

Gravity-Solar System

1. Open the [presentation](#) and answer the following questions.
(If you can split your screen so you have the presentation and your Google Doc open together it will make answering questions easier)
 - a. _____ creates an attractive force between all _____ that have _____.
 - b. What has gravity?
 - c. What does Newton's law of universal gravitation say?
 - d. If one object doubles in mass, then the gravitational force does what?
 - e. If both objects double in mass, then the force doubles twice, becoming what?
 - f. Are astronauts in the space shuttle far enough away from Earth to escape its gravity? What are they actually doing?
 - g. What is an orbit?
 - h. The sun has _____ times the mass of Earth and is _____ 110 times larger in diameter.
 - i. How long would it take an airplane to fly around the Sun?
 - j. A person is attracted to the Sun with the force of _____ a newton.
 - k. Earth's gravity gives the same person a weight of _____ newtons.
 - l. The gravity of the Moon is about ____ as strong as the gravity on Earth.
 - m. What causes ocean tides?
2. Watch the Edpuzzle and answer the questions.
 - a. Why would you land on the ground instead of floating off into space? ...
 - b. Who was the first person to seriously study gravity?

- c. Why do all objects, on Earth, always fall down?
- d. Does gravity really pull down?
- e. T/F: So, the closer objects are to each other, the stronger their gravitational pull is. Earth's gravity comes from all its mass. All its mass makes a combined gravitational pull on all the mass in your body. ... But because Earth is so much more massive than you, your force doesn't really have an effect on our planet.

3. BrainPop - Gravity

- a. What is gravity?
- b. According to Sir Isaac Newton, gravity depends on two factors. What are they?
- c. The moon's gravity is one-sixth of Earth's gravity. If you weigh 100 Newtons on Earth, how much do you weigh on the moon?
- d. How does the Sun's gravity compare to the Earth's gravity?
- e. Why is the Earth's gravity stronger than the Moon's gravity?
- f. According to Newton's laws, what might happen to the Earth if its orbit moved farther away from the Sun?
- g. What theory did Albert Einstein introduce to challenge Newton's ideas?
- h. According to Einstein, gravity:
 - i. Which of these would have the strongest gravitational pull?
 - j. What effect does the moon gravity have on Earth?

4. Watch the Edpuzzle video and answer the questions.

- a. What keeps Earth in its orbit around the sun?
- b. If there was no gravity from the sun, what would happen to earth?
- c. What is keeping the earth from crashing into the sun?

- d. What would need to happen for the Earth to crash into the sun?
- 5. TrueFlix: Read one of the books in either the "outer-space" or the "solar-system" section of the library and give 6 key facts that you learned in the book.
 - Fact 1
 - Fact 2
 - Fact 3
 - Fact 4
 - Fact 5
 - Fact 6
- 6. Watch the Edpuzzle video and answer the questions.
 - a. What types of things are included in our solar system?
 - b. Which force caused the formation of our solar system?
 - c. Which scientist is credited with creating a map that allowed us to predict the path of planets and stars in the night sky?
 - d. True or False: Earth's axis is perfectly straight up and down?
 - e. When it is summer in North America (northern hemisphere), it is _____ in Australia (southern hemisphere).
 - f. True or False: The stars revolve around Earth and that is why they are not in the same spot each night.
 - g. Which of the following is caused by the gravity of the moon?
- 7. Interactive Searching the Universe (click through the interactive and answer the following questions).
 - a. Where is the light coming from?
 - b. Who invented the telescope?
 - c. What are the two major types of telescopes?
 - d. Newton developed what to explain planetary motion.
- 8. Quizlet Learn - Gravity

- a. SI unit for mass.
 - b. unit of weight.
 - c. two factors that influence gravitational force.
 - d. The _____ mass you have the more gravity you have.
 - e.
 - f. An attractive force between any two objects depends on the masses of the objects and the distance between them.
 - g. Strongest gravitational pull in the solar system.
 - h. The amount of space an object takes up.
9. Put the answers to the Gimkit below.
- a. Projectile Motion
 - b. Netforce
 - c. Terminal Velocity
 - d. free fall
 - e. Gravity
 - f. Distance increases
 - g. Mass increases
 - h. free body diagram
 - i. Drag
 - j. Mass
 - k. Weight
 - l. Law of Universal Gravitation
 - m. Velocity
 - n. Air Resistance
 - o. 9.8 m/s/s
 - p. Newtons