**Giant Traveling Map Lesson**

**TITLE / AUTHOR:**

**Elevate Your State: A 3-D Study of Colorado’s Elevations** / Kevin Hoskin

**COLORADO ACADEMIC STANDARDS / SUITABLE DISCIPLINES:**

* SS Geography 4.1.a Answer questions about Colorado regions using maps and other geographic tools (DOK 1-2)
* SS Geography 4.2.a Describe how the physical environment provides opportunities for and places constraints on human activities (DOK 1-2)

**OBJECTIVES:**

Students will:

* Create a 3-D model of elevations in Colorado
* Discuss how the topography of Colorado could be broken up into specific regions
* Discuss how Colorado’s topography might influence humans

**RECOMMENDED GRADES:** 4 and above

**TIME NEEDED:** 30 – 45 minutes

**MATERIALS:**

* Master list of elevations of locations marked on the Giant Map
* Team elevation cards
* Stacking blocks
* Bags to hold four different colors of stacking blocks
* Elevation Block Legend for reference (A – 123, B – 109, C – 99, D – 107)

**PREPARATION:**

* Divide students into at least five groups, depending on the class sides.
* Empty the bags of colored blocks into the carrying box for the Giant Map.

**RULES:**

* Shoes are not allowed on the map. Please have students put on socks before walking on the map.
* No writing utensils on the map.
* No sliding on the map.

**DIRECTIONS:**

1. Sit around the edges of the Giant Map, starting on the south side.
2. Discuss how **altitude** is measured in feet above sea level.
	1. https://www.nationalgeographic.org/encyclopedia/elevation/
	2. https://www.nationalgeographic.org/encyclopedia/altitude/
	3. http://www.esri.com/esri-news/arcuser/winter-2015/using-arcgis-online-elevation-and-hydrology-analysis-services
3. Discuss the idea of **scale: a ratio that is used to make some form of measurement manageable.** In this case, 1 block will represent 1,000 feet of altitude. Discuss how to round to the nearest 1,000 feet (if they miss, it will not harm the outcome of the lesson).
4. Teams of two or three will build towers of blocks to represent elevations of specific locations on the Giant Map – based on a card listing map locations with corresponding altitude – and place the towers on the map at those locations. Faster groups can choose another card to continue building elevation towers.
5. When each group has completed their towers, sit (carefully!) around the edge of the Giant Map and discuss what they are observing. Challenge students to identify areas of similar elevations (region). Point out the Continental Divide, cities, rivers, and the highest and lowest points.
6. Discuss how different elevations might affect how humans interact with the land in those places.
7. After discussion, teams collect their towers and return cards and blocks to supply boxes.

**NOTES:** As towers are placed on the map, kids may have to work from the perimeter, rather from only one side, to prevent knocking over previously placed towers. Also, if there is a fold or wrinkle in the map and the tower won’t stay up, students can either skip that one, or put it just to the side of the wrinkle.

**MODIFICATIONS:**

* Teams can be as many as four or as few as one individual student, depending on group size.

**EXTENSIONS:**

* Colorado Digital Atlas, Exploring Colorado’s Ecoregions <http://education.maps.arcgis.com/apps/PublicGallery/index.html?appid=c51608846a7f435d94fd921667382d81>.
* Theorize why towns and cities are located where they are.
* Point out and discuss that Colorado has the highest mean (average) altitude of any state, 6,800 feet.
* Even the lowest point in Colorado, at the Arikaree River (3,315 ft.) is higher than some states’ highest elevations.
* Identify other features to illustrate using blocks (rainfall, wind speed, lightning strikes, population, etc.).