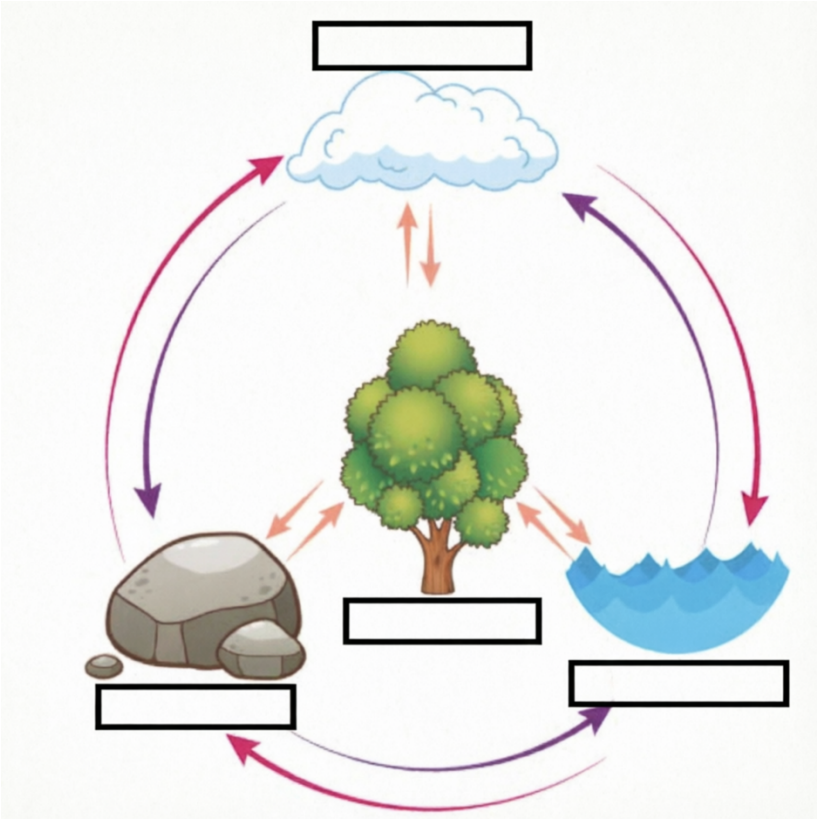
Recycling Matter and Nutrients

Engage

1. What do you remember from your lessons on the biosphere?
2. Look at the diagram below and write the name of each sphere in the box.
3. Answer the questions at the bottom.



Questions:

1. What do you notice about this diagram?

2. What do you wonder about this diagram?

Explore

What To Do:

1. Observe the diagrams on this page and the next.
2. Answer the questions about each one.

Questions:

1. What is this diagram showing?

_____

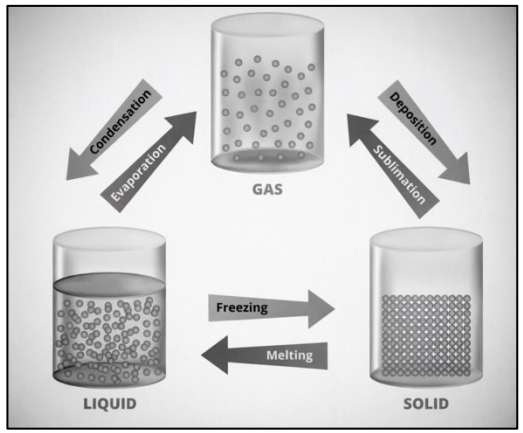
_____

2. What state does the liquid form when it freezes?

_____

3. What state does the liquid form when it is heated?

_____



Questions:

1. What is the name of this cycle?

_____

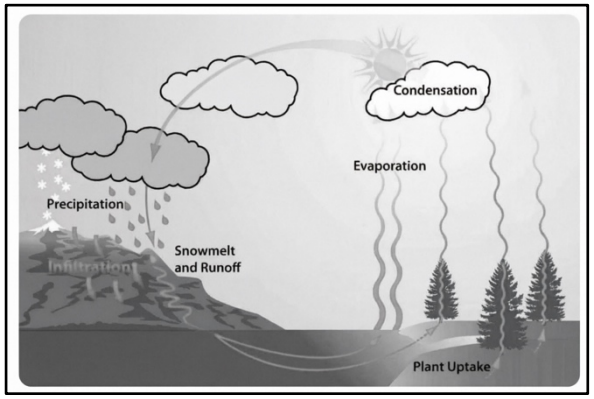
2. What matter is being recycled?

