

Write on Booklet

Name:

Answers

Class:

Knox Academy Science Department

S1 Science



Our Material World Part 1

Our Material World 1

Write On Booklet

1. Earth and the Solar System

Learning Outcomes:

- Know the names of all the planets and their order from the sun
- Know what the nearest star is called
- Know that Earth is a planet with one moon

Activity:

1. Watch: Eyewitness Planets DVD
2. Complete the following sentences:-

1. Planets were first called wandering stars because they can be seen moving across a background of stars.

2. The age of the sun is 5 billion years old

3. The Earth would fit into the Sun 1 million times.

4. List all the planets and Pluto in order from the Sun.
Mercury, Venus, Earth, Mars, Jupiter,
Saturn, Uranus, Neptune, Pluto.

5. Mercury is so hot, it has lost its atmosphere and is covered with craters because it is very near the Sun.

6. The brightest planet as seen from earth is V enus.

7. The first man in space was U ri G agarin.

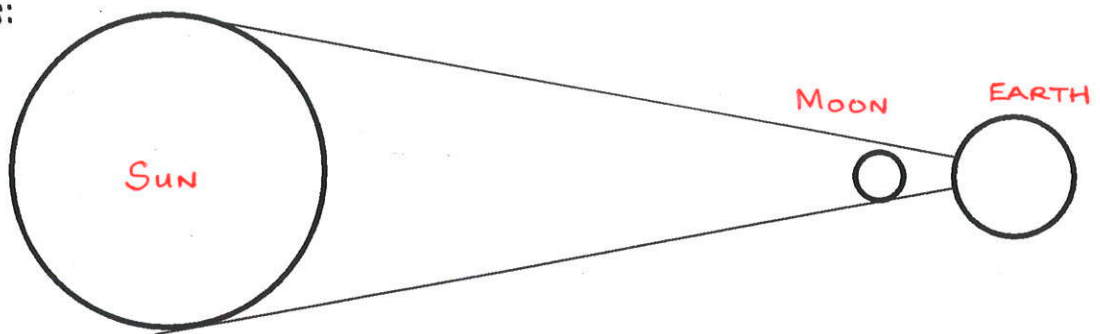
8. He was from the U SSR.

9. The first person to stand on the moon was
N eil A rmstrong.

10. Only 6 people have set foot on the moon.

11. Label this picture to show an eclipse (put the names in the boxes).

Ans:



12. We use a tlescope to see the stars and planets

13. Hubble telescope is in space.

14. The Hubble telescope works much better than any land based version because the atmosphere makes telescope images blurred. The Hubble is a bove the atmosphere.

15. The surface of Earth is covered with water. Mars is the other planet known to have water on its surface (mainly ice).

16. The colour of Mars appears to be red because surface has a lot of rust.

17. The asteroid belt is made up of rocks left over from the formation of the solar system.

18. The biggest planet is called Jpiter.

19. The most obvious feature on the surface of Jupiter is a large red spot.

20. Saturn is the planet that has the most spectacular rings round it.

21. The Earth and Neptune both appear to have a blue colour. They appear blue because they have liquid methane on the surface.

22. The four planets from Jupiter outwards from the sun are giant planets made of gas.

23. Up till 2006 Pluto was also called a planet. Now it has been reclassified as a **minor planet**. How many planets does it now mean are in our Solar System? Answer: 8

2. How Big is the Solar System

Learning Outcomes:

- Know where Earth is in the Solar system
- Understand the vast distances in the Solar System
- Know that Earth has one moon held in place by gravity

Activity:

1. **Read:** Starting Science book 2 from p10
2. **Use** the information to complete the following sentences:

Our solar system

1. The number of rocky planets is 4
2. The number of gas giants is 4
3. The planet which is roughly five times further from the sun than earth is J UPITER.
4. Pluto is no longer called a planet because it is very s m a l l and its o r b i t is in a different plane than the rest of the planets.
5. The number of moons the Earth has is 1.
6. The planet with the most moons is U r a n u s.

