

Cool Surfaces Worksheet

1. In the Cool Surfaces Animated Video, you learned about the urban heat island (UHI) effect. Take a look around the neighborhood where you live or go to school. Do you think either your home or school has been impacted by the UHI effect? Have you ever personally experienced the impacts of the UHI effect? If yes, then how?

2. “Cool murals” made with solar-reflective paint are one example of how communities are getting creative to beat the heat. What are some other creative ideas that you can come up with to help your community stay cool?

3. Do you think that a home or building in a colder climate could benefit from cool surfaces in their communities? Why or why not?

4. True or False? Thermal Emittance means how good a material is at storing heat it's already absorbed.

_____ True

_____ False

5. True or False? The radiative property, Solar Reflectance, is the amount of sunlight that bounces off a surface.

_____ True

_____ False

6. Sunlight reaches the earth in three ways: Ultraviolet, Visible, and _____ radiation.

- a. Interweb
- b. Solar
- c. Infrared
- d. Thermal

7. True or False? For a material to be considered "cool" it must be white or light in color.

_____ True

_____ False

8. What is it called when the sun heats up the outside of a building and some of the heat makes its way inside the building?

- a. Solar Reflectance
- b. Solar Heat Gain
- c. Thermal Emission
- d. Urban Heat Island (UHI) Effect

9. The opposite of Solar Reflectance is _____.

- a. Solar Absorptance
- b. Solar Emittance
- c. Thermal Reflectance
- d. Climate Change