مدرسة مريم بنت عمران للشراكات التعليمية
MARYAM BINT OMRAN CHARTER SCHOOL

**Science Department**

**Practical Exam Revision Sheet**

**Subject: Science** **Grade : 6**

| Lesson | Standards | Objectives |
|---|---|---|
| Lesson 1: Models Help Scientists Study Natural Systems | MS-LS1-3 | Describe the levels of organization in living things |
| Lesson 2 Cells Are Living Systems | MS-LS1-1<br>MS-LS1-2 | Explain the function of cell parts and compare plant and animal cells.<br>Compare prokaryotic and Eukaryotic cell |
| Lesson 3 Water in the Atmosphere | MS-ESS2-4 | Describe how water moves through Earth's systems in the water cycle, powered by the Sun and gravity. |
| Lesson 4 Water on Earth's Surface | | |
| Lesson 5 :Solar Energy on Earth | MS-ESS2-6 | Explain how the Sun's energy and wind cause ocean currents. |
| Lesson 6: Atmospheric and Oceanic Circulation | | |

LIVEWORKSHEETS

# What is a cell?

BIG IDEA

**All living things are made of cells. A cell is the smallest living part of a living thing.**

## The Cell Theory (3 ideas)

| | |
|---|---|
| 1 | All living things are made of cells. |
| 2 | The cell is the basic unit of life. |
| 3 | New cells come only from old cells. |

## Key words

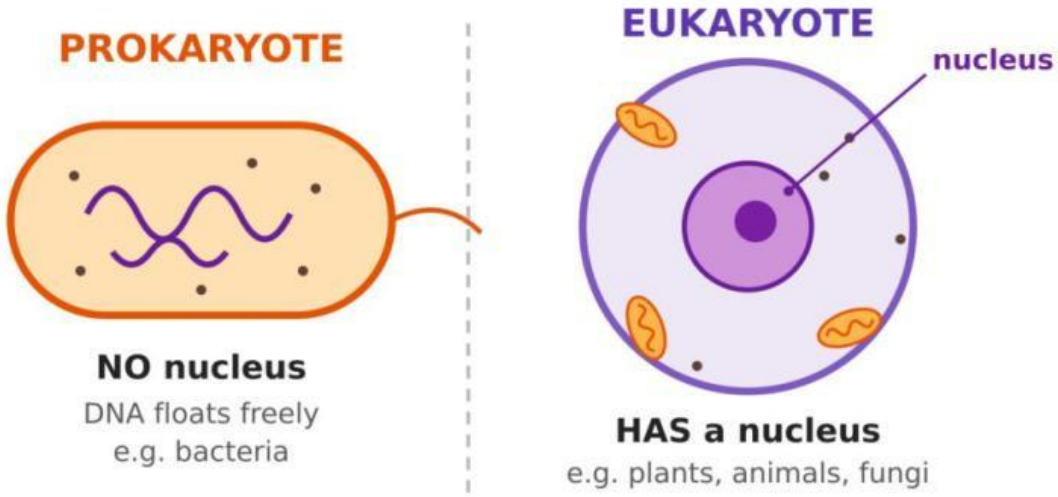
| | |
|---|---|
| **Unicellular** | A living thing with ONE cell. Example: bacteria. |
| **Multicellular** | A living thing with MANY cells. Example: a cat, a tree, you! |
| **Microscope** | A tool that makes tiny things look big. We need it to see cells. |

