



MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 9: LESSON 1
TOPIC: MATERIALS-PROPERTIES OF WATER

Name: _____

Date: _____

FACTS/ TIPS:

Water is a clear colourless and tasteless liquid which has no smell.

Properties of water

- The chemical formula of **Water** is H_2O . It is made from two molecules of Hydrogen and one molecule of Oxygen.
- Water is the only substance which can change to the three states of matter: solid, liquid and gas.



Water (liquid)



Water when frozen will become solid (ice).



Water when heated will evaporate and become gas (water vapour).

- Water is always evaporating from the surface of rivers, creeks, lakes, pools etc.
- Water can move upwards and downwards.
- The water molecules in water are densely packed at the surface of water. This behaviour of water is called **surface tension**. All liquids have surface tension. Due to surface tension, fleas and other insects can walk on the surface of water in ponds and trenches.
- **There are two types of water: freshwater and saltwater. A fresh egg will sink in fresh water** because the egg has greater density than

the **water**. The **egg will float** in the **salt water** because when **salt is** added to **water** its density becomes greater than that of the **egg** and this causes the **egg to float**.

ON YOUR OWN.

1. Define the term "water"
_____.
2. In your own words, define the term "tasteless".
_____.
3. List two properties of water.
 - (i) _____
 - (ii) _____
4. Fleas and other insects can walk on water because of
_____.
5. There are _____ types of water. Name them.

HOMEWORK

Experiment

bowl of fresh water

bowl of salt solution

2 eggs

pot of water

stove

ice tray filled with water

refrigerator

1. Procedure – water can take on a solid and gaseous state.

With the help of an adult:

Solid state

- I. Place the ice tray filled with water in the freezing compartment of your refrigerator.
- II. Leave for 24 hours.
- III. Record your observations.

Gaseous state

2. Place the pot of water on a lit stove. Do not cover the pot.

- I. Leave the water to boil. You will find that the water starts to evaporate, water vapour (steam) leaves the pot into the atmosphere.
- II. Record your observations.

Procedure – Salt and Fresh water Density

- I. Place an egg into the bowl of fresh water and the bowl of salt solution.
- II. Record your observations.



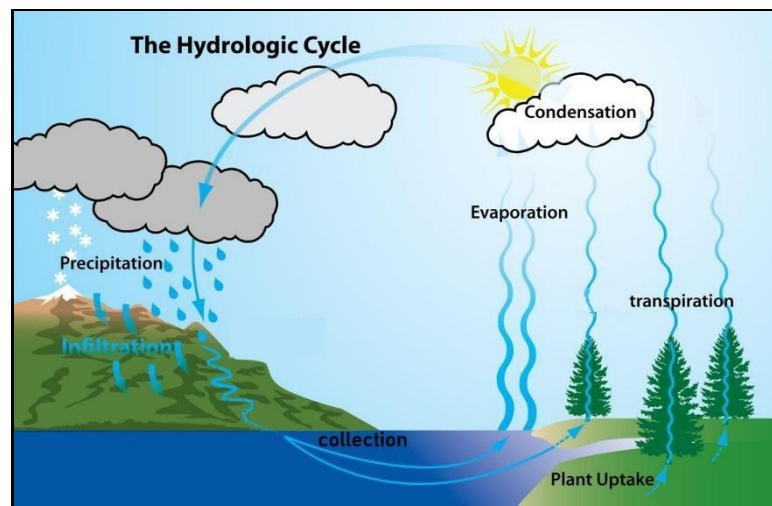
MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 9: LESSON 2
TOPIC: MATERIALS-PROPERTIES OF WATER

Name: _____

Date: _____

FACTS/ TIPS:

The **Water Cycle/Hydrologic cycle** is the path that all **water** follows as it moves around Earth in different states.



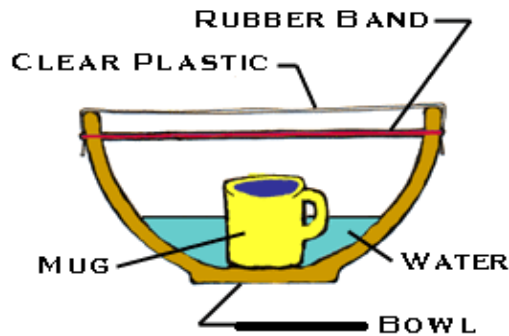
The water cycle is powered by the sun's energy and by gravity. The sun's presence activates the whole cycle by heating all the Earth's water from trenches, oceans, creek, rivers etc. through a process called evaporation. Gravity makes the moisture fall back to Earth.

