Finding Out About Heat (Light) that is Spread Out

1. Write your number of squares you counted on the lines of below that you counted.

   At 90-Degrees, _____ squares have light on them.

   At 75-Degrees, _____ squares have light on them.

   At 60 Degrees, _____ squares have light on them.

   At 45 Degrees, _____ squares have light on them.

2. What does each number represent?

   Each number represents the how many squares have heat on them from the flashlight.

3. As the number of each angle gets larger what do you think is happening to the heat on the paper as it is spread out more?

   As the heat is spread out more, the heat has to share with more squares so there won't be as much heat on each square.

4. With your calculator divide each number into 100%. (100% is the most amount of heat that the flashlight can give out.) Write your answers on the lines below.

   90-Degrees: _____ amount of heat each square gets.

   75 Degrees: _____ amount of heat each square gets.

   60 Degrees: _____ amount of heat each square gets.

   45 Degrees: _____ amount of heat each square gets.

5. What does each number you wrote down mean?

   It means that this each square is getting that much heat. The amount of heat per square is less and less when the light spreads out more and more.

6. Each number is different. What does this mean?

   It means that the heat is spread out more and more and each square is getting less and less heat.

7. What is going to happen to the heat of the light on the paper as the angle changes even more?

   The heat per square will get less and less therefore getting colder.

8. How is this simulation like the angle of the light changing as it is shining on the earth?

   As the angle of the light from the sun gets less and less that area will get colder and colder because the heat has to spread out more and more.