

Name _____ Period _____ Date _____



Sun Banking

STEM Sims

Lesson 1: Roof Direction

The amount of sunlight in a day will be the same no matter which direction your house faces, but does the cardinal direction (North, East, South, West) of the solar panels installed on the roof of your house affect the amount of sunlight that will hit them?

Doing the Science

1. Start the Sun Banking Simulation by clicking on the “Sim” tab.
2. Make the following selections:
 - Season: Summer
 - Type of Panel: K1OTGM
 - Roof Direction: North
 - Annual kWh needs: 10,000
3. Click on the ADD PANELS button.
4. The K1OTGM panel you have selected is available to drag and drop. Drag 5 panels onto the roof.
5. Click on the BEGIN button, and wait for the simulation to complete.
6. Record the amount of kWh produced on a daily average in Table 1 below.
7. Click on the RESTART button.
8. Repeat steps 2-6 only changing roof directions to South, and then West, and then East until your table is completed.

Table 1.

	North	South	West	East
5 Panels				

Do You Understand?

1. Did the amount of kilowatt hours produced change when you changed the direction of the roof?
2. Which direction gave the solar panels the most sunlight? Did you expect this to happen?
3. If the Sun rises due east on the date of the spring equinox, which direction does it set in? (Hint: The number of kWh should match in this direction.)