

Name: _____ Block: _____ Date: _____

Seasons and Light Research

Solstice: The longest or shortest day of the year when the sun is the highest or lowest in the sky. Solstices also mark the change from spring to summer and fall to winter (June 21 and December 21).

Equinox: The 2 days of the year when the Earth is tilted neither toward nor away from the sun causing day and night to be the same length. Equinoxes also mark the change from winter to spring and summer to fall (March 20 and September 22).

Location: PORTLAND, MAINE

Approximate Latitude: 43.7° N

Date	Hours of Daylight	Angle of Light (Diagram)	Sunrise and Sunset
Spring Equinox – March 20			Sunrise: Sunset:
Summer Solstice – June 21			Sunrise: Sunset:
Fall Equinox – Sept 22			Sunrise: Sunset:
Winter Solstice – Dec 21			Sunrise: Sunset:

1. Compare the angle of light on Dec 21st with the angle of light on June 21st. How are they different?

2. Explain why the angle and amount of light in December leads to colder temperatures in Maine than the angle and amount of light in June:

Location: BARROW, ALASKA

Approximate Latitude: 71.2° N

Date	Hours of Daylight	Angle of Light (Diagram)
Spring Equinox – March 20		
Summer Solstice – June 21		
Fall Equinox – Sept 22		
Winter Solstice – Dec 21		

3. Explain 2 ways that the angle and amount of light in Alaska is different than in Maine:

Location: CAPE TOWN, SOUTH AFRICA Approximate Latitude: 34° S

Date	Hours of Daylight	Angle of Light (Diagram)
Spring Equinox – March 20		
Summer Solstice – June 21		
Fall Equinox – Sept 22		
Winter Solstice – Dec 21		

Location: THE EQUATOR

Approximate Latitude: 0°

Date	Hours of Daylight	Angle of Light (Diagram)
Spring Equinox – March 20		
Summer Solstice – June 21		
Fall Equinox – Sept 22		
Winter Solstice – Dec 21		

4. How are the angles of light at the Equator different than the other locations?

5. The temperatures at the Equator are consistently warm and do not change much. Explain what the angle and amount of light have to do with this: