3rd Grade Water Cycle Lesson Plan

Tennessee Science Standards Alignment

This lesson aligns with the **Tennessee Academic Standards for Science (Grade 3 Earth and Space Sciences)**:

Primary Standard

3.ESS2.1 – Explain the cycle of water on Earth. Students develop an understanding of how water continuously moves through Earth's systems through evaporation, condensation, precipitation, runoff, infiltration, and transpiration. [newpathonline.com], [tn.gov]

Supporting Science and Engineering Practices

Students will:

- Develop and use models by creating and labeling a water cycle diagram. [tn.gov]
- Plan and carry out investigations through water cycle and transpiration experiments. [tn.gov]
- Obtain, evaluate, and communicate information using scientific vocabulary and observations. [tn.gov]
- Construct explanations based on evidence gathered during experiments. [tn.gov]

Crosscutting Concepts

- **Systems and System Models:** Water moves through interconnected parts of Earth's system.
- **Cause and Effect:** The Sun drives evaporation, which causes movement throughout the water cycle. [tn.gov], [newpathonline.com]

3rd Grade Science Lesson Plan: The Water Cycle

Grade Level: 3rd Grade
Subject: Science
Duration: 60-75 Minutes
Location: Tennessee (TN)
Topic: The Water Cycle

Learning Objective

Students will:

- Identify and explain the stages of the water cycle.
- Use the vocabulary terms correctly:
  - **Evaporation**
  - **Condensation**
  - **Precipitation**
  - **Transpiration**
  - **Infiltration**
  - **Runoff**
- Describe how water moves continually through Earth's system.
- Conduct experiments that model parts of the water cycle.

Tennessee Science Connection

Students explore how water moves through the environment and how living things, land, and weather interact with the water cycle.

Materials

- Water Cycle Diagram (below)
- Whiteboard/chart paper
- Markers
- Clear plastic cups
- Warm water
- Plastic wrap
- Ice cubes
- Small leafy plant
- Clear plastic bags
- Rubber bands
- Student science journals
- Crayons or colored pencils

Key Vocabulary

Evaporation

The process where the Sun heats liquid water and changes it into water vapor.

Condensation

The process where water vapor cools and changes back into tiny liquid water droplets, forming clouds.

Precipitation

Any form of water that falls from clouds, such as rain, snow, sleet, or hail.

Transpiration

The release of water vapor into the atmosphere from plant leaves.

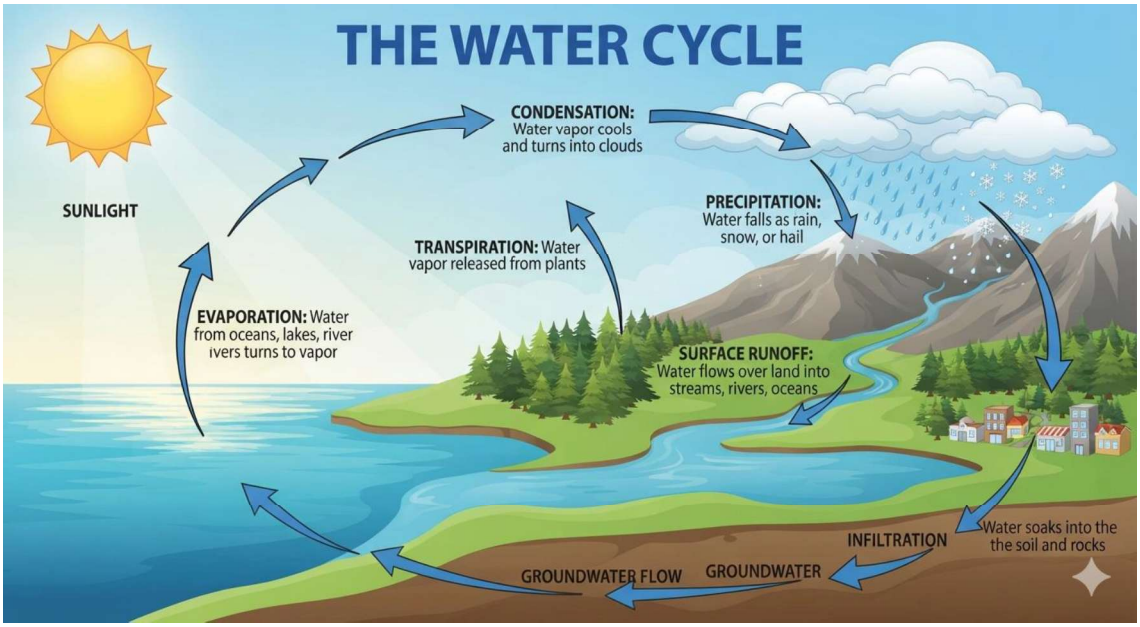
Infiltration

Water soaking into the ground.

Runoff

Water flowing over the land into streams, rivers, lakes, and oceans.