There are four main stages in the water cycle. These are:

- **Evaporation:** This is when warmth from the sun causes water from oceans, lakes, streams, ice and soils to rise into the air and turn into water vapour (gas). The droplets of the water vapour join together to form clouds.
- **Condensation:** This is when the water vapour in the air cools down and turns back into liquid state.
- **Precipitation:** This is when water falls (in the form of rain, snow, hail or sleet) from clouds in the sky.

- **Collection:** This is when water falls from the clouds as rain, snow, hail or sleet and fill the oceans, rivers, lakes, streams. Most of the water soaks into the ground and will **collect** as underground water. The water cycle is powered by the sun's energy and by gravity.

ON YOUR OWN.



Experiment

Items needed:

- a large metal or plastic bowl
- a pitcher
- a sheet of clear plastic wrap
- a dry ceramic mug (like a coffee mug)
- a long piece of string or large rubber band
- water

Procedure

- I. Place the bowl in a sunny place outside.
- II. Using the pitcher, pour water into the bowl until it is about $\frac{1}{4}$ full.
- III. Place the mug in the centre of the bowl. Be careful not to splash any water into it.
- IV. Cover the top of the bowl tightly with the plastic wrap.
- V. Tie the string around the bowl to hold the plastic wrap in place.
- VI. Watch the bowl to see what happens.
- VII. Record your observations.

The "mist" that forms on the plastic wrap will change into larger drops of water that will begin to drip. When this happens, continue watching for a few minutes, then carefully peel back the plastic. Is the coffee mug still empty? Water from the "ocean" of water in the bowl evaporated. It condensed to form misty "clouds" on the plastic wrap. When the clouds became saturated it "rained" into the mug.

HOMEWORK

Make a poster of the water cycle.



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PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET
SUBJECT: SCIENCE
LESSON: REVIEW WEEK: 9
TOPIC: MATERIALS-PROPERTIES OF WATER**

Name: _____

Date: _____

Read the questions carefully then insert the correct answers.

1. Water is a clear colourless and _____ liquid which has no smell.
2. The chemical formula for water is _____.
3. Water is made up of two molecules _____ and _____.
4. List two properties of water.

I. _____

II. _____

5. Define the term "water cycle"

6. The water cycle is also known as _____.

7. There are _____ main stages in the water cycle.

8. Name two of the main stages.

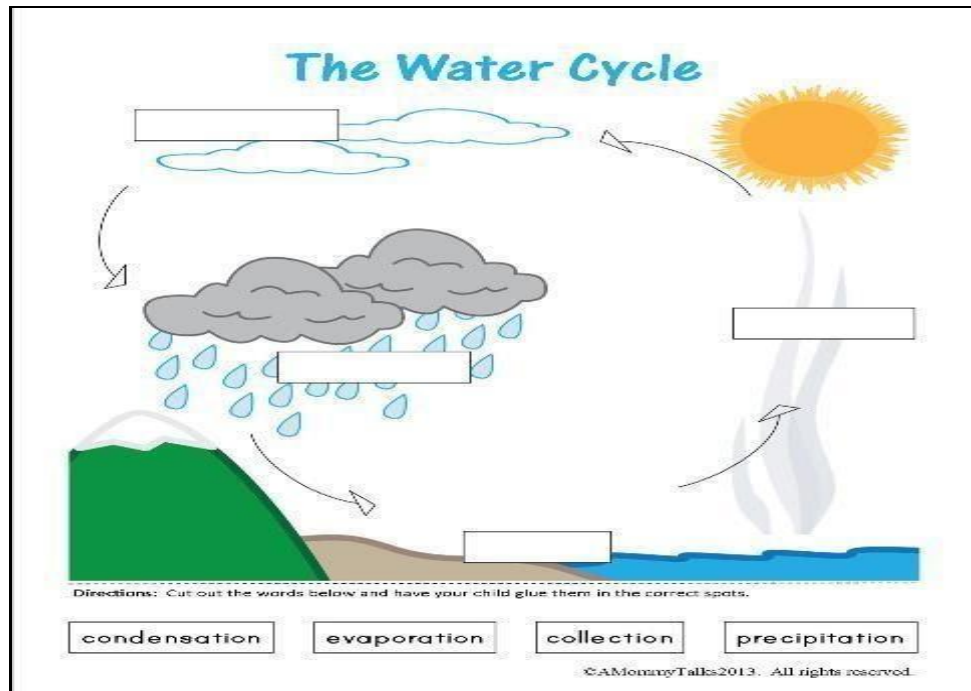
I. _____

II. _____

9. What is water vapour?

_____.

10. Complete the water cycle below.





**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 10: LESSON 1
TOPIC: EARTH AND SPACE-THE SOLAR SYSTEM**

Name: _____ Date: _____

FACTS/ TIPS:

What is the solar system?

