



The Water Cycle

6th Grade
Science
Unit 1

How is water continuously cycled among the land, ocean, and atmosphere?



Answer the following questions on your notes sheet

What is happening in this photograph?

How would what is happening change when the sun sets and why?

How does this relate to the water cycle?

Next Activity

Please answer the following questions in your science binder....

Pre-Activity Discussion

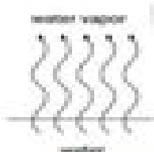
1. What are the three states of matter?
2. How do these states of matter appear in water?
3. What is the process by which liquid water changes to water vapor?
4. What is the process by which water vapor changes to liquid water?
5. What is the process by which liquid water becomes solid?
6. What is the process that happens when liquid or solid water falls from the sky?
7. Do plants participate in any of these processes?

Graphic Organizer: Water Cycle

1. Match the icons to the vocabulary words on the graphic organizer.
2. Cut out the icons and glue them next to the word.
3. Turn the graphic organizer so you can write the following in the long empty rectangle on the left: "Mechanisms of the Water Cycle."
4. Cut the graphic organizer out of the sheet of paper along the double bold lines. This will make one big rectangle.
5. Place glue along the back of the long rectangle and press into your lab journal.
6. Fold along the solid line.
7. Cut the dotted lines to the fold so that you have flaps of paper.
8. Under each flap write the definition of the term in your own words.

Climate facts

Evaporation



Transpiration



Condensation



Precipitation



Crystallization



Fold

Graphic Organizer:Definitions:

Evaporation - the process by which liquid water changes to water vapor

Transpiration - the process by which plants release water vapor to the air

Condensation - the process by which water vapor changes to liquid water

**Precipitation - the process that happens when liquid or solid water falls
from the sky**

Crystallization - the process by which liquid water becomes solid

Hook (Full Class period)

Water Cycle Vocabulary Match

Description

Students match icons to vocabulary words and definitions using a graphic organizer.

Do Now 1 (Full class period)

The Mechanisms of the Water Cycle

Description

Students set up models to observe the mechanisms of the water cycle including the transfer of energy that drives cycling of matter.

Plant Observations

1. What are the mechanisms of the water cycle?
2. Where does each of these mechanisms occur?
3. Where does the energy come from that drives the water cycle?
4. What force pulls precipitation down to the ground?

Do Now 2

Vocabulary Games

Student Handouts can be printed individually for student use, as a reusable class set, or assigned online. Print one copy of the Water Cycle Station Pictures in color and glue one to the front of each manila envelope. You may laminate the envelope and use a box cutter or scissors to cut a slit so that the envelope will still open. Print another copy of the Water Cycle Station Pictures to hang over the station area. Print the Teacher Printout: Water Cycle Station Cards on cardstock and laminate it. Cut out the cards and place in the proper station envelope. Place the station envelopes around the room with enough space so that multiple students can be at each station at a time. Hang the second set of pictures where students can see them and know where to go. Have the students draw the following chart into their lab journal. (Students will need at least eight rows below the heading).

The students become water molecules and travel through the water cycle. Break the students into eight groups. Each group starts at a different station. Make sure to stress to the students that they will not move as a group, but that each student will follow his or her own path. The station cards need to stay at the station; the students record what happened in their lab journal. Allow students to move at their own pace as some students will be stuck in a particular part of the water cycle longer depending on what is drawn.

Do Now Activity #2

Pre-Activity Discussion

1. Where do we find water in Earth's system?
2. How does water move from place to place?
3. What is the water cycle?
4. Where does the energy come from that drives the cycle?
5. What are the mechanisms that drive the cycle?

Do now 2 post discussion

Post-Activity Discussion

1. What force brings precipitation to the ground?
2. What would have to happen to water for it to evaporate?
3. What would have to happen to water vapor for it to condense?
4. Describe the effect of thermal energy transfer on the water cycle.

Do 3: Engineering Solutions

Cycle Showcase Description

Students use the engineering design process to develop models of a natural system, such as the water cycle, that includes descriptors for the transfer of energy that drives motion and cycling of matter within the system.

Student models describe unobservable mechanisms in the system, such as global movements of water via transpiration, evaporation, condensation, and crystallization.

Reading Extensions

There are 3 leveled readings in the Water Cycle shared folder. Each reading also has a series of questions that go along with it.

Water Cycle Assessments

There are 3 short assessments that go with this unit, a 5 question multiple choice assessment, a constructive response and an argument (includes rubric)

The 3 assessments are in the Water Cycle Shared Folder

Answer Keys

Illuminate

Accessing Prior Knowledge

See Teacher Facilitation in this component for anticipated student responses and discussion.

Hook

See Teacher Facilitation in this component for anticipated student responses and discussion.

Do

Do 1: Activity

See Sample Student Responses and Answer Key for this Activity's Student Handout.

Do 2: Activity

See Sample Student Responses and Answer Key for this Activity's Student Handout.

Do 3: Engineering Solutions

See Teacher Instructions for additional facilitation in this Engineering Solution.

Expand

Reading Science A

1. **B**

2. **C**

3. **D**

4. **A**

5. **D**

6. **C**

