

Astronomy 1 - Planets of our Solar System

I. Introduction to Our Solar System

- _____ **A. Quarter 3 Pretest**
- _____ **B. Visual Demos**
 - 1. Meterstick on SmartBoard
 - 2. Basketball/Ping Pong Ball
 - 3. Universe Planets Size PowerPoint
- _____ **C. "Order of the Planets" Vodcast (22 minutes)**
- _____ **D. "Faster Than a Speeding Bullet" article**

II. Planets

- _____ **A. Guided Reading Chapter 21-1 Planets**
- _____ **B. "Pluto's not a Planet, Anymore" song**
- _____ **C. "Pluto" BrainPop**
- _____ **D. Chapter 21-1 Senteo Exit Slip**
- _____ **E. "Astronomy Terms" Vodcast (16 minutes)**
- _____ **F. "Rotation/Revolution of Venus and Earth" Gizmo (PP)**
- _____ **G. Planet Prezi Project**
- _____ **H. Planet Prezi Note-taking Sheet and Patterns/Connections (PP)**
- _____ **I. "Solar System" BrainPop**
- _____ **J. "At Home On Mars: Life On Mars" article**
- _____ **K. Planets Ediscio flash cards/Quizlets**
- _____ **L. Planets Standard Check should be taken by**
Percent Score

III. Small Bodies

- _____ **A. Chapter 21.5 attention getters**
- _____ **B. "Small Bodies of the Solar System" Vodcast (PP)**
- _____ **C. Chapter 21.5 Section questions, pg. 673, #1-13**
- _____ **D. Bill Nye "Outer Space" video**
- _____ **E. Small Bodies of the Solar System Ediscio flash cards/Quizlets**
- _____ **F. Small Bodies Standard Check should be taken by**
Percent Score

I. Introduction to Our Solar System

I-A. Quarter 3 Pretest

Percent Score

This is a pretest covering the topics you will learn about during third quarter. The score will not affect your grade since it is a pretest. Pay attention to the topics and types of questions while you take this pretest.

What topics seemed easy and/or familiar to you?

What topics seemed difficult and/or confusing?

I-B. Visual Demos: Meterstick(pg. 643), Basketball/Ping Pong Ball, Universe Planets Size PPT

1. The basketball represents an object in our Solar System. So does the ping pong ball.

What does the *basketball* represent? Hypothesis: Answer:

What does the *ping pong ball* represent? Hypothesis: Answer:

2. What planet is the largest? Smallest? Are the planets' sizes similar or quite different from each other? Explain your choice.

I-C. Order of the Planets Vodcast (also includes measuring distance in space explanations)

1. How fast does light travel?

2. What is a light minute? A light year?

3. Describe an astronomical unit (AU):

4. Write down a mnemonic device for remembering the order of the planets:

5. Describe what Pluto is classified as since it is no longer considered a planet:

I-D. "Faster Than a Speeding Bullet" article

Find this article with the answer keys for this packet. Read the article. Then, either draw the experiment at the bottom of the front page of your paper packet, or describe right here the experiment that was completed to calculate the speed of light. Pretty impressive, isn't it?

Description of the Experiment:

II. Planets

II-A. Guided Reading Chapter 21-1

Read pg. 644-647 and answer these questions to learn about the planets.

Section: The Nine Planets

1. What does the word *planet* mean?

- a. sky b. wanderers c. stars d. solar system

2. Ancient astronomers knew that planets were

- a. wandering stars. c. physical bodies.
b. full of life. d. easy to explore.

3. What scientific instrument first made it possible to study the stars and planets?

- a. gyroscopes b. microscopes c. spectroscopes d. telescopes

4. Which famous 17th century scientist used a telescope to explore the sky?
a. Copernicus b. Charles Darwin c. Galileo

OUR SOLAR SYSTEM

5. Our solar system consists of the _____, the _____, and many smaller objects.
6. What makes up the Saturn system? _____

MEASURING INTERPLANETARY DISTANCES

7. The average distance between the Earth and the sun is
a. the light-year. c. the kilometer.
b. the astronomical unit. d. the parsec.
8. Another way to measure distances in space is by using
a. a tape measure. c. a globe.
b. a road map. d. the speed of light.
9. The amount of time it takes light to travel around the Earth seven and a half times is _____.
10. The distance light travels in 1 minute is called a(n) _____.
11. How many light-minutes are there in one astronomical unit? _____

THE DISCOVERY OF THE SOLAR SYSTEM

12. Which new bodies were discovered after the telescope was introduced during the 17th century?
a. Uranus and Pluto c. Uranus and its moons
b. Neptune and Uranus d. the moons of Jupiter and Saturn
13. Which was the last planet discovered during the 20th century?
a. Mercury b. Neptune c. Pluto d. Uranus
14. Which eight bodies were known to make up the solar system before the invention of the telescope? _____

THE INNER AND OUTER SOLAR SYSTEMS

15. How many planets are in the inner solar system?
a. 10 b. 15 c. 4 d. 3
16. How many planets are in the outer solar system?
a. 6 b. 5 c. 11 d. 20

17. To which of these two groups does planet Earth belong? _____
18. The inner planets are also called _____ planets because their surfaces are dense and rocky.
19. Name the planets of the inner solar system. _____
20. Name the planets of the outer solar system. _____
21. Why are most of the outer planets called gas giants?