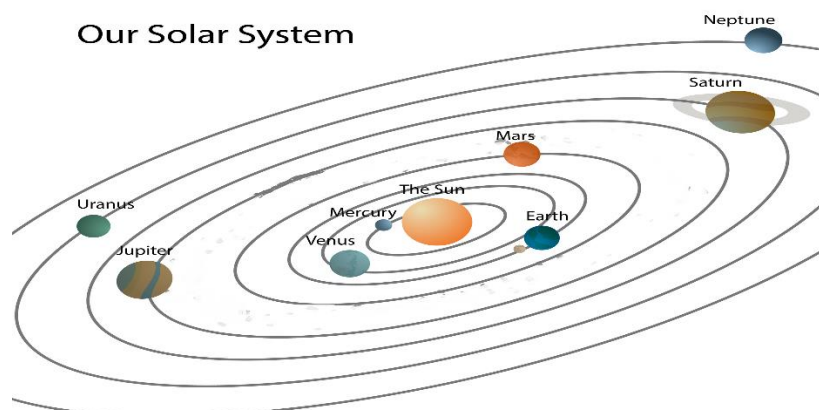
The solar system consists of the sun and everything that orbits the Sun. This includes the eight planets and their moons, dwarf planets, countless asteroids, comets, and other small, icy objects.

The sun is a star and it is found in the center of the solar system.

The planets in order of distance away from the sun are:

1. Mercury
2. Venus
3. Earth
4. Mars
5. Jupiter
6. Saturn
7. Uranus
8. Neptune

The only planet with life in our solar system is Earth.



ON YOUR OWN.

1. Define the term "solar system"

2. There are _____ planets in the solar system.

3. Write the names of the planet in order of distance away from the sun.

4. Which is the only planet with life on it?

HOMEWORK

Draw a picture of the solar system.



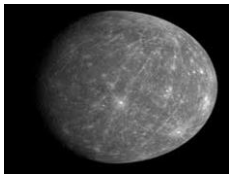
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PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET
SUBJECT: SCIENCE
WEEK 10: LESSON 2
TOPIC: EARTH AND SPACE -THE SOLAR SYSTEM**

Name: _____

Date: _____

FACTS/ TIPS:

The planets in order of distance away from the sun:



1. **Mercury** –the first planet away from the sun therefore making it the closest planet to the sun. Mercury is the smallest planet in the solar system. Mercury does not have any moons and it is very hot. It has a barren, crater covered surface which looks similar to Earth's moon.



2. **Venus** –the second planet away from the sun and it is called Earth's twin sister. It appears as a bright body in the sky. Venus is the hottest planet in the solar system and is sometimes referred to as the 'morning and evening star'. Venus does not have any moons. The atmosphere on Venus is made up of carbon dioxide.



3. **Earth** –the third planet away from the sun. Earth the only planet on which life exists because there is oxygen and the correct temperature to sustain life. Earth is spherical in shape and its surface is 70% water. Earth has one moon.

ON YOUR OWN.

1. The first three planets in order of distance away from the sun are _____, _____ and _____.
2. Which planet is known as the morning and evening star? _____
3. The smallest planet is _____.
4. The only planet which has life on it is _____.
5. The hottest planet in the solar system is _____.
6. Earth has _____ moon.
7. The closest planet to the sun is _____.
8. The atmosphere on Venus is made up of _____.

HOMEWORK

Draw and colour the planets listed below.

