April 2021

Student Pages - Answer Key

Center for Urban Resilience

Name: _____ Date: _____ Class/Period:_____

Activity 4.2: Surfaces and Temperature around your study site

What will I need?
You will be collecting temperature data at eight different points in your study site. To collect your data you will need the following tools:

1. Thermometer
2. Data Collection Sheet
3. Clipboard

Instructions and Data Collection

When collecting your data you should hold your thermometer at approximately 3 inches off the ground or surface and hold it for at least one minute to make sure that the temperature you record is accurate for that location. You should then record your data on your heat island data collection sheet.

Take temperature readings at 8 different locations around your study site. Try to find diverse locations. Some potential locations include: (1) in the middle of a grassy field, (2) near a building, (3) in a paved parking lot, or (4) under a tree that shades grass and under a tree that shades a paved area. Be sure to describe your location on your data collection sheet.

Urban Heat Island Data Collection Form

Possible Surfaces
Sidewalk
Pavement (Black)
Grass
Bare Soil
Water
Brick
Sand

Location Number	Surface	Time of Recording	Weather Conditions	Temp (°C)	Description of Location
	Grassy	*11:00 am*	*Sunny with some clouds*	*23*	*This recording was taken under a large shade tree near a building*
1					
2					
3					
4					
5					
6					
7					
8					
9					

Data Analysis

Now that you have collected data examine that data and see if there are any patterns in your data.

1. Describe any patterns or trends that you see in your data.

Unshaded impervious areas were the hottest with impervious shaded areas the next hottest (though some areas that may be ground can also get quite hot). The hottest areas were the middle of black parking lots.

2. What do you think is the reason for your findings?

Dark impervious surfaces absorb more heat.

3. What do you think are the potential effects on vegetation given your data?

Vegetation will shade the ground preventing the absorption of heat and vegetation also cools the air around it through evapotranspiration.