



Sally Ride EarthKAM

on the International Space Station



Teacher Guide

Sally's Pix

Key idea: Amazing views of Earth from space inspired astronaut Sally Ride to start EarthKAM.

Time: 10 minutes

Objective

Students observe and discuss some of Sally Ride's favorite images of Earth from space. They apply their observations to understanding Sally's inspiration for starting EarthKAM—to enable students to enjoy and learn from the experience of seeing Earth from space.

Begin a class discussion

Tell students that Sally Ride said her favorite part of being in orbit was looking out the window of the space shuttle at Earth below. Tell them they will see some images that Sally often used when she gave talks about her experiences as an astronaut. Ask,

Sally flew twice on the space shuttle in low-Earth orbit (about 200 miles above Earth). What do you think Sally could see—what does Earth look like from space?

Why do you think seeing Earth from space made such a powerful impression on Sally?

Do the activity

1. Hold up each of the six photos of Earth from space. Talk about what is shown in each image.
2. Pass around each photo. Encourage students to discuss what each photo shows and what they can learn from it.

Teacher notes about the photos

1. **“Blue Marble” photo of Earth:** EarthKAM photos can't show us the whole Earth because the *International Space Station's* orbit is not high enough to capture such a view. The astronauts on Apollo 17 took this famous image as they sped toward the Moon in 1972. The ISS orbits only about 400 kilometers (250 miles) above Earth. Our Moon orbits almost 385,000 kilometers (240,000 miles) away from our planet.
2. **San Diego:** This image of the Southern California city, taken from the space shuttle, shows a heavily populated urban area. However, from this distance, signs of human activity can hardly be seen. The Pacific Ocean lies to the west, and mountains and desert lie to the east.
3. **Strait of Gibraltar:** This image, taken from the space shuttle, shows the narrow strait that connects the Atlantic Ocean to the Mediterranean Sea. The strait, about 14 kilometers (9 miles) wide at its narrowest point, separates Europe from Africa.

STANDARDS ALIGNMENT

NGSS MS-ESS2.A.1: Earth's Materials and Systems: The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future.

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.

III.8: Physical Systems: The characteristics and spatial distribution of ecosystems on Earth's surface.



MATERIALS AND PREPARATION

Make color printouts of the “Blue Marble” photo of Earth and the five *Sally's Pix* photos. Laminate the photos, if possible.

4. **Florida:** This oblique view of the Florida Peninsula was taken from the space shuttle. The ocean is a lighter blue where the seafloor is shallow. The large body of water is Lake Okeechobee.
5. **Hawaii:** The space shuttle snapped this image of the Big Island of Hawaii. Five separate shield volcanoes built the island. The biggest volcano, Mauna Kea, in the center, is dormant. A wisp of smoke from the active Kilauea volcano can be seen on the right-hand side of the image.
6. **Sinai Peninsula:** The peninsula, long a center of conflict, lies between the Mediterranean Sea to the north and the Red Sea to the south. The narrow bodies of water shown in this space shuttle image are the Gulf of Suez to the west and the Gulf of Aqaba to the east. The peninsula is part of Egypt, and it forms a land bridge between Asia and Africa.