The Moon

1. The force which holds the moon in orbit is called g r a v i t y.
2. People thought that animals and humans could lose their mind in the full moon and called them lunatics because luna means the m o o n.

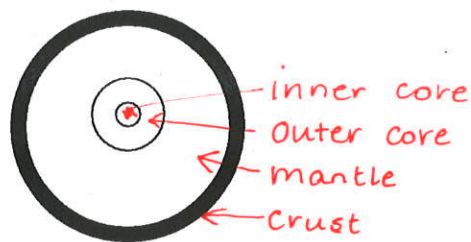
3. Model Solar System

Learning Outcomes:

- Know about the structure of the Earth
- Know about the inner core, the outer core, the mantle and the crust

Activity:

Label the following diagram of the Earth as shown in your work book.



(Answer from Starting Science Book 1 p16)

Activity:

Complete the following sentences:

1. The inside of the Earth is made up of 4 main sections: the inner c ore, the o uter c ore, the m antle and the c rust.
2. The crust is the c ooler part. It contains the least d ense rock.

4. Planet Earth Rocks 1

Learning Outcomes:

- Know about igneous, sedimentary and metamorphic rocks and how each was formed.
- Be able to name some features of igneous rocks
- Be able to name some features of sedimentary rocks
- Be able to give some examples of both igneous and sedimentary rocks

Activity:

Complete the following sentence and tables:

There are 3 main rock types. They are called igneous , sedimentary and metamorphic.

Igneous

Name of Rock	Description
granite	} contain crystals
obsidian	
basalt	
dolerite	

Sedimentary

Name of Rock	Description
Limestone	- may contain
Sandstone	fossils
Chert	- grains
Conglomerate	- small crystals

5. Planet Earth Rocks 2

Learning Outcomes:

- Be able to describe how metamorphic rocks were formed
- Be able to give some examples of metamorphic rocks

Activity:

Complete the following table and sentences:

Metamorphic

Name of Rock	Description
marble	} layers bands
slate	
mica	
schist	

Notes: Sample _____ is a _____ rock
because it _____

_____.

Sample _____ is a _____ rock
because it _____

_____.

6. The States of Matter

Learning Outcomes:

- Know what the three states of matter are
- Be able to give three examples of substances which are found in each of the three states
- Be able to classify the substances as belonging to each of the three states

Activity:

Complete the following table:

Fill in the names of the substances below:-

Solids	Liquids	Gases
ANY 3	ANY 3	ANY 3

Activity:

Use the 'States of Matter Set' to complete the following 3 tables:

Name of Solid	Heavy or Light?
CORK	LIGHT
WOOD	HEAVY
POLYSTYRENE	LIGHT
MARBLE	HEAVY

Name of Solid	Hard or Soft?
CORK	SOFT
WOOD	HARD
POLYSTYRENE	SOFT
MARBLE	HARD

Name of Solid	Is it Opaque?
CORK	✓
WOOD	✓
POLYSTYRENE	✓
MARBLE	x

7. Liquids and Gases

Learning Outcomes:

- Be able to describe some properties of a solid, liquid and gas.
- Be able to identify a substance as solid, liquid or gas based on its properties.

Activity:

Complete the following table:

Differences Between Liquids

Name of Liquid	Is It Clear?	What Colour?	Does It Flow?	Thick or Thin?
DETERGENT	x	green	✓	Thin
GLUE	x	white	✓	Thick
OIL	✓	pale yellow	✓	Thick
WATER	✓	colourless	✓	Thin

Activity:

Look at the following five statements. Only 3 are correct.
Draw a line through the two statements which are not correct

1. Light can pass through all liquids.
2. A liquid keeps its volume.
3. Liquids change shape. A liquid takes the shape of the container it is in.
4. Liquids are clear.
5. Liquids flow.