Mercury

Venus

Earth



**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM
SUBJECT: SCIENCE
LESSON: REVIEW WEEK: 10
TOPIC: EARTH AND SPACE -THE SUN AND THE SOLAR SYSTEM**

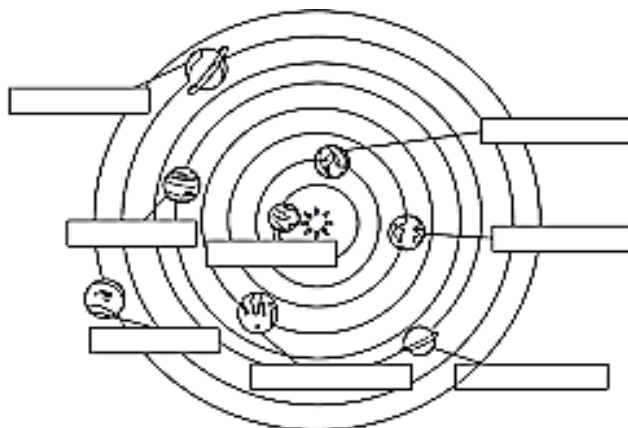
Name: _____

Date: _____

Read the questions carefully, then insert the correct answers.

1. The sun is a _____.
2. The solar system is made up of the _____, eight planets and their _____, dwarf planets, countless asteroids, comets, and other small, icy objects.
3. The planets _____ the sun.
4. The sixth planet away from the sun is _____.
5. Humans live on planet _____.
6. The _____ is found in the centre of the solar system.
7. Why is Earth the only planet with life?

8. The planet that looks similar to Earth's moon is _____.
9. Earth is _____ in shape.
10. Complete the diagram below.





**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 11: LESSON 1
TOPIC: EARTH AND SPACE-THE SOLAR SYSTEM**

Name: _____

Date: _____

FACTS / TIPS:

The planets in order of distance away from the sun:



4. **Mars** - the fourth planet away from the sun and the second smallest planet in the solar system. Mars is often referred to as the 'red planet' and it is half the size of Earth. Mars is home to the tallest mountains and largest dust storms in the solar system. Mars has two moons.



5. **Jupiter** –the fifth planet away from the sun and the largest planet in the solar system. Jupiter is primarily made up of gases and therefore known as a 'gas planet'. Jupiter is the fourth brightest object and fastest spinning planet in the solar system. Jupiter has 67 moons.



6. **Saturn** –the sixth planet away from the sun and the second largest planet in the solar system. Saturn is often referred to as the most beautiful planet because it has rings around it which is made up of ice crystals. Saturn is made up of more hydrogen than helium. Saturn is the King of Moons, having a total of 82 moons.

ON YOUR OWN.

Match These

Planets

Order of distance away from the sun

- | | |
|------------|-----------------|
| 1. Jupiter | 6 th |
| 2. Mars | 5 th |
| 3. Saturn | 4 th |

- The planet that is home to the tallest mountains and largest dust storms in the solar system is _____.
- Saturn has _____ moons.
- The largest planet in the solar system is _____.
- _____ is also known as the red planet.
- _____ is the second largest planet in the solar system.

HOMEWORK

Draw and colour the planets listed below

Mars

Jupiter

Saturn



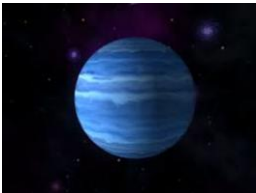
**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 11: LESSON 2
TOPIC: EARTH AND SPACE-THE SOLAR SYSTEM**

Name: _____

Date: _____

FACTS / TIPS:

The planets in order of distance away from the sun:



7. **Uranus** – the seventh planet away from the sun. Uranus is often referred to as an ‘ice giant’. Uranus has a blue green colour and the planet is tilted, making it the coldest planet in the solar system. Uranus has 27 moons.



8. **Neptune** –the eighth planet away from the sun, making it the most distant planet in the solar system. Neptune is very cold and windy. This planet has 14 moons. Neptune has a very tiny collection of rings around it.

ON YOUR OWN.

Make a model of the solar system.

Items needed:

-Styrofoam balls (various sizes) - The largest ball should be the sun, the second largest ball should be Jupiter and Saturn, after that Uranus and Neptune, and then Mercury Venus, Earth, and Mars.

-Acrylic paint - orange, brown brownish-yellow, red, blue, black, white

-Cardboard box- The planets in your solar system model will hang down inside this box. You'll need to fit eight planets plus the sun into this, so make sure you have enough room.

-paper

-string

-glue

-tape

Procedure

- I. Cut an opening into the cardboard box.
- II. Paint the inside of the box with black acrylic paint.
- III. Sort the foam balls- The largest ball should be the sun and the next largest ball should be Jupiter and Saturn, after that Uranus and Neptune, and then Mercury Venus, Earth, and Mars.
- IV. Paint the planets- paint the balls using different colours like:
orange or yellow for the sun
brown for mercury
brownish yellow for Venus, Saturn, and Jupiter
red for Mars
and blue for Earth, Neptune, and Uranus.
- V. Using the paper, cut a ring for Saturn and glue it onto the planet.