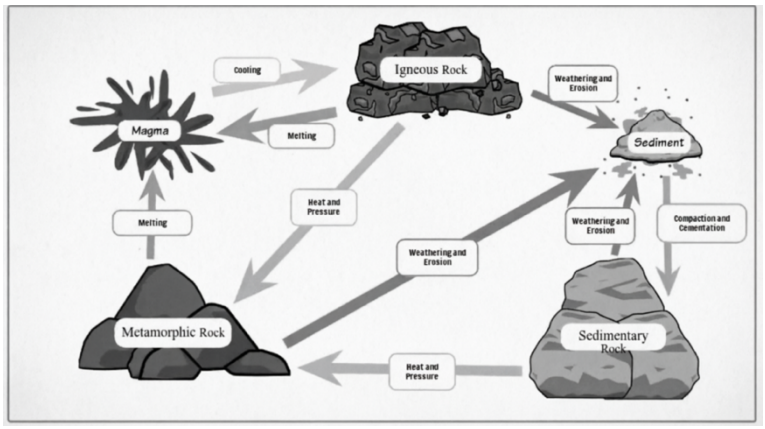
_____

3. What forms or states does it take in this diagram?

_____

4. Where does the energy come from? _____



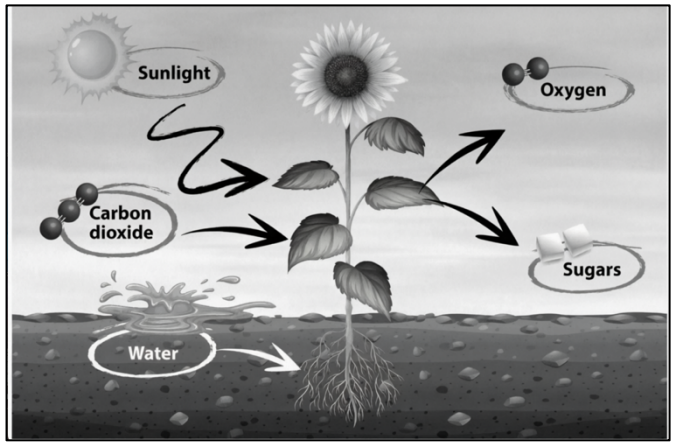


Questions:

1. What is the name of this cycle? _____
2. What matter is being recycled? _____
3. What forms or states does it take in this diagram?

_____

4. Where does the energy come from? _____



Questions:

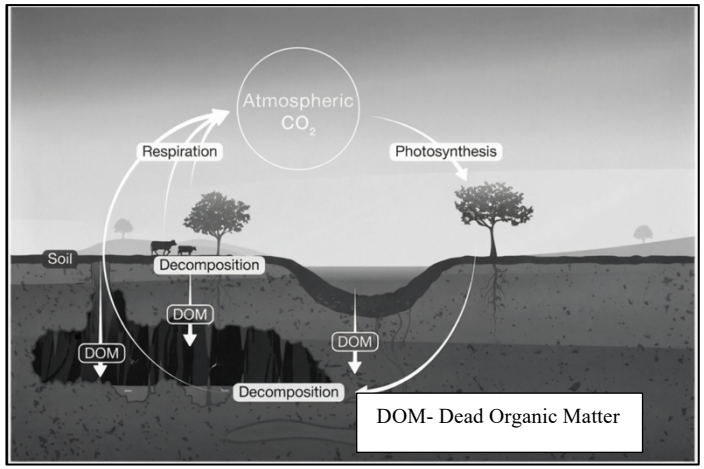
1. What is the name of this process? _____
2. What matter is being recycled? _____