22. How do the inner planets differ from the planets of the outer solar system?

****When finished, correct your answers with an answer key to make sure you are on the right track.**

II-B. "Pluto's not a Planet, Anymore" song

1. What happened concerning Pluto in 1930? _____
2. Why is Mercury feeling hot? _____
3. A tough one: Why is Neptune nervous? _____
4. What does it mean that Pluto lacked the girth? _____
5. Where is Prague, who met there, and when was the meeting? _____

II-C. "Pluto" BrainPop

Go to www.brainpop.com and log in. Username is memmiddle and password is brainpop. Find the video called "Pluto", then watch it and learn. When finished, take the review quiz. Record the score you got on this practice quiz right here: _____

II-D. Chapter 21-1 Senteo Exit Slip

This will be done during class. Don't worry about writing anything down here.

II-E. Astronomy Terms Vodcast

		Create a Simile ex. Pumice, an igneous rock, is like a sponge because they are both full of holes)
	Definition	
Rotation		

Orbit		
Revolution		
Period of Revolution		
Period of Rotation		
	Definition	Planets that rotate this way
Prograde		
Retrograde		

II-F. “Rotation/Revolution of Venus and Earth” [Gizmo](#) (PP)

You will need a **computer** (not a Chromebook) and Chromies will need a Topper partner to complete this assignment together. Go to www.explorellearning.com and log in with the information provided by your teacher. Search for the gizmo titled Comparing Earth and Venus, then select “Launch Gizmo.” Complete the guide on your paper packet to gain a better understanding of the planets.

username:

password:

II-G. Planet Prezi Project Due date

Its time to take a space trip! Your group will be assigned a planet to research. Then, using www.prezi.com, you will bring the class on a journey to learn about your planet. Please consider the following guidelines:

1. Include: (use the following as a work checklist)

- ☐ all statistics included in the textbook
- ☐ the planet's average velocity (use mph)
- ☐ its atmospheric gases (if it has an atmosphere)
- ☐ its number of moons (if it has any)
- ☐ interesting facts unique to your planet. (Check these off as you include them.)

Use **THIS LIST of reliable websites to complete your research.

2. Include **pictures**. **DO NOT** choose a "ready-made" template from Prezi. Make your own. Use your creativity.
3. Find or create **at least one diagram**, chart, or graph to explain something related to your planet. (Make sure you understand what the diagram, chart, or graph is about!)
4. **Be prepared to present your prezi to the class.**
5. **If your teacher is up to it**, you may be required to use information and materials provided to color, cut out, and draw axis of rotation of your planet. Glue your planet the correct scaled distance away from the sun.

While preparing, keep the following in mind - they will be a part of your grade:

- ☐ Did we learn *new information*?
- ☐ Was the *required* information included?
- ☐ Was the information *explained well*?
- ☐ Was it a *creative* presentation (high quality prezi)?
- ☐ Did the presenters use good *eye contact/voice quality*?
- ☐ Did the presenters show *enthusiasm*?

1. For **modified requirements for dwarf planets**, include:

- ☐ all parts of the definition
- ☐ examples of dwarf planets, their locations, and the reason(s) why each is classified as a dwarf planet
- ☐ interesting facts unique to dwarf planets. (Check these off as you include them.)

*This group must still meet requirements 2-5 listed to the left as well.

II-H. Planet Prezi Note-taking Sheet **(PP)**

This sheet will be found on the paper packet. Thanks.

II-I. "Solar System" BrainPop

Go to www.brainpop.com and log in. Username is memmiddle and password is brainpop. Find the video called "Solar System", then watch it and learn. When finished, take the review quiz. Record the score you got on this practice quiz right here:

II-J. "At Home On Mars: Life On Mars" article

This article is in *Science World* magazine, pgs.6-9. Find the magazine with the answer keys for this packet. Read it. Think about it. Answer questions about it too.

1. What are some problems that need to be addressed if people are going to go on a mission to mars?

2. Imagine going to Mars and living with the adaptations proposed in the article. Describe how a possible day might go for you on Mars. (What things would happen differently than here on Earth?)

II-K. Planets Ediscio flash cards/Quizlets

Statistics:

of flashcards known:

of flashcards unknown:

II-L. Planets Standard Check

What was your score on this standard check?

Which questions did you answer incorrectly?

Will you be retaking this standard check?

How did/can you master the concepts in this standard check?

III. Small Bodies

III-A. Ch. 21.5 attention getters

This will be done during class. Nothing to write here.

III-B. Small Bodies of the Solar System Vodcast (PP)

While watching this vodcast, take notes on the Venn diagram provided in your paper packet.

III-C. Chapter 21.5 Section questions: Read pages 668 - 673 to answer questions #1-13 below **found on page 673. YES, THE QUESTIONS YOU NEED TO ANSWER ARE ON PAGE 673 IN YOUR RED SCIENCE TEXT BOOK!**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.

III-D. Bill Nye "Outer Space" video

III-E. "Small Bodies of the Solar System" Ediscio flash cards/Quizlets

Statistics:

of flashcards known:

of flashcards unknown:

III-F. **Small Bodies Standard Check**

What was your score on this standard check?

Which questions did you answer incorrectly?

Will you be retaking this standard check?

How did/can you master the concepts in this standard check?