Alliance Created State Giant Traveling Map Lesson

Title: Living on the Grid

Recommended Grades: 1-3

Spatial Concept: Reference Frames

Time Needed: 30 - 50 minutes for each activity

Objectives:

Students will:

- Use grid lines to locate places on a map.
- Learn about Arizona cities through "Fun Facts" as they locate these cities using grid locations.

Materials:

Activity 1

- Grid coordinates (B-3, D-5, etc.) printed on cardstock or on index cards

Activity 2

- 4 Manila envelopes: one envelope per base camp that includes
  - A green, red, blue, or yellow dot on the front of the envelope so the base camp is identified
  - Living on the Arizona Grid cards
  - 10 chips of 4 different colors (recommended colors are red, blue, yellow and green same as base camp assignment)
- Plastic link chain (optional)

Activity 3

- Sample postcards
- Paper cut into 5"x7" rectangles
- Writing utensils such as pencils, markers, pens

Preparation:

Activity 1

- Prior to beginning these activities, practice using grids by mapping a grid in the classroom and placing bean bags or other soft toys in each grid. Have students practice finding the bean bags or the toys.
- Print and cut grid coordinates or copy grid coordinates (B2, D5, etc.) on index cards so that you have one for each student.

Activity 2

- Print and cut apart: Living on the Arizona Grid cards

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- 4 Envelopes (1 per Base Camp) with 8-9 cards (depending on the number of students in each group) and one color of chips (matches their base camp color)

Activity 3

- Sample post cards

Rules:

- Shoes are not allowed on the map. Please have students remove shoes before walking on the map. Students must wear socks. No bare feet.
- No writing utensils on the map. Keep all writing utensils and other sharp objects 12 inches from the edge of the map.

Directions:

Activity 1: Introductions to Grids

1. Have students sit around the perimeter of the map.
2. Point out the numbers along the sides of the map and the letters along the top and bottom of the map. You can ask for a student to "go for a walk" along the numbers, and another student to "go for a walk" along the letters.
3. Introduce the grid system for locating places on a map. *Grids help you locate places on maps. A grid uses lines to make rows and columns on a map. The rows go from side to side. On this map the rows have a number to their left and to their right. The columns go from top to bottom. They have a letter at the top and bottom. Every place on the map can be located in a row and column.*
4. Student(s) can "go for a walk" across the map along the number rows and letter columns.
5. Ask for a volunteer to find where column F, row 4 is on the map.
6. Once the student has found F4, have another student take the plastic chain to him/her and together they will "box" in the grid area.
7. Ask: *What cities, towns or other features are located in the area of F4*? Answers: Globe or Gila River
8. Repeat steps 5-7 using the coordinates of column A, row 8.
9. Ask: *What cities, towns or other features are located around A8*? Answers: Yuma, San Luis, Gila River, Colorado River, or Mexico
10. When students seem to be understanding how to use the grid lines, hand out cards with the grid locations printed, one per student. Ask students to stand on the location printed on their card.
11. Cards can be reshuffled and redistributed to allow more find and seek opportunities.

Activity 2: Living on the Grid Relay (Activity for students who know how to read a grid.)

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1. Divide the class into four teams: red, blue, green, and yellow. Have each team line up on the corresponding base camp located on the map corners. Give each team an envelope with cards and colored chips. Tell them to not peek until given the "Go" signal.
2. Model for the students the following procedures. (See steps 3-4). Repeat as necessary until students understand how the relay will work. Also, explain that if they have 2 coordinates (G7/G8) that is a hint that the location is very close to the border of 2 of the grid lines. Demonstrate how this could happen.
3. Have the first person from each team:
    - At the base camp, pull a card from the envelope.
    - At the base camp, read the Grid Coordinate and Fun Fact Hint on the card aloud to team.
    - Still at the base camp, pick up a chip.
    - Go onto the map and locate the Grid Location and read aloud the place names that are found at that location. (You can use the city or location names as a hint.) (Teammates can help but only from the yellow border near their base camp!)
    - Flip the card and check your guess.
    - Find the correct location.
    - Place a chip there.
    - Return to the base camp and tag the next student.
4. The tagged team member should pull another card and chip from the envelope and set off to find that location. Each time the chip is left on the map.
5. Continue the relay until all the cards are gone and a trail of chips shows the "journey" each team took. When a team finishes finding their locations and placing their chips, the entire team sits down at it base camp. This helps identify which team finishes first, second, third, and fourth.
6. If time permits, repeat the relay. Have students rotate to another base camp and rotate envelopes. Clear the first set of chips off the map and distribute them back to the base camp envelopes. (Each set of envelopes contains different cities with new Grid Coordinates and Fun Fact Hints so students are still learning about Arizona.)

Activity 3: Fun Fact Post Cards (Can be follow up to using the giant map)

1. Show students several postcards from various Arizona towns or features that are/were found on the giant map. Describe the front and read the back of the postcards to students. (You can read the messages written on used postcards if you like just because students might be amused by the traveler's notes to someone but to save time, postcards usually have a sentence or two as a description of the image found on the front in the top left corner of the back side.)
2. Now have students or groups of students identify a city or feature that they would like to know more about. No two students or groups should select the same topic.

3. Two excellent maps (besides the giant map) that can give students ideas are:
    - Arizona Landmarks http://geoalliance.asu.edu/sites/default/files/maps/AZ_landmarks_color.pdf
    - National and State Parks in Arizona http://geoalliance.asu.edu/sites/default/files/maps/AZ_National_State_Parks.pdf
4. Explain that their task is to create a postcard that describes that city or feature. Possible resources for information can be city websites or teacher collected resources.

Standards:
Arizona Social Science
Geography
The use of geographic representations and tools helps individuals understand their world.
1.G1.1 Use, explore and construct maps, graphs, and other geographical representations to support content focus.
1.G1.2 Use a grid to locate places.
The use of geographic representations and tools help individuals understand their world.
2.G1.1 Use and construct maps, graphs, and other geographic representations of familiar and unfamiliar places in the world; and locate physical and human features.
2.G1.2 Use maps, globes, and other simple geographic models to identify and explain cultural and environmental characteristics of places in the world based on stories shared.
The use of geographic representations and tools helps individuals understand their world.
3.G1.1 Use and construct maps and graphs to represent changes in Arizona over time.

National Geography Standard
Geography Standard 1: How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

NCTM Principles and Standards for School Mathematics
Geometry (3-5) Standard 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems.

Vocabulary:
map grid: horizontal and vertical lines used to locate objects in relation to one another on a map