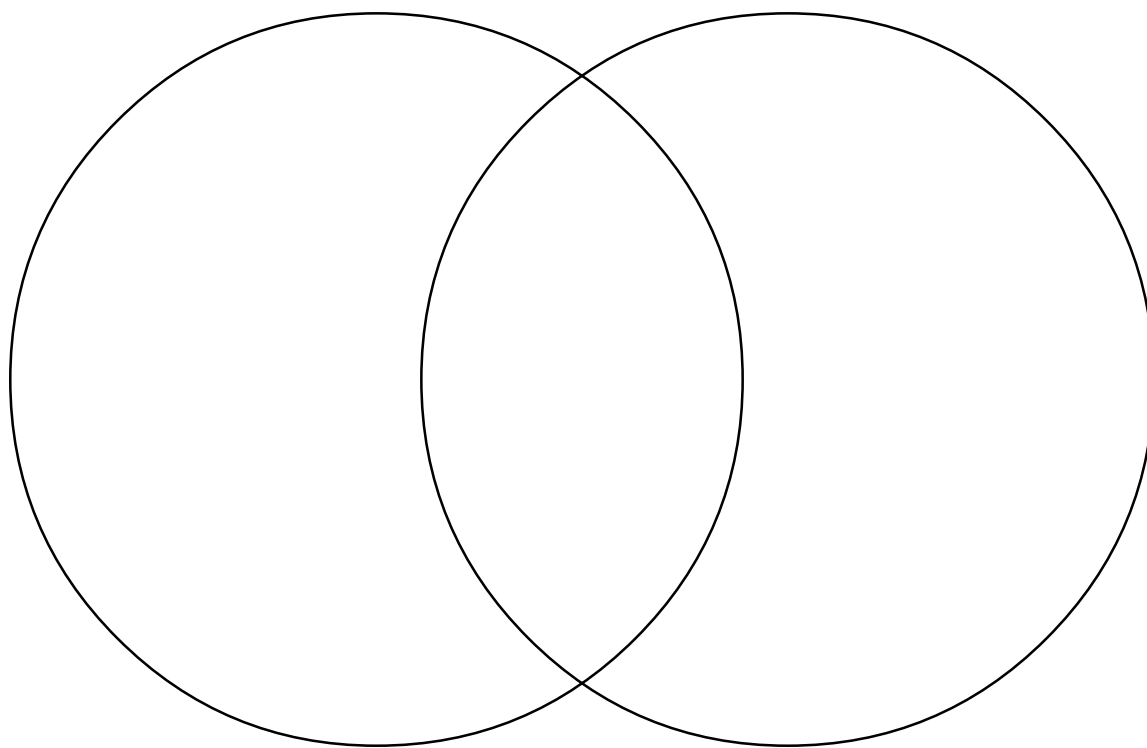




Name _____ Partner(s) initials _____
Date _____

Venn Diagrams

Directions: Label one of the circles below Climate and the other Weather. Complete the Venn diagram using the example activity. List at least three different ideas for each location.



Name _____ Partner(s) initials _____
Date _____

Ultraviolet vs. Infrared radiation

Directions: Label one of the circles ultraviolet radiation and the other infrared radiation. Complete the Venn diagram. List at least three different ideas for each part. (web site references)

http://www.smglaels.org/physics/infrar_1.htm

<http://www.smglaels.org/physics/home.htm>

http://www.smglaels.org/physics/uv_1.htm

Notes on Ultraviolet Radiation	Notes on Infrared Radiation
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