

SUGGESTED SKILL

 Visual Representations

2.A

Describe characteristics of an environmental concept, process, or model represented visually.



AVAILABLE RESOURCES

- Classroom Resource > [AP Environmental Science Teacher's Guide](#)
- Classroom Resource > [Energy and Climate Change](#)
- The Exam > [Chief Reader Report 2017, Q3](#)
- The Exam > [Student Performance Q&A 2014, Q2](#)
- The Exam > Samples and Commentary ([2017, Q3](#), [2014, Q2](#))

TOPIC 4.7

Solar Radiation and Earth's Seasons

Required Course Content

ENDURING UNDERSTANDING

ENG-2

Most of the Earth's atmospheric processes are driven by input of energy from the sun.

LEARNING OBJECTIVE

ENG-2.A

Explain how the sun's energy affects the Earth's surface.

ESSENTIAL KNOWLEDGE

ENG-2.A.1

Incoming solar radiation (insolation) is the Earth's main source of energy and is dependent on season and latitude.

ENG-2.A.2

The angle of the sun's rays determines the intensity of the solar radiation. Due to the shape of the Earth, the latitude that is directly horizontal to the solar radiation receives the most intensity.

ENG-2.A.3

The highest solar radiation per unit area is received at the equator and decreases toward the poles.

ENG-2.A.4

The solar radiation received at a location on the Earth's surface varies seasonally, with the most radiation received during the location's longest summer day and the least on the shortest winter day.

ENG-2.A.5

The tilt of Earth's axis of rotation causes the Earth's seasons and the number of hours of daylight in a particular location on the Earth's surface.