# My NASA Data - Mini Lesson/Activity Using Models to Explore Chlorophyll and Radiation Data

#### **Grade Band**

- 6-8
- 9-12

## **Time**

• 15 minutes

#### **Overview**

This mini lesson engages students by watching a NASA video related to seasonal chlorophyll concentration as it relates to net radiation using NASA's Aqua satellite. Students will examine the model and answer the questions.

#### **Student Directions**

Review the video, Chlorophyll and Net Radiation, and answer the following questions.

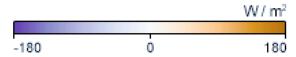
Video: Chlorophyll and Net Radiation

Chlorophyll and Net Radiation | <a href="https://www.youtube.com/watch?v=cPkBAD4Mn3Q">https://www.youtube.com/watch?v=cPkBAD4Mn3Q</a> | Source: NASA Earth Observatory

### Steps:

- 1. Check with your instructor on how to submit your answers.
- 2. Review the color bar scale for net radiation. What do the colors mean?

## **Net Radiation**



3. Review the color bar scale for chlorophyll concentration. What do the colors mean?

## Chlorophyll



- 4. Describe the values for net radiation during the spring and fall in the Northern Hemisphere.
- 5. List the value of net radiation in the Northern Hemisphere during the summer, then list the value of net radiation in the Northern Hemisphere during winter. What do you notice?
- 6. Describe the patterns you observe between net radiation and chlorophyll concentration?
- 7. Observe the contrast between the Northern Hemisphere and the Southern Hemisphere in net radiation values. Which two seasons experience a greater difference? Fall and spring or summer and winter? Explain.

#### **Teacher Note**

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**

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Stability and Change

## **Science and Engineering Practices**

- Developing and Using Models
- Analyzing and Interpreting Data