

Name:
Science Class:
Teacher:
Hand in day:

Y7 Science

Term 3: Homework Booklet

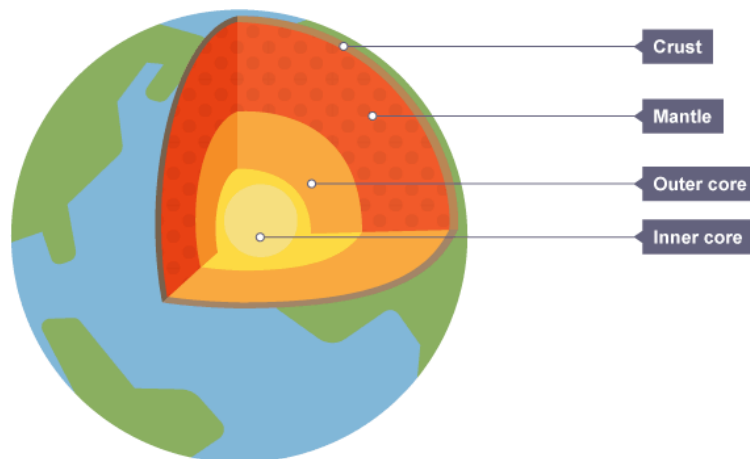
Physics

	Hand in Date	Parents Signature
Earth and Space		
Homework 1		
Homework 2		
Homework 3		
Homework 4		
Homework 5		

Space - Homework 1

Structure of the Earth

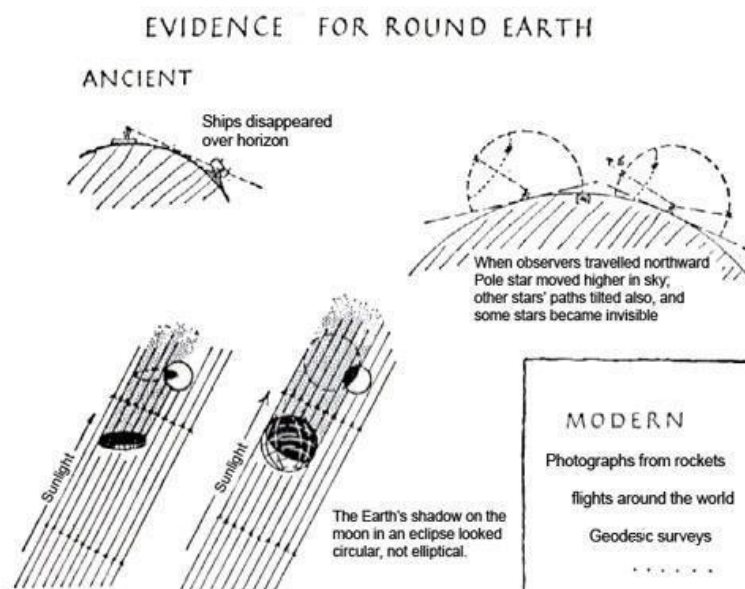
The Earth is made up of different layers.



1. **The inner core** is in the centre and is the hottest part of the Earth. It is solid and made up of iron and nickel with temperatures of up to 5,500°C.
2. **The outer core** is the layer surrounding the inner core. It is a liquid layer, also made up of iron and nickel.
3. **The mantle** is the thickest section of the Earth at approximately 2,900 km. The mantle is made up of semi-molten rock called magma.
4. **The crust** is the outer layer of the Earth. It is a thin layer between 0 - 60 km thick. The crust is the solid rock layer upon which we live.

Evidence for the shape of the Earth

1. Ships disappear over the horizon, from the bottom-up
2. The shadow of the Earth during a lunar eclipse is round
3. When you travel further North the Pole star (Polaris) moves higher in the sky and some stars cannot be seen, due to the curvature of the Earth
4. Photographs taken from space and the moon show the Earth to be a sphere.



