

## **STEM Sims**

## **Lesson 2: Seasonal Sunlight**

The Earth rotates on a tilted axis meaning that the number of daylight hours depends on whether the Earth is tilted toward or away from the Sun. How does this affect the number of daylight hours in the summer versus the winter?

## **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: South
  - 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.
- Record the amount of kWh produced on a daily average in Table 1 below. 6.
- 7. Click on the RESTART button.
- Repeat steps 2-6 with the winter season. 8.

Table 1.		
	Winter	Summer
5 Panels		

## **Do You Understand?**

- 1. Did the amount of kilowatt hours produced change when you changed the season?
- 2. Which season produced more kilowatt hours?
- 3. How do your results match your prediction of the number of daylight hours in the summer versus winter?