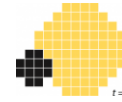


Transit of a Star – Pixel Count



Plot the amount of light detected by a spacecraft as it observes a planet transiting a star.

On June 5, the planet Venus will transit or appear to travel across our view of the Sun from Earth. Similar transits or occultations of planets around other stars have occurred and been measured.

In this exercise, you will create a graph measuring the change in the light collected from a star, and note how the transiting planet has changed the amount of light received. This kind of graph shows a *light curve*.

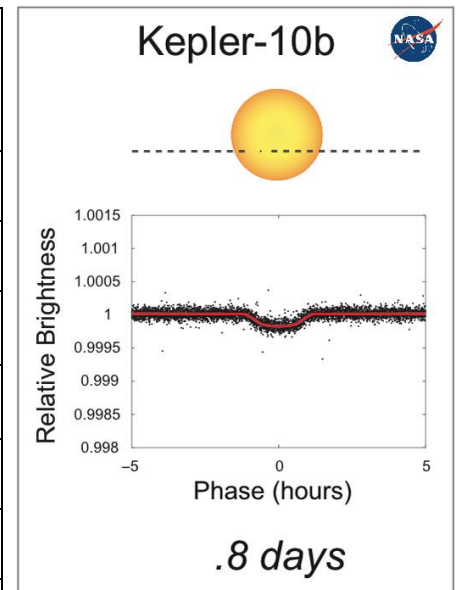
Materials: Images with transiting object, graph paper, data chart

Procedure:

1. Count the number of light pixels shown in each of the 15 images found on your image sheet. Record the number of light pixels in the data chart below.
2. Graph the data from your data chart on the graph paper. Be sure to title and label your graph.
3. Draw a light curve (line graph) connecting the data points on your graph.
4. Compare your graph to graph created with numerous points of data.

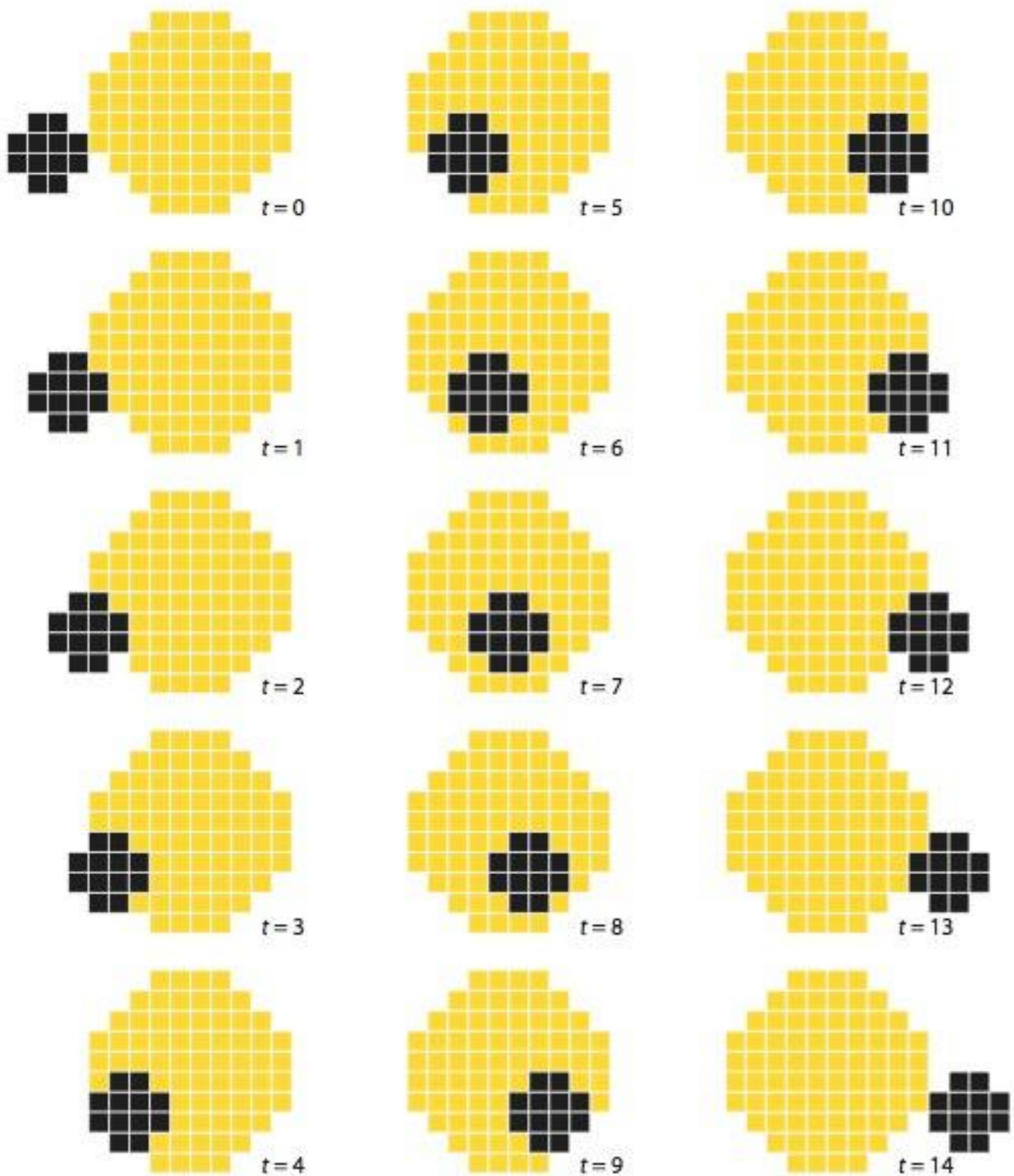
Data:

Time of Observation	Number of Bright Pixels	Time of Observation	Number of Bright Pixels
t = 0		t = 8	
t = 1		t = 9	
t = 2		t = 10	
t = 3		t = 11	
t = 4		t = 12	
t = 5		t = 13	
t = 6		t = 14	
t = 7		# of pixels of planet	



<http://kepler.nasa.gov/Mission/discoveries/kepler10b/>

Transit of a Star Images



Source: <http://cdn.transitofvenus.org/images/stories/pixels-14frames.jpg>

Adapted from lesson found at <http://www.transitofvenus.org/education/science-math/316-activity-pixel-count>

