

Comet Bingo

References:

Some definitions and terms were found on the following websites:

http://www.windows.ucar.edu/tour/link=/comets/comet_nucleus.html

http://cse.ssl.berkeley.edu/SegwayEd/lessons/cometstale/com3_a.html

<http://www.solarviews.com/eng/comet.htm>

The unlabelled comet printout was found on the Enchanted Learning website at:

<http://www.enchantedlearning.com/subjects/astronomy/activities/label/comet/>

Grade: 8

Time: 30 minutes

Lesson Plan – Introducing students to comet-related terminology, parts of comets, and famous comets

Materials Needed:

- Pens
- Markers
- paper
- worksheets (see attached)
- Smart Board
- Internet access to <http://www.solarviews.com/eng/comet.htm>
- Sheet of vocabulary
- Index cards with vocabulary and definitions

Goals/ Objectives:

- Students will learn about different types of comets
- Students will be acquainted with different parts of comets
- Students will learn about famous comets
- Students will become acquainted with comet-related vocabulary

NJCCCS Addressed

- Standards 5.2.8B, , 5.6.8A, 5.6.8B, 5.7.8A, 5.7.8B, 5.9.8B in Science

Activities and Procedures:

- Part 1. Pass out comet vocabulary sheet the week beforehand so students are able to find definitions to terms. Depending on size of the class, students may be broken up into teams that will be responsible for looking up different words.
- Part 2. On day of lesson, pass out vocabulary sheets with definitions on them. Allow students to ask for clarification on any vocabulary that they do not understand or any vocabulary that they did not find.
- Part 3. Put up website on Smartboard to display diagrams and information about different comets.
- Part 4. Have students fill in their Comet Bingo game boards with their choice of vocabulary words, making sure that they use ink to discourage cheating.
- Part 5. Read off definitions and have students call out what words associated with the definitions. Students will then mark their game boards with a marker whenever their word is called.
- Part 6. Give students examples of different comets and information about comets throughout the game.
- Part 7. Read off definitions until someone gets 5 squares in a row and calls out "COMET!" Game may be repeated if it ends too early.

Accommodations:

SLD

- Allow time for students to ask for help
- Give students ample time beforehand to understand vocabulary
- Allow students to ask each other for help
- Allow students to play Comet Bingo in teams if necessary
- Check up on students as they work
- Use pictures and diagrams when possible
- Offer help to students as they work

ELL

- Translate rules of games to the best of my ability
- Give vocabulary beforehand so they have time to look up words or ask for help
- Allow students to work with bilingual students
- Use pictures and diagrams when possible
- Allow students to ask others for help

- Use words and ideas that are easier to understand in place of more complicated vocabulary

Assessment/Homework:

- Monitor students as they work to make sure everyone is doing the assignment
- Have students share their work with others upon completion
- Students will be asked to label diagram of a comet for homework.
- Material covered will be reintroduced during a trip to the Newark Museum
- Homework will be given and then collected.

Follow-up:

Students will be reminded of this activity before their trip to the Newark Museum.

Name: _____

Date ___/___/___

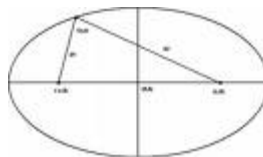
Comet Bingo

Name: _____

Date ___/___/___

Comet Vocabulary

1. **ion tail**- One of the tails found on a comet. This tail is formed when the neutral gas in a comet's coma is ionized by solar radiation. This tail is made of plasma.
2. **hydrogen envelope**- Large envelope of neutral hydrogen beside the tail of the comet.
3. **dust tail**- Tail of dust particles that trail the comet. These dust particles were pushed out of the comet's coma by solar radiation.
4. **coma**- Dense cloud of water, carbon dioxide, and other gases from the comet's nucleus. Another term for the comet's head.
5. **nucleus**- The frozen center of comet's head. It is made of ice, gas, and dust.
6. **orbit**- The path followed by the comet as it travels through space. The orbit is usually shaped like an ellipse.
7. **"dirty snowball"**- Term used to describe a comet. This term is based on the fact that the comet is composed of frozen water, dust, and frozen gases.
8. **head**- The head of the comet, also called the nucleus. The solid parts of the comet are found here.
9. **dust tail**- The tail of the comet that is curved and is composed of particulate solids. This tail is curved.
10. **plasma tail**- Another term for the ion tail of the comet. It is composed of gas that has been ionized by solar wind.
11. **The Great Comet of 1997**- Another term for the Hale Bopp comet. This comet was visible for a period of 18 months in the year of 1997. It will reappear in the year 4377.
12. **ellipse**- The shape of a comet's orbit. The figure below is an ellipse with two focal points.



13. **orbital period**- The amount of time it takes for a comet to complete its orbit. Comets have orbital periods that vary.

14. **perihelion**- The point of the comet's orbit where it is closest to the sun.
15. **aphelion**- The point in a comet's orbit where it is farthest from the sun.
16. **short-period comets**- Comets whose orbital periods are 200 years or less.
17. **long-period comets**- Comets whose orbital periods are over 200 years. (Some may even take over hundreds of thousands of years to complete an orbit.)
18. **single-apparition comets**- Comets that leave the solar system after passing the sun only once. They never return.
19. **main-belt comets**- Comets that orbit within the asteroid belt.
20. **Kuiper belt**- Belt of objects just outside of Neptune's orbit. Though the exact objects in this belt are unknown, it is predicted that it is composed mostly out of frozen ices.
21. **Edmund Halley**- English astronomer who predicted the orbital period of Halley's Comet.
22. **vaporization**- The change of a liquid or a solid to a gas.
23. **sungrazing comet**- comet that passes extremely close to the sun at its perihelion.
24. **telescope**- Visual aid that is used to see objects in space that are too far away to be visible to the naked eye.
25. **binoculars**- Visual aid that can be used to see some objects that are large enough or clear enough to be seen without the aid of a telescope.
26. **omen**- An event that is believed to tell the future. It was once believed that comets foretold very bad and evil things that were going to happen in the future.
27. **gravity**- Attractive force of sun or planets that influences the orbit of a comet.
28. **solar wind**- Stream of charged particles that is released from the sun.
29. **"jets"**- Spots on a comet where evaporation occurs on a comet.
30. **asteroids**- It is believed by some scientists that comets break down into asteroids once they lose their volatiles over time.

Name: _____

Date ___/___/___

Name The Comet!

Now that you know something about comets, label the parts of the comet below and give definitions for the following comet parts. .

1. Coma-

2. Dust tail –

3. Hydrogen envelope –

4. Ion tail –

5. Nucleus –

