

**Subject Area:** Science  
**Unit Title:** Water Cycle and Sources of Fresh Water  
**Grade Level:** 5  
**Lesson Number:** 1 of 10

**Duration:** 60 minutes  
**Date:** March 10, 2024  
**Teacher:** Ms. Johnson  
**Room:** 205

## Curriculum Standards Alignment

### Content Standards:

- 5-PS3-1: Use models to describe that energy is transferred from place to place through various mechanisms.
- 5-ESS2-1: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

### Skills Standards:

- Scientific and Technical Knowledge
- Critical Thinking and Problem Solving

### Cross-Curricular Links:

- Math: measurement, graphing
- Language Arts: reading, writing, communication

## Essential Questions & Big Ideas

### Essential Questions:

- What is the water cycle and why is it important?
- What are the different sources of fresh water and how are they used?

### Enduring Understandings:

- The water cycle is a continuous process that involves the movement of water on, above, and below the surface of the Earth.
- Fresh water is a limited resource that must be conserved and protected.

## Student Context Analysis

**Class Profile:**

- Total Students: 25
- ELL Students: 5
- IEP/504 Plans: 3
- Gifted: 2

**Learning Styles Distribution:**

- Visual: 40%
- Auditory: 30%
- Kinesthetic: 30%

## Pre-Lesson Preparation

### Room Setup:

- Arrange desks in a U-shape to facilitate group discussion
- Set up a projector and screen for video presentation

### Technology Needs:

- Computer with internet access
- Projector and screen

### Materials Preparation:

- Whiteboard and markers
- Diagram of the water cycle

### Safety Considerations:

- Ensure students understand the importance of proper hygiene and handwashing when handling water samples

## Detailed Lesson Flow

### Introduction (10 minutes)

- Introduce the topic of the water cycle and ask students to share their prior knowledge
- Show a short video or animation to introduce the concept of the water cycle

### Direct Instruction (20 minutes)

- Use a diagram or model to explain the main stages of the water cycle
- Provide opportunities for students to ask questions and engage in class discussions

#### Engagement Strategies:

- Think-pair-share
- Group discussion

### Guided Practice (20 minutes)

- Provide students with a diagram of the water cycle and ask them to label the different stages
- Have students work in pairs to complete a worksheet related to the water cycle

#### Scaffolding Strategies:

- Provide sentence stems for students to use when labeling the diagram
- Offer one-on-one support to students who need it

## Differentiation & Support Strategies

### For Struggling Learners:

- Provide additional support and scaffolding during the guided practice
- Offer one-on-one instruction for students who need it

### For Advanced Learners:

- Provide additional challenges and extensions, such as researching and writing about a specific source of fresh water
- Encourage students to create a model of the water cycle using clay or paper mache

### ELL Support Strategies:

- Provide visual aids and graphic organizers to support language development
- Offer one-on-one support and scaffolding during the guided practice

### Social-Emotional Learning Integration:

- Encourage students to work collaboratively and support one another during the group discussion and guided practice
- Provide opportunities for students to reflect on their learning and set goals for themselves

## Assessment & Feedback Plan

### Formative Assessment Strategies:

- Observe student participation during the group discussion and guided practice
- Review student worksheets and diagrams for accuracy and completeness

### Success Criteria:

- Students can describe the main stages of the water cycle
- Students can identify and explain the different sources of fresh water

### Feedback Methods:

- Verbal feedback during the group discussion and guided practice
- Written feedback on student worksheets and diagrams

## Group Discussion

---

### Group Discussion Questions:

- What are the main sources of fresh water in our community?
- How do we use water in our daily lives?
- What are some ways we can conserve water?

### Group Discussion Protocol:

- Divide the class into small groups of 3-4 students
- Assign each group a facilitator to guide the discussion
- Provide each group with a set of discussion questions and a graphic organizer

## Hands-on Activity

---

### Hands-on Activity:

- Provide students with a diagram of the water cycle and ask them to label the different stages
- Have students work in pairs to complete a worksheet related to the water cycle

### Hands-on Activity Materials:

- Diagram of the water cycle
- Worksheet related to the water cycle
- Pencils, pens, and markers

## Conclusion

---

### Conclusion:

- Review the key concepts covered in the lesson
- Ask students to reflect on their learning and set goals for themselves

### Conclusion Activity:

- Have students write a reflection essay on what they learned about the water cycle and sources of fresh water
- Ask students to create a visual project, such as a poster or infographic, to illustrate the water cycle and sources of fresh water

## Assessment

---

### Assessment:

- Observe student participation during the group discussion and hands-on activity
- Review student worksheets and diagrams for accuracy and completeness
- Administer a short quiz at the end of the lesson to assess student understanding

## Extension Activities

---

### Extension Activities:

- Create a model of the water cycle using clay or paper mache
- Research and write a short report about a specific source of fresh water
- Design and create a public service announcement about water conservation

### Extension Activity Materials:

- Clay or paper mache
- Research materials, such as books and articles
- Computer and software for creating a public service announcement

## Interactive Fun Activities

---

### Interactive Fun Activities:

- Create a water cycle simulation using a large container, water, ice cubes, and a heat source
- Play a game of "Water Cycle Charades" to review the main stages of the water cycle
- Have students create a song or rap about the water cycle and sources of fresh water

### Interactive Fun Activity Materials:

- Large container, water, ice cubes, and a heat source
- Whiteboard and markers
- Music and audio equipment

## Parent Engagement

---

### Parent Engagement Strategies:

- Host a water cycle workshop for parents and students to learn about the water cycle and sources of fresh water
- Encourage parents to participate in a water conservation challenge with their child
- Provide parents with resources and tips on how to conserve water at home

### Parent Engagement Materials:

- Workshop materials, such as diagrams and handouts
- Water conservation challenge materials, such as a checklist and reward system
- Resources and tips on how to conserve water at home, such as a brochure or website

## Safety Considerations

---

### Safety Considerations:

- Ensure students understand the importance of proper hygiene and handwashing when handling water samples
- Prevent slips, trips, and falls in the classroom or laboratory
- Provide students with protective gear, such as gloves and goggles, when conducting experiments or activities that involve water



## Conclusion and Reflection

---

### Conclusion:

- Review the key concepts covered in the lesson
- Ask students to reflect on their learning and set goals for themselves

### Reflection Questions:

- What did you learn about the water cycle and sources of fresh water?
- How can you apply what you learned to your daily life?
- What are some ways you can conserve water and protect this vital resource?

## References

---

### References:

- National Geographic: Water Cycle
- EPA: Water Conservation
- NASA: Water Cycle

## Glossary

---

### Glossary:

- Evaporation: the process by which water turns into water vapor
- Condensation: the process by which water vapor turns back into liquid water
- Precipitation: the process by which water falls back to the Earth as rain, snow, or hail
- Infiltration: the process by which water seeps into the soil and becomes groundwater

## Assessment Rubric

---

### Assessment Rubric:

- Participation: 20 points
- Worksheet and diagram: 30 points
- Quiz: 30 points
- Extension activity: 20 points

## Conclusion

---

### Conclusion:

- The water cycle and sources of fresh water are essential concepts for students to learn about
- By understanding the main stages of the water cycle and the different sources of fresh water, students can develop a deeper appreciation for the role of water in their lives and the importance of conserving this vital resource

## Final Thoughts

---

### Final Thoughts:

- Teaching the water cycle and sources of fresh water can be a fun and engaging experience for students
- By using a variety of teaching strategies and activities, teachers can help students develop a deep understanding of these important concepts

