My NASA Data - Mini Lesson/Activity

Energy and Matter: Water Cycle & The Ocean's Temperature

Grade Band

• 6-8

Time

• 15 minutes

Overview

Students review a video showing how the ocean is warmed by solar energy. This is the first video of a four-part series on the water cycle, which follows the journey of water from the ocean to the atmosphere, to the land, and back again to the ocean.

Student Directions

Steps

1. Review the NASA Scientific Visualization Studio video, <u>The Water Cycle: Heating the Ocean on Youtube</u>.

Video: The Water Cycle: Heating The Ocean

The Water Cycle: Heating The Ocean | https://www.youtube.com/watch?v=NS-EgRf5L24 | Source:

- 2. Answer the following questions. Check with your instructor on how to submit your answers.
 - 1. What is the water cycle?
 - 2. What drives the movement of air and water in the Earth System?
 - 3. Where does this visualization begin in the water cycle?
 - 4. Describe what happens to the Sun's heat as you progress through the video.
 - 5. How does the Sun and the Hydrosphere's oceans interact in this video?
 - 6. Describe what happens in the night to the ocean with respect to energy.
 - 7. Describe what happens to the land's temperature over the course of the day and night.

Teacher Note

This is the first of a four-part series on the water cycle. The other videos are available online:

The Water Cycle: Following The Water:

https://svs.gsfc.nasa.gov/10885

The Water Cycle: Steaming The Air:

http://svs.gsfc.nasa.gov/10883

The Water Cycle: Watering The Land

http://svs.gsfc.nasa.gov/10884

Teachers, these mini lessons/student activities are perfect "warm up" tasks that can be used as a hook, bell ringer, exit slip, etc. They take less than a class period to complete. Learn more on the "My NASA Data What are Mini Lessons?" page.

Teachers who are interested in receiving the answer key, please complete the <u>Teacher Key Request</u> and <u>Verification Form</u>. We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

NGSS Three Dimensional Learning

Crosscutting Concepts

- Systems and System Models
- Structure and Function
- Stability and Change

