

9J Gravity and space

Extension questions

Science Interactive LTD, PO BOX 50764 LONDON NW6 9AT email: sales@science-interactive.co.uk

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Answer the following questions:



Click mouse to reveal answer

- Q1. What is the force acting on an object due to its mass?
- Q2. What do we call a huge ball of gas that emits light?
- Q3. What orbits a star and reflects the star's light?
- Q4. What orbits a planet? (Our moon is one)
- Q5. What do you call it when the moon casts a shadow on the Earth?
- Q6. What do we call the path of a planet around the Sun, or a satellite around a planet?
- Q7. What is a word that means everything that exists everywhere?
- Q8. Which planet is nearest the Sun?
- Q9. Name the hot planet with acidic clouds, second closest to the Sun?
- Q10. Name our home, the third planet from the Sun?
- Q11. Name the red planet with canyons, volcanoes and polar ice caps?
- Q12. Name a huge gassy planet with a giant red spot?
- Q13. Name a gassy planet with a spectacular ring system?
- Q14. Name the third largest planet in our solar system, seventh furthest from the Sun?
- Q15. Name a pale blue planet, the outermost of the gassy planets in our solar system?
- Q16. Name the planet that is usually furthest from the Sun?
- Q17. What do we call the small lumps of rock or metal that move around the Sun, mainly between Mars and Jupiter?

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Answers:

- A1. Gravity
- A2. Star
- A3. Planet
- A4. Satellite
- A5. An eclipse
- A6. Orbit
- A7. The Universe
- A8. Mercury
- A9. Venus
- A10. Earth
- A11. Mars
- A12. Jupiter
- A13. Saturn
- A14. Uranus
- A15. Neptune
- A16. Pluto
- A17. Asteroids

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multiple choice

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1: What is the gravitational field strength here on Earth ?

- A 1 Nkg^{-1}
 - B 100 Nkg^{-1}
 - C 10 Nkg^{-1}
 - D 1000 Nkg^{-1}
-

2: If there were no gravitational attraction between the sun and Earth, Earth would ?

- A Crash into the sun
 - B Leave its orbit at a tangent
 - C Have the same orbit as Pluto
 - D Stop moving altogether
-

3: On Mars, the force of gravity is 4 Nkg^{-1} , what would a 50kg object weigh ?

- A 12.5 N
 - B 400 N
 - C 200 N
 - D 100 N
-

4: Approximately, according to the 'big bang theory,' how old is our Universe ?

- A 6000 years old
 - B 2 million years old
 - C 5 billion years old
 - D 12 billion years old
-

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multiple choice

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1: What is the gravitational field strength here on Earth ?

A

B

C 10 Nkg⁻¹

D

2: If there were no gravitational attraction between the sun and Earth, Earth would ?

A

B Leave its orbit at a tangent

C

D

3: On Mars, the force of gravity is 4Nkg⁻¹, what would a 50kg object weigh ?

A

B

C 200 N

D

4: Approximately, according to the 'big bang theory,' how old is our Universe ?

A

B

C

D 12 billion years old

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literacy in science

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Answer all the questions below:

 Click mouse to reveal answer

1) Unscramble the following words:

gryavit

erfoc

nonewt

oomn

2) Make three sentences using the following nine words or phrases:

solar system
force of attraction
moon

nine planets
between objects
orbits Earth

comets and asteroids
mass and distance
natural satellite

3) Match the word or phrase with the right meaning:

Mass

How planets move around the sun in an elliptical path

Gravity

The matter that an object contains

Orbit

The force of attraction between two objects with a mass

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literacy in science

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Answer all the questions below:

1) Unscramble the following words:

gravity

force

newton

moon

2) Make three sentences using the following nine words or phrases:

solar system
force of attraction
moon

nine planets
between objects
orbits Earth

comets and asteroids
mass and distance
natural satellite

3) Match the word or phrase with the right meaning:

Mass

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complete the sentence

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Place the right word or words to complete the sentence:

 Click mouse to reveal answer

never

gravity

phases

force

orbit

value

orbiting

direction

keeps

- Newton was the first to use _____ as an explanation to why all objects fall.
- In our solar system, there is Earth and eight other planets _____ the sun.
- A force always has a magnitude and_____.
- Gravity is the _____ of attraction that keeps the moon orbiting the Earth.
- There are eight distinct_____ of the moon throughout a lunar month.
- Weight is the_____of gravity acting on an object's mass.
- Artificial satellites _____ the Earth and are used by the military and weathermen.
- The _____ of g on the surface of Jupiter is approximately 26Nkg^{-1} .
- Your mass_____changes, wherever you are in the Universe, but your weight does.

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complete the sentence

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Place the right word or words to complete the sentence:

never

gravity

phases

force

orbit

value

orbiting

direction

keeps

- a) Newton was the first to use gravity as an explanation to why all objects fall.
- b) In our solar system, there is Earth and eight other planets orbiting the sun.
- c) A force always has a magnitude and direction.
- d) Gravity is the force of attraction that keeps the moon orbiting the Earth.
- e) There are eight distinct phases of the moon throughout a lunar month.
- f) Weight is the force of gravity acting on an object's mass.
- g) Artificial satellites orbit the Earth and are used by the military and weathermen.
- h) The value of g on the surface of Jupiter is approximately 26Nkg^{-1} .
- i) Your mass never changes, wherever you are in the Universe, but your weight does.