_____

3. What forms or states does it take in this diagram?

_____

4. Where does the energy come from? _____

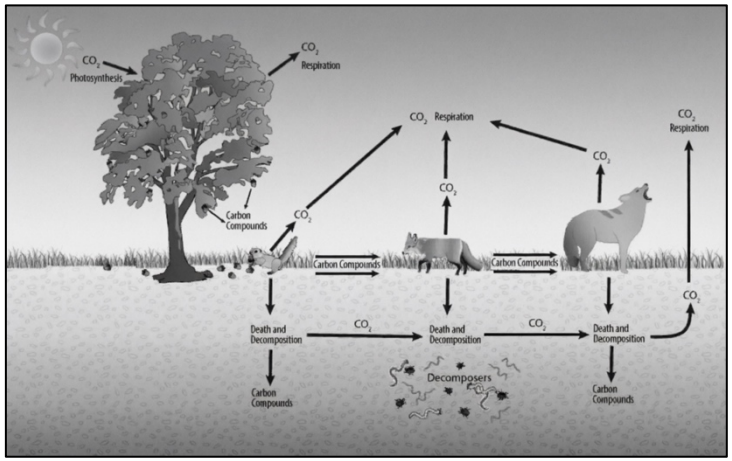


Questions:

1. What is the name of this process? _____
2. What matter is being recycled? _____
3. What forms or states does it take in this diagram?

_____

4. Where does the energy come from? _____



Questions:

1. What is CO_2? _____
2. What matter is being recycled? _____
3. What forms or states does it take in this diagram?

_____

4. Where does the energy come from? _____

RECYCLING IN THE BIOSPHERE

Explain

RECYCLING MATTER

RECYCLING NUTRIENTS

CONTINUOUS FLOW OF ENERGY

Elaborate

1. Watch the video "How Does the Earth Recycle its Materials: Shocking Truths Revealed!" from https://www.youtube.com/watch?v=IiGvMzfkimc
2. Fill in the blanks from the Word Bank as is plays. There is a second word bank of the next page for the sentences on that page.

WORD BANK

water dioxide rock movement metamorphic reformed magma carbon precipitation infiltrates sediments glucose nitrogen bacteria decomposers

1. First up is the _____cycle.
2. Rocks on Earth are constantly being broken down and _____.
3. It starts with _____cooling to form igneous rocks.
4. These rocks can be weathered into _____which then compact and cement to form sedimentary rocks.
5. With heat and pressure sedimentary rocks can transform into _____ rocks and if they melt the cycle begins again.
6. Next let's talk about the _____cycle.
7. Water on Earth is in a constant state of _____.
8. It evaporates from the surface forms clouds and then falls back as_____.
9. This water _____the ground, feeds plants, and flows into rivers and oceans only to evaporate again.
10. The _____cycle is another vital process.
11. Carbon is found in the atmosphere as carbon _____.
12. Plants absorb CO2 during photosynthesis converting it into oxygen and_____.
13. Now let's explore the _____cycle.
14. Atmospheric nitrogen is converted into usable forms by_____.
15. When organisms die _____return nitrogen to the soil where it can be used again.

Continue on the next page

WORD BANK II

interconnected		releasing
nutrient	life	future

16. Decomposition plays a key role in _____cycling.
17. Decomposers like bacteria and fungi break down dead organic matter _____nutrients back into the soil.
18. Earth's recycling systems are complex and_____.
19. Ensuring the sustainability of _____on our planet.
20. Understanding and protecting these cycles is vital for our_____.

Questions:

1. Which of the cycles did you already know about?

2. What information from the video do you think was the most important?

3. What information from the video surprised you?

Evaluate

Name _____ period _____

EXIT TICKET

Recycling Matter and Nutrients

1. Where does the energy for the biosphere start?

A. The core of the Earth
B. The crust of the Earth
C. The Sun
D. The atmosphere

2. Where does this energy go?

A. Into the rocks
B. Into the plants only
C. Into the animals only
D. Into the plants and animals

3. Explain how this energy recycled?