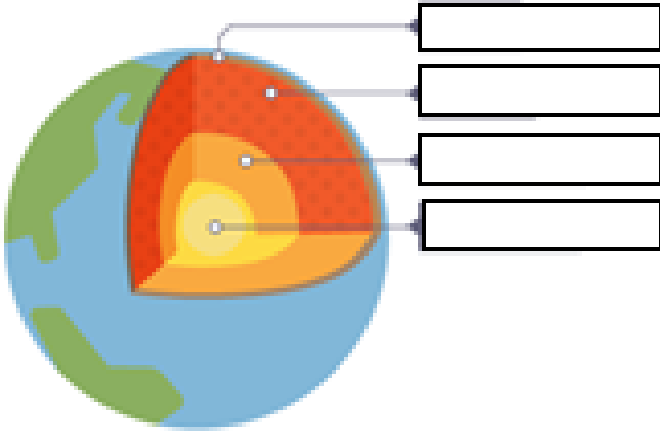
Questions

1. Which layer of the Earth is the hottest?
2. What state of matter is the outer core (solid, liquid or gas)?
3. Which two metals make up the inner core and outer core?
4. How thick is the mantle?
5. What is the name of the layer that we live on?
6. What do we see disappearing over the horizon from the bottom up as they move away from us?
7. What shape is the shadow of the Earth during a lunar eclipse?
8. What is the scientific name for the Pole star?
9. Photographs from space show that the earth is what shape?
10. What natural satellite of Earth is spherical in shape?

Space – Homework 2

1. What shape is the Earth?

2. Label the different parts that make up the structure of the Earth



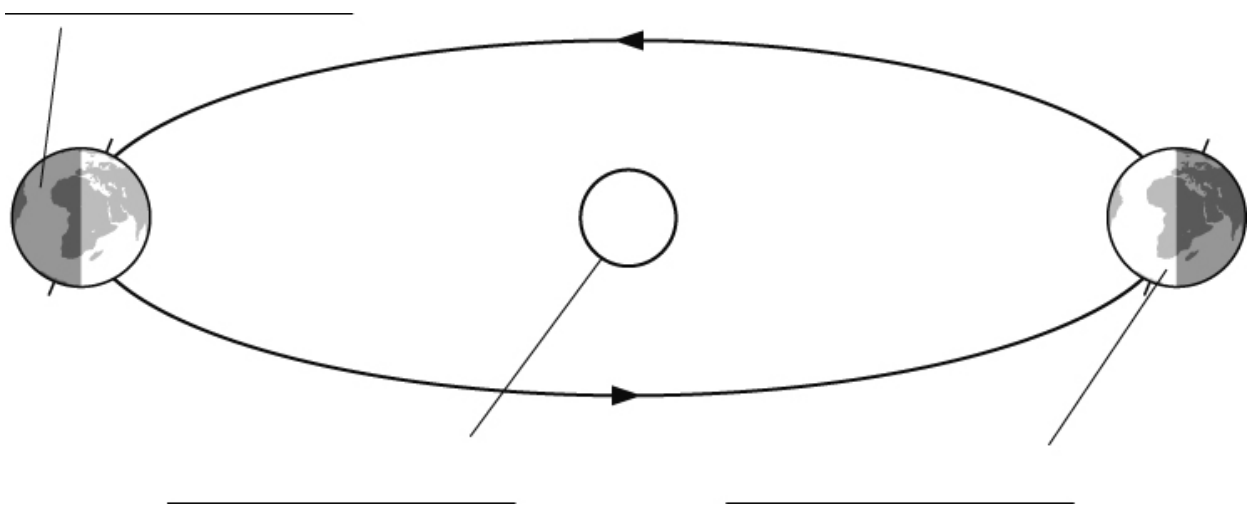
3. Give one piece of evidence that proves the Earth is round.