Water Cycle Graphic



Lesson Introduction (10 Minutes)

Ask students:

1. Where does rain come from?
2. What happens to puddles after a sunny day?
3. How do plants use water?

Explain:

"Water is constantly moving around Earth. It moves from oceans and lakes to the air, into clouds, back to Earth, and into the ground. This continuous movement is called the **Water Cycle**."

Direct Instruction (15 Minutes)

Introduce each stage using the graphic.

Water Cycle Steps

1. The Sun heats water causing **evaporation**.
2. Plants release water through **transpiration**.
3. Water vapor rises and cools.
4. Clouds form through **condensation**.
5. Water falls as **precipitation**.
6. Water either:
    - Flows over land as **runoff**
    - Soaks into the ground through **infiltration**
7. The cycle begins again.

Experiment #1: Mini Water Cycle in a Cup

Objective

Observe evaporation, condensation, and precipitation.

Materials

- Clear cup
- Warm water
- Plastic wrap
- Ice cubes

Procedure

1. Fill the cup halfway with warm water.
2. Cover tightly with plastic wrap.
3. Place several ice cubes on top.
4. Observe for 10-15 minutes.

What Students Observe

- Water evaporates from the warm water.
- Water vapor condenses on the plastic wrap.
- Droplets form and fall back into the cup like rain.

Discussion

Which stage did you observe?

- Evaporation ✓
- Condensation ✓
- Precipitation ✓

Experiment #2: Transpiration Investigation

Objective

Observe transpiration in plants.

Materials

- Small leafy plant
- Clear plastic bag
- Rubber band

Procedure

1. Place a plastic bag over several leaves.
2. Secure the bag around the stem.
3. Place the plant in sunlight.
4. Observe after 1-3 hours.

What Students Observe

Water droplets appear inside the bag.

Explanation

Plants absorb water through their roots. Some water leaves through tiny holes in the leaves and enters the air as water vapor.

This process is called **transpiration**.

Discussion Questions

- Where did the water come from?
- Why did droplets form inside the bag?
- How do plants contribute to the water cycle?

Guided Practice (10 Minutes)

Create six vocabulary cards:

- Evaporation
- Condensation
- Precipitation
- Transpiration
- Infiltration
- Runoff

Students work in groups to arrange the cards in the proper order and explain each term.

Independent Practice (10 Minutes)

Students create and label their own water cycle diagram.

Required Labels:

✅ Evaporation

✅ Condensation

✅ Precipitation

✅ Transpiration

✅ Infiltration

✅ Runoff

Water Cycle Quiz

Name: _____

Part 1: Multiple Choice

1. Water changing into vapor is called:

A. Runoff

B. Condensation

C. Evaporation

D. Infiltration

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2. Clouds form during:

A. Condensation

B. Runoff

C. Precipitation

D. Infiltration

---

3. Rain, snow, sleet, and hail are forms of:

A. Evaporation

B. Transpiration

C. Condensation

D. Precipitation

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4. Water released from plant leaves is called:

A. Runoff

B. Transpiration

C. Condensation

D. Infiltration

5. Water soaking into the ground is called:

A. Runoff

B. Evaporation

C. Infiltration

D. Precipitation

Part 2: Matching

Match the word to the definition.

Vocabulary

1. Evaporation
2. Condensation
3. Precipitation
4. Runoff
5. Infiltration
6. Transpiration

Definitions

A. Plants release water vapor

B. Water vapor cools and forms clouds

C. Water falls from clouds

D. Water changes into vapor

E. Water flows over land

F. Water soaks into the ground

Part 3: Fill in the Blanks

Use the word bank.

Word Bank: Evaporation, Condensation, Precipitation, Transpiration, Infiltration, Runoff

1. _____ occurs when water turns into vapor.
2. _____ forms clouds.

3. Rain is a type of _____.
4. Plants release water through _____.
5. Water soaking into soil is called _____.
6. Water flowing across land is called _____.

Part 4: Draw and Label

Draw the water cycle and label:

- Evaporation
- Condensation
- Precipitation
- Transpiration
- Infiltration
- Runoff

Quiz Answer Key

Multiple Choice

1. C
2. A
3. D
4. B
5. C

Matching

1-D

2-B

3-C

4-E

5-F

6-A

Fill in the Blank

1. Evaporation
2. Condensation

3. Precipitation
4. Transpiration
5. Infiltration
6. Runoff

Closure (5 Minutes)

Have students perform Water Cycle motions:

Water Cycle Stage	Action
Evaporation	Raise hands upward
Condensation	Make a cloud with arms
Precipitation	Wiggle fingers downward like rain
Transpiration	Stretch arms like a tree
Infiltration	Point toward the ground
Runoff	Move hands side to side like flowing water

Exit Ticket

1. What is evaporation?
2. What is transpiration?
3. What happens during condensation?
4. What is the difference between runoff and infiltration?

Extension Activity

Have students create a **Water Cycle Wheel** using paper plates. As they spin the wheel, they explain each stage of the cycle using the vocabulary terms. This provides a fun review and reinforces understanding of the complete water cycle.

PROCESSES IN THE WATER CYCLE

Precipitation

Condensation
&
Evaporation

Infiltration

Runoff

Transpiration