LIVEWORKSHEETS

# ◯ Prokaryote or ● Eukaryote?

BIG IDEA

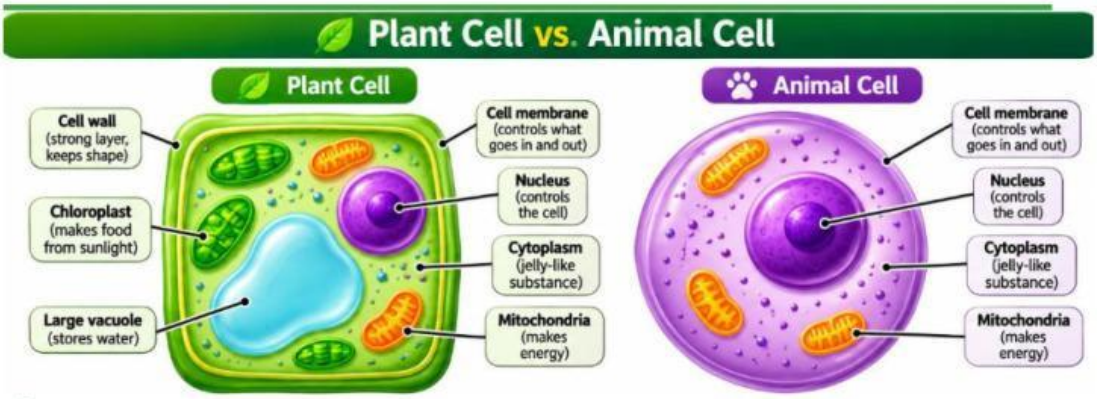
**Look for the NUCLEUS! No nucleus = prokaryote. Has a nucleus = eukaryote.**




| ◯ Prokaryote | ● Eukaryote | BOTH have |
|---|---|---|
| • No nucleus<br>• No organelles with a membrane<br>• Very small<br>• Bacteria | • Has a nucleus<br>• Has organelles with a membrane<br>• Bigger<br>• Plants, animals, fungi | • Cell membrane<br>• Cytoplasm<br>• Ribosomes<br>• DNA |

LIVEWORKSHEETS

# Plant Cell and Animal Cell




## What does each part do?

| Part | Job (what it does) | | |
|---|---|---|---|
| **Cell membrane** | Lets things IN and OUT | ✅ | ✅ |
| **Nucleus** | The BOSS. Controls the cell. Keeps the DNA | ✅ | ✅ |
| **Cytoplasm** | Jelly that fills the cell | ✅ | ✅ |
| **Mitochondria** | Makes ENERGY for the cell | ✅ | ✅ |
| **Cell wall** | Strong outside layer. Keeps the shape | ✅ | ❌ |
| **Chloroplast** | Green. Makes FOOD from sunlight | ✅ | ❌ |
| **Vacuole** | Stores water | BIG | small |

**REMEMBER**

- Only PLANT cells have: cell WALL, CHLOROPLASTS and a BIG VACUOLE.
- What goes AROUND a cell? The cell membrane (all cells) and the cell wall (plants).

LIVEWORKSHEETS

# Levels of Organization

**BIG IDEA**

**Small parts join to make bigger parts: Cell → Tissue → Organ → Organ system → Organism.**




| | |
|---|---|
| **Cell** | The smallest living part. Example: a muscle cell. |
| **Tissue** | Many cells of the same kind working together. Example: muscle tissue. |
| **Organ** | Different tissues working together. Example: the heart. |
| **Organ system** | Organs working together. Example: the circulatory system (heart + blood vessels move blood). |
| **Organism** | The whole living thing. Example: a human. |

**REMEMBER**

- Muscle cell → muscle tissue → heart → circulatory system → human.
- Plants have levels too: all the parts of a plant (roots, stem, leaves, flowers) together = ONE ORGANISM.

LIVEWORKSHEETS

# Earth's Four Systems

**BIG IDEA**

**Earth has 4 systems: GEOSPHERE, HYDROSPHERE, ATMOSPHERE and BIOSPHERE.**




| Geosphere | Hydrosphere | Atmosphere | Biosphere |
|---|---|---|---|
| Rocks, soil, sand, mountains | ALL water: sea, rivers, ice, clouds of water | The air: gases, oxygen, wind | ALL living things: plants, animals, people |