- VI. Paint on stars. Once the black paint on the box has dried, use a white paint pen or small brush to paint white dots onto the inside of the box.
- VII. Using the glue, attach strings to each planet and the sun
- VIII. Using the tape, attach the sun and the planets inside the box.



HOMEWORK

Draw and colour the planets below.

Uranus

Neptune



**MINISTRY OF EDUCATION
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GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
LESSON REVIEW WEEK: 11
TOPIC: EARTH AND SPACE -THE SOLAR SYSTEM**

Name: _____

Date: _____

Read the questions carefully then insert the correct answers.

1. Define the term "solar system"

2. There are _____ planets in the solar system.

3. The hottest planet in the solar system is _____

while the coldest planet in the solar system is

_____.

4. The fourth planet away from the sun is _____ and it

is often referred to as the _____.

5. The _____ is in the centre of the solar system.

6. Scientists decide to visit a planet that has life on it. Which planet

are more likely to visit? _____.

7. Identify the planet which has rings around it _____.

8. _____ is known as the King of Moons.

9. _____ is the most distant planet in the

solar system.

10. _____ is the smallest planet in the solar

system and the _____ planet to the sun.

11. Uranus has _____ moons.

12. The tilted planet is _____.

13. The fastest spinning planet in the solar system is



**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 12: LESSON 1
TOPIC: EARTH AND SPACE-ROTATION AND REVOLUTION**

Name: _____

Date: _____

FACTS / TIPS:

The earth makes two movements at the same time. These movements are rotation and revolution.

Rotation

- Rotation is the spinning of a planet on its axis (imaginary line that passes through the earth).
- Earth rotates on its axis from west to east due to this movement, one part of the earth gets light (day) and the other part is in darkness (night).
- The earth takes 24 hours to complete a single rotation thus giving us day and night.

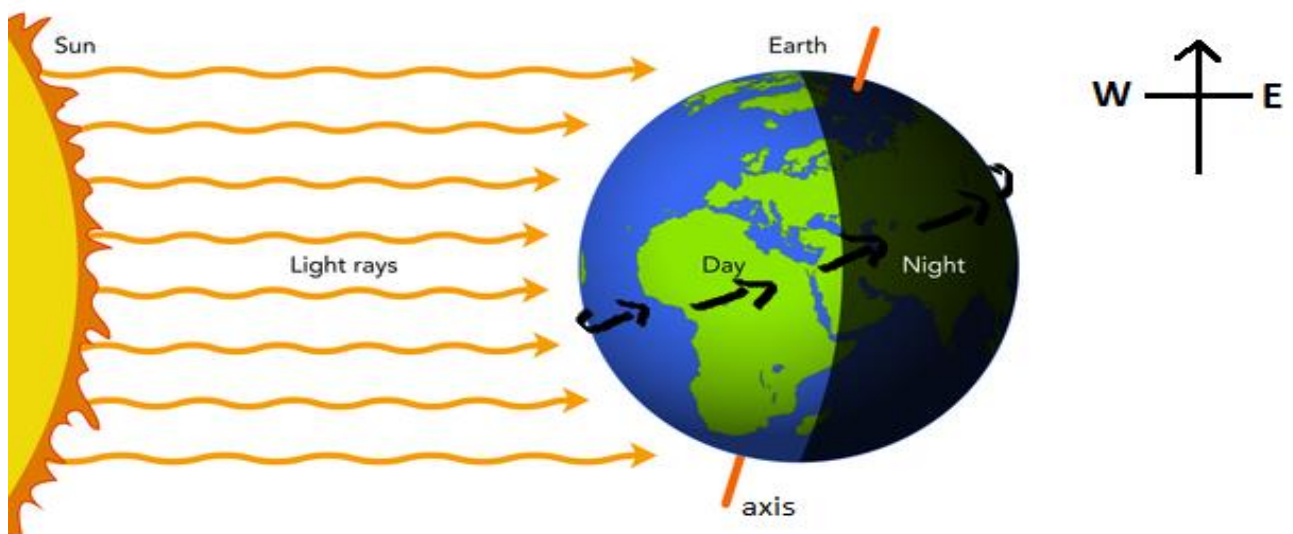


Diagram showing rotation of Earth on its axis

ON YOUR OWN.