4. How long does it take the Earth to spin on its axis once?

5. What do we call the time it takes for the Earth to travel once around the Sun?

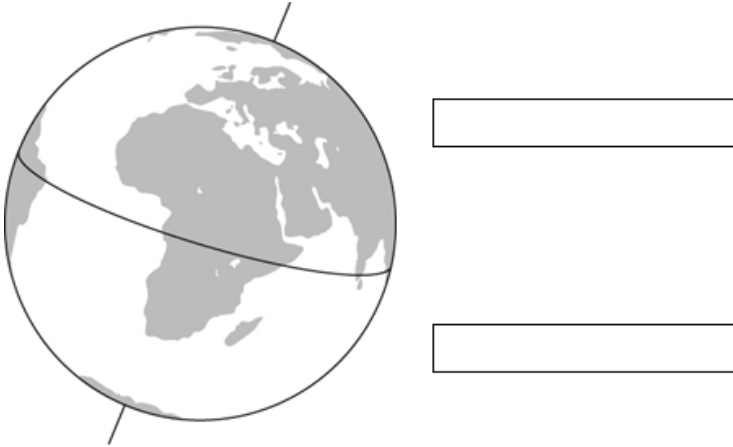
6. Label the diagram using the words in the box.

summer Sun winter



7. We have seasons because the Earth's axis is

8. Label the Earth's hemispheres.



9. Circle the correct words in the sentences below.

When it is summer in the UK, the (northern / southern) hemisphere is tilted towards the Sun. When it is winter in the UK, the (northern / southern) hemisphere is tilted away from the Sun.

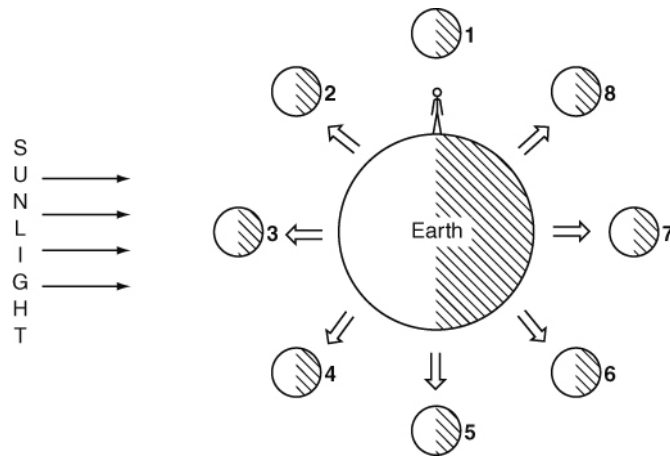
The Sun feels hotter in the summer because it is (higher / lower) in the sky and its rays are (more / less) concentrated.

Summer days are also warmer than winter days because the Sun is shining for longer and has (more / less) time to warm the air.