Think about:

Do gases always keep the same shape?

Are all gases colourless?

Does a gas always take up the same amount of space?

Can gases flow?

How far will a gas spread?

Activity: Complete the summary using the words

Volume Shape Flow

Summary

Solids have a fixed shape and volume.

Solids do not flow.

Liquids have a fixed volume.

Liquids do not have a fixed shape.

Liquids flow.

Gases do not have a fixed shape or volume.

Gases flow.

8. Particles

Learning Outcomes:

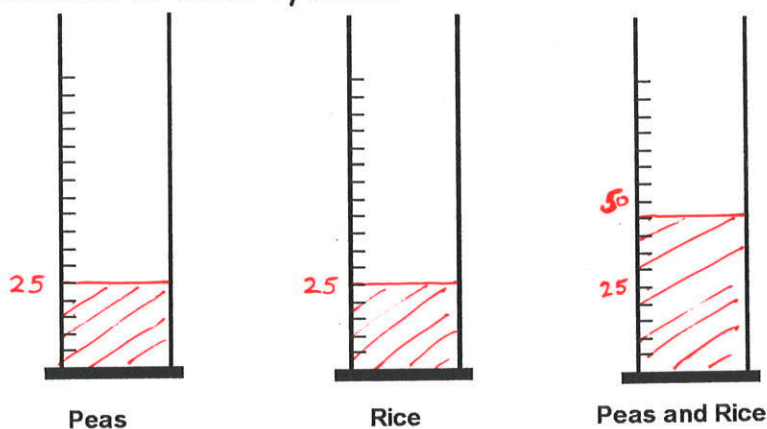
- Be able to describe some properties of a solid, liquid and gas.
- Be able to identify a substance as solid, liquid or gas based on its properties.

Activity: Complete the statements and diagrams below

As the purple liquid was diluted more and more, the particles spread and so the liquid got paler. Even when the colour eventually disappeared some purple particles must still have been there because they were in the purple liquid before it was diluted. The purple particles have spread out until we can not see them any more.

Mixing Solids

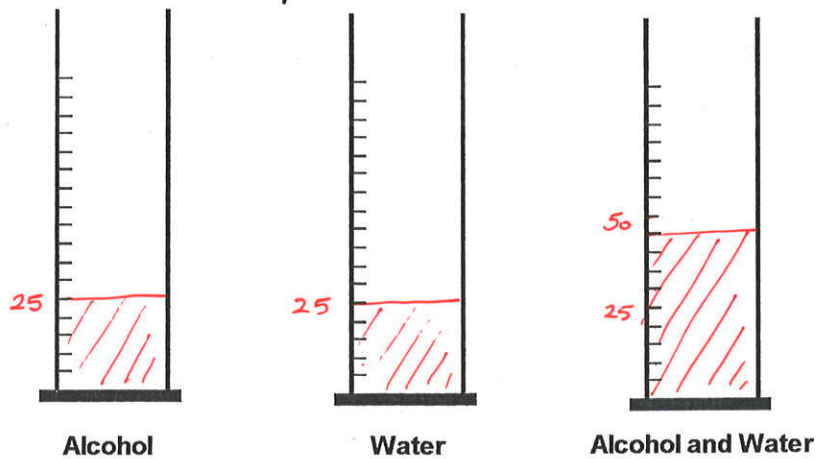
Label and colour the 3 measuring cylinders to show the volumes in each cylinder



the volume of rice = 25 cm^3
the volume of peas = 25 cm^3
the total volume of mixed rice and peas = 45 cm^3

Mixing Liquids

Label and colour in the 3 measuring cylinders to show the volumes in each cylinder



the volume of alcohol = 25 cm^3
the volume of water = 25 cm^3
the total volume of mixed alcohol and water = 45 cm^3

Summary

All materials are made of particles. When 2 materials mix, particles of one substance move through and into spaces between the particles of the other substance.