

Name _____

The Shadow Knows

The All-day Angle of the Sun **90 Degrees**

Angle of Incidence	Shadow Lengths in Centimeters	Direction of the Shadow
30 Degrees		
60 Degrees		
90 Degrees		
120 Degrees		
150 Degrees		

The All-day Angle of the Sun **75 Degrees**

Angle of Incidence	Shadow Lengths in Centimeters	Direction of the Shadow
30 Degrees		
60 Degrees		
90 Degrees		
120 Degrees		
150 Degrees		

The All-day Angle of the Sun **60 Degrees**

Angle of Incidence	Shadow Lengths in Centimeters	Direction of the Shadow
30 Degrees		
60 Degrees		
90 Degrees		
120 Degrees		
150 Degrees		

The All-day Angle of the Sun **45 Degrees**

Angle of Incidence	Shadow Lengths in Centimeters	Direction of the Shadow
30 Degrees		
60 Degrees		
90 Degrees		
120 Degrees		
150 Degrees		

Answer These Questions About Your Activity

1. What do you see happening to the shadow each time the flashlight is moved at the same angle of the protractor?

2. What do you see happening to the shadow each time the flashlight is moved at the different angles of the protractor?

3. Why is this happening?

4. What are your conclusions about shadows of the data above?

a. _____

b. _____

5. The same thing happens to tall objects outside as we go from summer to winter. How do the conclusions above help you understand more about the earth as it is going around the sun?

a. _____

b. _____

6. What is causing the sun to seem like it is moving each month nearer down in the sky?

a. _____