**MEMORY TRICK**

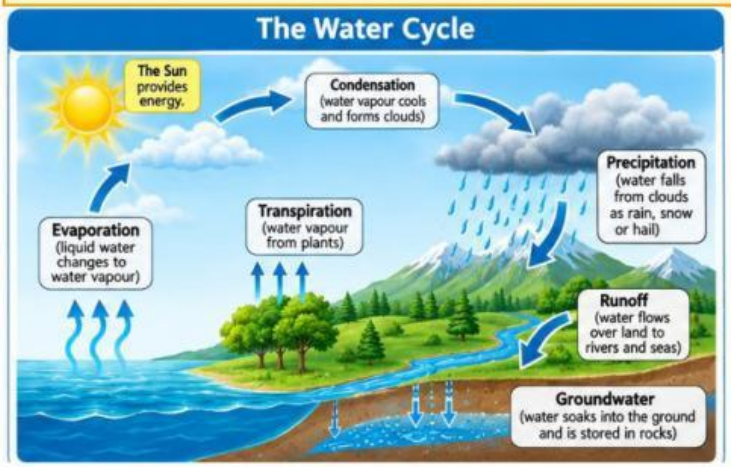
- GEO = Earth/rock. HYDRO = water. ATMO = air. BIO = life.

LIVEWORKSHEETS

# The Water Cycle

**BIG IDEA**

**Water moves around and around. The SUN gives the energy. The water cycle has NO beginning and NO end.**




| | |
|---|---|
| **Evaporation** | The Sun heats water. Liquid water turns into gas (water vapour) and goes up. |
| **Transpiration** | Water vapor comes out of plant leaves. |
| **Condensation** | Water vapor cools and turns into tiny drops. They make clouds. |
| **Precipitation** | Water falls from clouds: rain, snow, sleet or hail. |
| **Runoff** | Water flows over the land into rivers and the sea. |
| **Groundwater** | Water soaks into the ground and is stored in cracks and tiny holes in rocks and soil. |

**REMEMBER**

- Water evaporates from seas, lakes, rivers, plants and even people and animals.
- Gravity pulls rain down and makes water flow downhill.

## Rain, snow, sleet and hail

When drops in a cloud get big and heavy, they fall. This is **precipitation**.

| Rain | Snow | Sleet | Hail |
|---|---|---|---|
| LIQUID drops | SOLID ice crystals | SOLID small ice pellets | SOLID balls of ice |

**EXAM TRAP**

- Rain, snow, sleet and hail all come from CLOUDS and are all made of WATER.
- They are NOT the same state: rain is liquid; snow, sleet and hail are solid.
- Runoff, fog and dew are NOT precipitation.

LIVEWORKSHEETS

# Sun's Energy & Ocean Currents

**BIG IDEA**

**The Sun heats the Earth. The Sun's energy and the wind make ocean water move.**

## Where does sunlight go?




**When sunlight reaches Earth:**

- Some is **reflected** back to space (by clouds, ice and snow).
- Some is **absorbed** by the air.
- Some is **absorbed** by land and water. This warms the Earth.

## How does ocean water move?




| | |
|---|---|
| **Surface current** | Moved by the WIND. The water goes sideways (horizontal). |
| **Deep current** | Cold, salty water is heavy (dense). It sinks and moves deep down. |
| **Upwelling** | Wind pushes surface water away. Cold water from deep down comes UP. |

**REMEMBER**

- WIND → surface currents. DENSE (cold, salty) water → deep currents.
- Ocean currents move heat around the Earth.

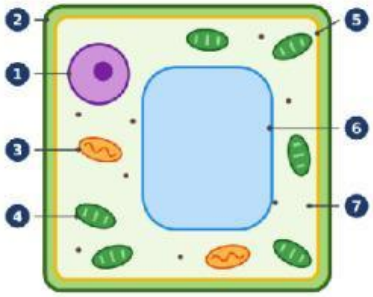
LIVEWORKSHEETS

# PRACTICE TIME!

Try every question. You can do it!

## A. Label the plant cell

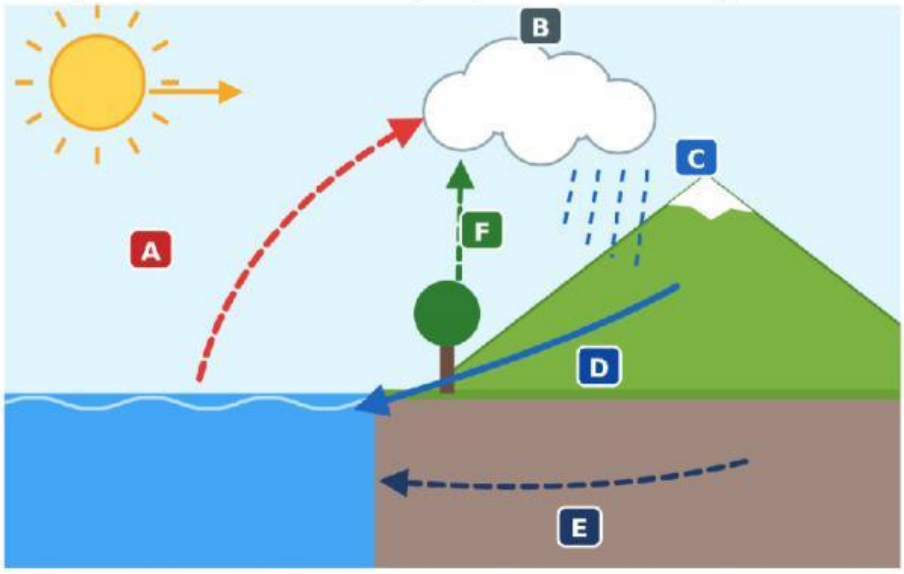
**Word bank: nucleus • cell wall • mitochondria • chloroplast • cell membrane • vacuole • cytoplasm**




1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

## B. Label the water cycle

**Word bank: evaporation • condensation • precipitation • runoff • groundwater • transpiration**




| A | B | C | D | E | F |
|---|---|---|---|---|---|
| | | | | | |

LIVEWORKSHEETS

## C. Choose the correct answer. Circle the letter.

**1. Which part is around EVERY cell and lets things in and out?**
A. cell wall B. cell membrane C. nucleus D. vacuole

**2. A cell has NO nucleus. What is it?**
A. a plant cell B. an animal cell C. a prokaryote D. a eukaryote

**3. What do prokaryotes AND eukaryotes BOTH have?**
A. a nucleus B. chloroplasts C. a cell membrane D. a big vacuole

**4. Look at the cell in Part A. Which TWO numbers show it is a PLANT cell?**
A. 1 and 3 B. 2 and 4 C. 3 and 7 D. 1 and 5

**5. The roots, stem, leaves and flowers of a plant work together. Together they are a(n) …**
A. tissue B. organ C. organism D. cell

**6. Which one is NOT made of cells?**
A. a tree B. a mushroom C. a rock D. bacteria

**7. After a hot shower, the mirror is covered with tiny drops. This is …**
A. evaporation B. condensation C. melting D. freezing

**8. On a very cold night, water vapour turns straight into frost (ice). This is …**
A. deposition B. sublimation C. melting D. evaporation

**9. Rain, snow and hail: which sentence is NOT true?**
A. They all come from clouds.
B. They are all made of water.
C. They are all liquid.
D. They are all precipitation.

**10. Where is groundwater stored?**
A. in clouds
B. in cracks and tiny holes in rocks and soil
C. in the sky
D. in plant leaves

