



Teacher Guide

What Can We See in EarthKAM Images?

Key idea: What we can see in images from space is different from what we can see on a world map.

Time: 50-100 minutes

Objective

Students consider what they can and can't see because of size in Sally Ride EarthKAM images. They consider what they can see on a wall map of the world and then compare this to what they can see in several EarthKAM images.

Conduct the activity

1. Direct students' attention to the wall map and ask them to name and describe some places and features they see. These may include continents, oceans, deserts, rivers, mountains, and rainforests. Also have them identify countries and states.
2. Ask students to list features too small to see on the map, such as houses, small cities, and ponds. Then ask what is the smallest feature that they can see on the map. For example, can they see the Hawaiian Islands?
3. With your students, examine one of the Sally Ride EarthKAM images.
 - A. Have students use the metadata and the atlases to find the location of the image on the world map.
 - B. Ask them to compare the sizes of the features in the EarthKAM image with the sizes of the features at the same location on the wall map. They will see that more details are visible and that everything appears much larger in the EarthKAM image.
 - C. Have a student attach the image to a clear space on the wall, and use pushpins and string to link the image to its corresponding location on the map.
4. Repeat Step 3 with the other Sally Ride EarthKAM images you gathered. Each time, have a discussion about what students can see in the EarthKAM image that is too small to see on the map.
5. Ask students to list:
 - A. Ten things that are too small to see in the EarthKAM images, such as a person or a house.
 - B. Ten things they can see in the images, such as a city or a river.
 - C. Ten things too large to see, such as an entire continent.

STANDARDS ALIGNMENT

Geography

- I.1:** The World in Spatial Terms: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
- II.4:** Places and Regions: The physical and human characteristics of places.
- II.5:** Places and Regions: That people create regions to interpret Earth's complexity.
- III.8:** Physical Systems: The characteristics and spatial distribution of ecosystems on Earth's surface.

MATERIALS

- > Several Sally Ride EarthKAM images with their metadata (from the Image Gallery on the Sally Ride EarthKAM website)
- > Wall map of Earth (see note)
- > Pushpins
- > String or yarn
- > Atlases

Note: Attach the world map to the wall in a place where you can use pushpins to mount the images and mark locations.



6. Now discuss their lists. What can and can't be seen in the Sally Ride EarthKAM images?
 - A. What human-made features can be seen? What human-made features can't be seen?
 - B. What natural features can be seen? What natural features can't be seen?

Encourage students to ask questions. They may come up with questions for which you don't know the answers. If so, encourage students to research the answers. Sally Ride EarthKAM images are a rich source of topics for scientific and geographic investigations.