

A Journey Through the Solar System: How Do Other Planets Compare with Earth?

Earth Science/Geology

Mr. Traeger

Name: _____

Period: _____

Date: _____

Use your book (Chapter 27), the Internet, and the videos that I show you to try to find the following information.

Part 1: Solar System Basics

1. Draw a rough sketch of the Solar System with the Sun on the left. Label the name of each planet, where it got its name from, and how far it is from the Sun in Astronomical Units. Don't forget to draw the asteroid belt! *Hint: My Very Excellent Mother Just Served Us Nine Pizzas!*
2. What is the likelihood that all of the planets would be perfectly aligned as seen in your drawing?
3. Why is there a difference between the inner planets and the outer planets?
4. What is another word for the inner planets? How about the outer planets?
5. Why would you never be able to see Venus or Mercury in the middle of the night?
6. Why would Venus and Mercury always appear to us in phases, like the moon? In other words, why do we never see a full Venus/Mercury?

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Part 2: The Inner Planets

	Mercury	Venus	Earth	Mars
1. Does the planet have an atmosphere? If so, then what gases is it made of?				
2. Does the planet have any moons? If so, name them.				
3. How much smaller or larger is the diameter of the planet compared to Earth?				
4. How would a day on the planet compare to a day on Earth?				
5. How would a year on the planet compare to a year on Earth?				
6. Describe what the surface of the planet is like. Any volcanoes, craters, or plate tectonics?				
7. How hot is %daytime+ on the planet? How cold is %nighttime+on the planet?				
8. Does the planet have a magnetic field?				
9. What is the amount of gravity on the planet compared to Earth?				
10. Would seasons on the planet be more or less intense than on Earth?				
11. Does the planet have liquid H ₂ O? Based on your findings, could the planet support life?				

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Part 3: The Outer Planets

	Jupiter	Saturn	Uranus	Neptune	Pluto
1. Does the planet have an atmosphere? If so, then what gases is it made of?					
2. Does the planet have any moons? If so, how many?					
3. How much smaller or larger is the diameter of the planet compared to Earth?					
4. How would a day on the planet compare to a day on Earth?					
5. How would a year on the planet compare to a year on Earth?					
6. Describe what the surface of the planet is like. How fast are the winds?					
7. What is the average temperature on the planet?					
8. Does the planet have a magnetic field?					
9. What is the amount of gravity on the planet compared to Earth?					
10. Would seasons on the planet be more or less intense than on Earth?					
11. Does this planet have an internal heat source other than the sun? If so, what from?					
12. Does this planet have a ring system?					

13. Why is Pluto referred to as an "oddball"? What is different about it compared to all of the other outer planets?

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Part 4: Planetary Satellites

1. What are the names of the moons of Mars? Why are they so irregular-looking?

2. Describe the characteristics of each of Jupiter's four main moons.

Io	Europa	Ganymede	Callisto

3. What is so significant about the following 2 moons of Saturn? Name all of the characteristics you can find.

Titan	Enceladus

4. What are the main moons of Uranus and Neptune and what are their characteristics?

Uranus	Neptune

Part 5: Comets, Asteroids, Meteoroids, Meteors, and Meteorites

1. What is a comet? Why are they so significant to the formation of life on Earth?

2. Draw the orbit of a comet and show how its tail, or coma, behaves in relation to the sun.

3. Describe the characteristics of the following:

Asteroids	Meteoroids	Meteors	Meteorites