

Science 9  
Test Review-Space  
Answers

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#2a-i

a) Neptune

b) Jupiter

c) Mercury

d) Earth

e) Pluto

f) Saturn

g) Mars

h) Venus

i) Uranus

4. a) Earth is the 3<sup>rd</sup> planet from the sun

b) Earth is unique because it is the only planet that contains life as we know it, it also has a unique atmosphere which allows it to trap heat during the day and reduce the temperature decrease at night.

6. Some comets are seen much more often than others, depending on their orbit around the sun. Some comets have regular periods of revolution around the sun, which allow them to be viewable more often than others, which do not have a regular revolution around the sun.

18. Some benefits that scientists achieve by sending probes to objects in outer space is learning about those objects. Gathering data from other planets, moons and asteroids allows us to learn about those objects, and make comparisons between those objects and earth.

2. Be able to define each of the following (in a matching question)

Universe – everything that exists, including all matter and energy everywhere

Astronomy – the study of what is beyond the earth

Astronomer- the person who studies the planets

Solar System – the sun and all the objects that travel around it, including the planets and the moons of those planets

Non-Luminous – not making or emitting its own light, reflects light from other sources

Star – a large collection of matter that emits huge amounts of energy

Planet – a large spherical piece of matter, that revolves around a star

Meteorite – a meteoroid that reaches the ground

Axis – an imaginary straight line between the North and South Pole

Orbital period – the period of time required for an orbiting object to complete one revolution

Constellations – a group of stars that forms shapes or patterns

Probe – an unmanned space craft sent into space to obtain data and complete research

Satellite – a large natural object that travels in an orbit around a planet

Asteroids – small rocky objects

Asteroid belt – made up of thousands of asteroids one belt is found between Mars and Jupiter

Meteoroid – a lump of rock or metal trapped by Earth's gravity and pulled down through Earth's atmosphere

Meteor – a bright streak of light across the sky caused by a meteoroid

Comet – a chunk of ice and dust that travels in a very long orbit around the sun

Rotation – the spinning of an object on its axis

Revolution – the movement of one object travelling around another

Terrrestrial Planets- the inner planets closest to the sun made mostly of rock and metal

Gas Giants – the outer planets, furthest from the sun with atmospheres that consist mostly of gases such as hydrogen and helium

Orbit – the path an object takes as it moves around another object i.e. planets orbit around the sun

3. Answer each of the following questions.

- a. Put the planets in order starting with the sun and working outwards.  
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune
- b. What are the two reasons we have seasons here on earth?  
Rotation of the earth on its tilted axis because of this different parts of the Earth face the sun during the day and night.  
Revolution certain times during our orbit around the sun we are closer or further away from it.
- c. How long does it take the earth to make one revolution? rotation?  
Revolution = 365 days or 1 year  
Rotation = 1 day or 24 hours
- d. What are the major characteristics of the moon?  
Has no atmosphere  
Non luminous  
Filled with craters, hills and valleys
- e. What is the scientific term for a shooting star?  
Meteor
- f. What is the difference between natural satellites and artificial satellites?  
Natural Satellites - revolve around the planets  
Artificial Satellites - put there by humans
- g. What is a comet? How long does it take for Halley's Comet to make one revolution?  
A comet is a chunk of frozen matter that travels in an orbit around the sun. It takes Halley's Comet 76 years.
- h. Briefly describe a probe? Why are probes sent to other planets and moons? Why are space probes usually unmanned?  
An unmanned spacecraft sent to investigate objects in space such as planets, moons, asteroids etc.  
They are sent to take pictures, gather data, investigate and send information back to Scientists here on Earth.  
They are unmanned because of the length of time they spend in space. It will be impractical to send humans to space for the amount of years a space probe spends there.
- i. Which planet is described as the "goldie-locks" planet? Explain why?  
Earth is described as the "goldie-locks" planet because our neighbor Venus gets too hot and our other neighbor Jupiter is too cold and we are just the right temperature just like in the fairy tale of Goldilocks and the three bears.
- j. Describe the difference between a meteorite, meteor and a meteoroid.  
A meteoroid is a lump of rock and metal trapped by Earth's gravity and pulled down to earth's atmosphere.  
  
A meteorite occurs when meteoroids are large enough and hit the surface of the Earth.  
  
A meteor is a bright streak of light across the sky
- k. Describe the difference between a star and a planet.

Planets reflect light, do not twinkle and usually are cold or very cold.

Stars emit their own light, are larger than planets, appear to twinkle and are very hot.

1. Explain why a constellation appears to change position from hour to hour during the night.  
Earth is rotating on its axis, so all the objects in the sky, including the sun, moon, and stars, appear to change position from hour to hour.
  
- m. What are the major characteristics of the sun?  
Brightest star in the sky  
Provides Earth with energy, heat and light  
Has sun spots  
4.5 billion years old  
Takes light 8 min to travel from sun to us.