1. Draw a diagram showing rotation.
2. Planets make two movements at the same time. They are _____ and _____.
3. Each planet rotates on its _____.
4. Earth rotates from _____ to _____.
5. The imaginary line that passes through the Earth is called the _____.

Experiment on rotation

Items needed

styrofoam ball - represents Earth
skewer - represents Earth's axis
flashlight – represents the sun

Procedure

- I. Place the skewer through the ball.
- II. Darken the room.
- III. Hold the skewer with the ball in one hand and the flashlight in the other.
- IV. Shine the flashlight on the ball.
- V. Slowly turn the skewer.
- VI. Record your observations.

HOMEWORK

Read up on Revolution.



**MINISTRY OF EDUCATION
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GRADE FOUR WORKSHEET-TERM 2
SUBJECT: SCIENCE
WEEK 12: LESSON 2
TOPIC: EARTH AND SPACE-ROTATION AND REVOLUTION**

Name: _____

Date: _____

FACTS/ TIPS:

Revolution

- Revolution is the movement of the planets around the sun.
- Earth takes a full year (365 $\frac{1}{4}$ days) for one complete revolution around the sun.
- The path the planets follow around the sun is called its orbit.
- Revolution causes the four seasons to occur namely: Winter, Autumn, Spring and Summer. Sometimes the sun sets early (first part of the year) and another time it sets late (ending part of the year).

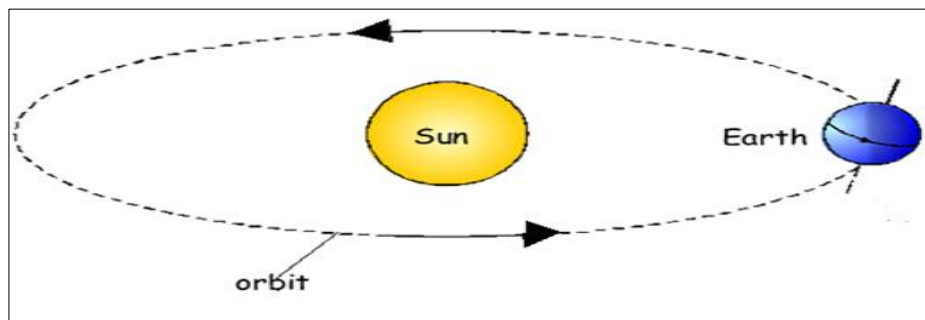


Diagram showing the Earth revolving around the sun and rotating on its axis.

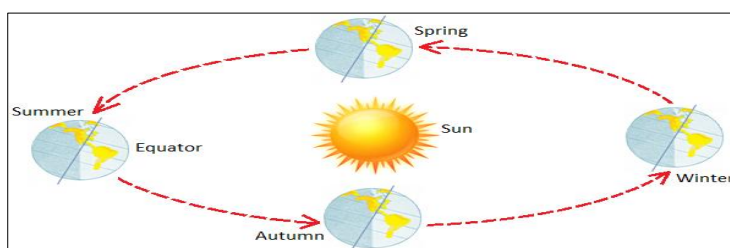


Diagram showing Earth revolving around the sun and the four seasons.

**Diagram showing Earth
revolving around the sun
and the four seasons.**

ON YOUR OWN.

1. State the difference between rotation and revolution.

2. Name the four seasons.

I. _____

II. _____

III. _____

IV. _____

3. Earth takes one year or _____ days to make one complete revolution.

4. Draw a diagram to show revolution.

HOMEWORK

Draw a diagram showing Earth revolving around the sun and the four seasons.



**MINISTRY OF EDUCATION
PRIMARY ENGAGEMENT PROGRAMME
GRADE FOUR WORKSHEET
SUBJECT: SCIENCE
LESSON REVIEW WEEK 12
TOPIC: EARTH AND SPACE -ROTATION AND REVOLUTION**

Name: _____

Date: _____

Read the questions carefully then insert the correct answers.

1. Define the term "rotation"

_____.

2. How long does it earth to make one complete revolution around the sun? _____

3. Earth spins on an imaginary line called the _____.

4. The movement of the planets around the sun is called

_____.

5. How long does it take the Earth to complete a single rotation?

6. The path the planets take around the sun is called the

_____.

7. The _____ is found in the center of the solar system.

8. Name two seasons that occur because of revolution.

9. Rotation causes _____ and _____.

10. Draw a diagram to show rotation.