LIVEWORKSHEETS

**11. What gives the energy for the water cycle?**

A. the Moon B. the Sun C. the wind D. the rain

**12. Surface currents in the ocean are caused by …**

A. wind B. fish C. the Moon D. rain

**13. Which one is NOT precipitation?**

A. rain B. snow C. runoff D. hail

**14. Which sentence about the water cycle is TRUE?**

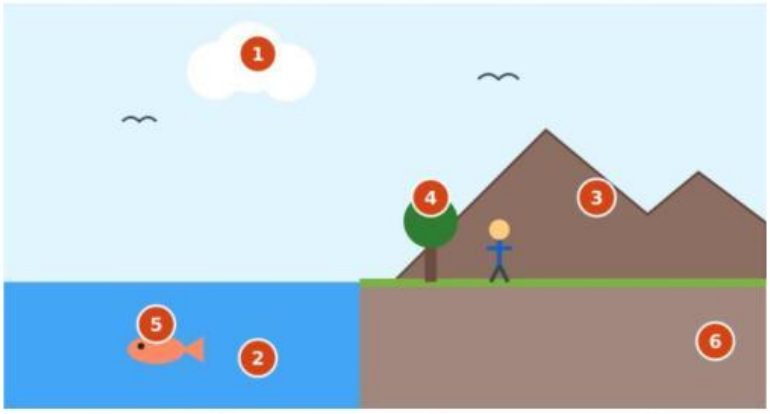
A. It starts in the sea.
B. It ends with rain.
C. It has no beginning and no end.
D. It only happens in winter.

**15. When sunlight reaches Earth …**

A. all of it goes into the sea
B. some is reflected and some is absorbed
C. all of it goes back to space
D. only rocks take it in

## D. Which Earth system?

Look at the numbers in the picture. Write the system: geosphere, hydrosphere, atmosphere or biosphere.




| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| | | | | | |

LIVEWORKSHEETS

## E. True or False? ☑ ✖

| | | | |
|---|---|---|---|
| **1** | Animal cells have chloroplasts. | True | False |
| **2** | Bacteria have no nucleus. | True | False |
| **3** | A leaf is an organ. | True | False |
| **4** | Evaporation changes liquid water into gas. | True | False |
| **5** | Snow is a liquid. | True | False |
| **6** | Fish are part of the biosphere. | True | False |
| **7** | Some sunlight is reflected back into space. | True | False |
| **8** | New cells can come from nothing. | True | False |

## F. Name the process 🔑

**Word bank: evaporation • condensation • melting • freezing • sublimation • transpiration**

| | | |
|---|---|---|
| **1** | Wet clothes dry in the sun. | _____ |
| **2** | Ice cream gets soft and drips. | _____ |
| **3** | Water in the freezer turns to ice. | _____ |
| **4** | Dew drops on the grass in the morning. | _____ |
| **5** | Dry ice makes white "smoke". | _____ |
| **6** | Water vapor comes out of leaves. | _____ |

## G. Think and write

**1. A cold glass of juice gets wet on the OUTSIDE. Where does the water come from?**

_____

_____

**2. Write ONE way plant and animal cells are the SAME, and ONE way they are DIFFERENT.**

_____

_____

LIVEWORKSHEETS

3. **Why is the Sun important for the water cycle?**

_____

_____

LIVEWORKSHEETS

# ANSWER KEY

| | |
|---|---|
| **A. Plant cell** | 1 nucleus 2 cell wall 3 mitochondria 4 chloroplast 5 cell membrane 6 vacuole 7 cytoplasm |
| **B. Water cycle** | A evaporation B condensation C precipitation D runoff E groundwater F transpiration |
| **C. Choose** | 1 B 2 C 3 C 4 B 5 C 6 C 7 B 8 A 9 C 10 B 11 B 12 A 13 C 14 C 15 B |
| **D. Earth systems** | 1 atmosphere (cloud/air) 2 hydrosphere (sea) 3 geosphere (mountain) 4 biosphere (tree) 5 biosphere (fish) 6 geosphere (soil) |
| **E. True or False** | 1 F 2 T 3 T 4 T 5 F 6 T 7 T 8 F |
| **F. Process** | 1 evaporation 2 melting 3 freezing 4 condensation 5 sublimation 6 transpiration |
| **G. Think and write** | 1. From water vapour in the AIR. It touches the cold glass and condenses.<br>2. Same: both have a nucleus / cell membrane / cytoplasm / mitochondria. Different: only plant cells have a cell wall, chloroplasts, a big vacuole.<br>3. The Sun gives the energy (heat) that makes water evaporate. Without the Sun, the water cycle would stop. |

LIVEWORKSHEETS