

Sally Ride EarthKAM on the International Space Station



Teacher Guide Go For the Gold

Key idea: Latitude and longitude can be used to specify points on Earth.

Time: 20 minutes

Objective

Students play a game that allows them to practice using latitude and longitude to identify points on a world map. Students pair up, and each one "buries" three imaginary pots of gold. Then students take turns using latitude and longitude to guess where their partner hid the gold.

Before you play

If students are not familiar with latitude and longitude, have them read the *Understanding Maps* Student Handout before they play.

Play the game

Pair up students and give each student the *Go for the Gold* Student Handout, which has a map of the world with latitude and longitude lines.

- 1. Each student should prop up an open file folder so students can't see each other's maps.
- 2. Each student then chooses three locations on the map in which to bury pots of gold. Each location must be at a latitude/longitude intersection. Students use colored pen or pencil to mark the spots where they have buried their gold.

Note: The game is more difficult if students choose their locations randomly. It's easier and less time-consuming if their locations are in a row (horizontal, vertical, or diagonal) and not more than 15 degrees apart. For instance, their three coordinates might be 45° N, 135° W; 30° N, 120° W; and 15° N, 120° W.

- 3. Students carefully circle the three points. Then, on the bottom of their maps, they write the coordinates of each point. Remind them that latitude always comes first.
- Students take turns guessing—digging for gold. Each guess should be a latitude number and direction and a longitude number and direction—for instance, 15° N, 30° E.
- Students can respond only with the one-word answers listed in the key. Using the example of the buried treasure coordinates in Step 3, if the opponent guesses "45° N, 90° W," then the answer would be "latitude."

Another example: The opponent guesses "45° N, 120° W." Because that guess matches the latitude of one buried treasure and the longitude of another buried treasure, the answers would be "latitude" *and* "longitude." But it's not "gold!"

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.
I.3: The World in Spatial Terms: How to analyze the spatial organization of people, places, and environments on Earth's surface.

CCSS RTS.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

MATERIALS

For each student group:

- > Go for the Gold Student Handout
- > Colored pens or colored pencils
- > File folder



HINT, HINT

After three "busts"

After three busts, students can give a latitude hint, telling their opponent to go either "north" or "south."

After three more "busts"

After three more busts, students give a longitude hint, telling their opponent to go either "east" or "west."

- 6. Students use a pencil to keep track of each guess. That way they won't confuse their guesses with their colored gold burial sites. Making a mark on each set of coordinates they guess will help them avoid repeat guesses.
- 7. Tell students that after three "busts," they can give a hint. After three more "busts," they can give another hint. The box on page 1 explains hints that may be given.
- 8. If a student guessed a correct latitude or longitude, she or he should write it down.
- 9. The game ends when the first student captures all three pots of gold.