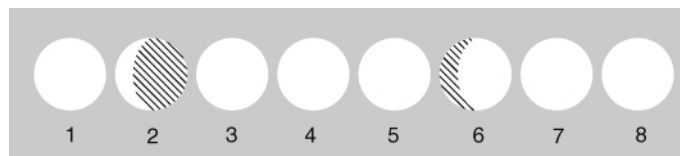
Space – Homework 3

1. How long does it take the Moon to orbit the Earth?

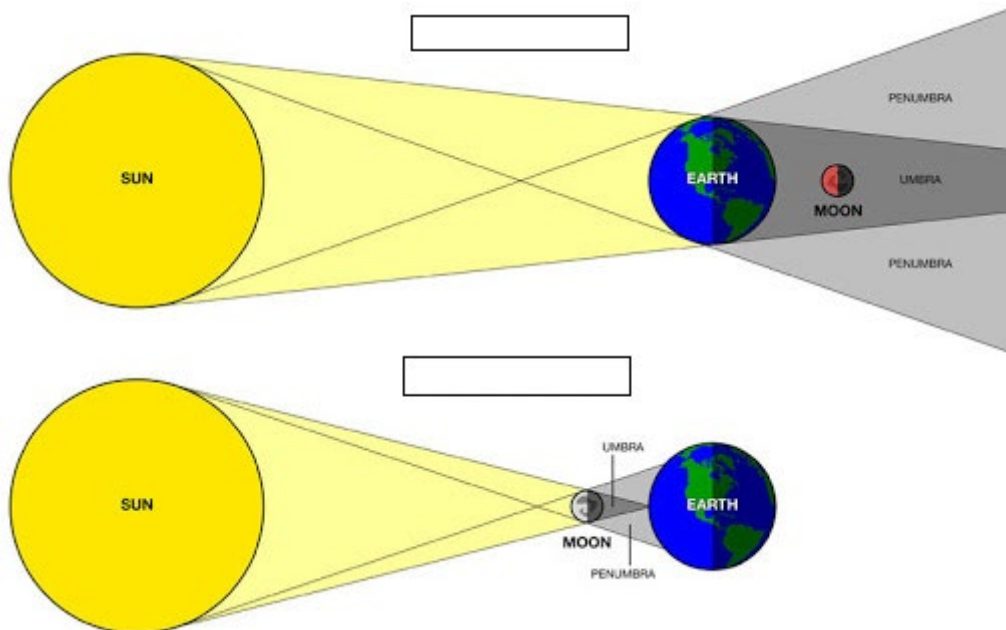
2. We see the Moon from different directions as it moves around the Earth. This diagram shows the Moon in different positions around the Earth.



Shade in these circles to show what the Moon would look like from Earth. Two have been done for you.



3. Add labels to the diagrams to show which one is a solar eclipse and which one is a lunar eclipse.



Space – Homework 4

- The following sentences describe how stars are formed, but are in the wrong order.
 - Nuclear fusion reactions start.
 - Gravity pull a cloud of dust and gas together.
 - The dust and gas become hot.
 - The dust and gas begin to compress and spin.

Write the letters in the boxes below to describe star formation in the correct order.

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- Why does the Sun appear much bigger than other stars in the sky?

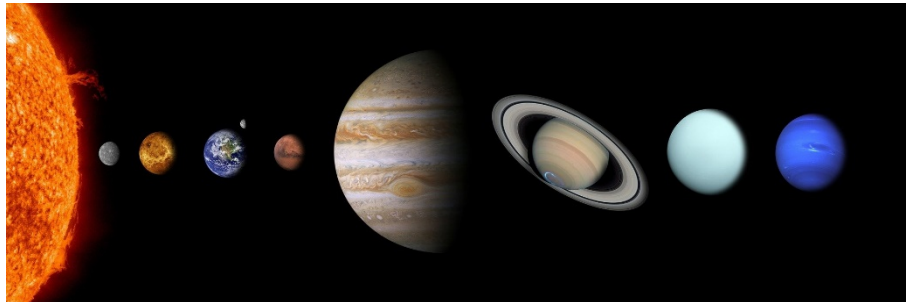
- What is the name of the galaxy that the Solar system is part of?

- Complete the list below of the planets in order from the Sun.

Mercury

Mars

Uranus



- Put the following in size order from the smallest to the largest

star universe planet galaxy

_____ smallest

_____ largest

Space – Homework 5

1. What is a comet?

2. How is the orbit of a comet different to the orbit of a planets around the Sun?

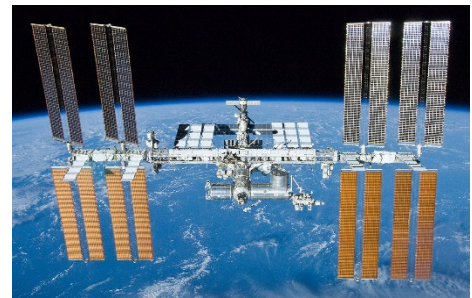
3. What is an asteroid?

4. Between which two planets in the solar system are most asteroids found?

_____ and _____

5. What does ISS stand for?

6. What 3 main thing are required to sustain humans on the ISS?



7. What force keeps the Earth in orbit around the Sun? _____

8. What forces keep the Moon in orbit around the Earth? _____

9. Why is the force of gravity from the Sun greater for Mercury than it is for Earth?

10. Why is the force of gravity weaker at the Top of Mount Everest compared to at sea-level?
