

## **AR Sandbox Lesson Plans**

### **2<sup>nd</sup> Grade**

#### **Geography Strand:**

- Maps and their symbols, including cardinal directions, can be interpreted to answer questions about location of places.
- Human activities alter the physical environment, both positively and negatively.

It is always good if you can hit the lock button (l) after making a landscape and before the students see it. Then put the science board on, white side up, and have them hypothesize what they think the 2D map means. You may generate responses by prompting with questions or just let the kids tell you what they think.

1. What is this a map of?
2. What do the circles mean?
3. What do the colors mean?

After removing the board, students can then see what the ground looks like in 3D.

Allow students to process what the circles, colors and other features in the box are. If you have a few minutes to begin, let students freely play in the box and show them how to make it rain.

1. Where does the rain go? Always to the lowest place.
2. If there were pollution on the hill and rain went down the hill, what do you think would happen to the pollution? Would the pollution on the hill affect other places after it got in the water? Feel free to identify what types of pollution this might be with the kids. Leaves, grass clippings, dog and agricultural animal poo, commercial fertilizers on lawns and farms, bare soil, litter, and plastic toys, bottles and other plastic items the rain could carry away.
3. What is the best thing we can do with pollution?

It will be a benefit to have 2 adults or a teacher and an older student helper. One will give directions to teams to make a map in the box and the other will be helping students find the picture of their map and directing them how to make a landform.

1. Have students make a landscape in the box. Make it rain. What happens to water? Where does it go? We always make sure they understand the flow of water.

2. Ask about north, south, east and west. Show them a compass rose and talk about how that adds in additional directions with se, nw, etc. Go over a couple spatial directions like, "Put the dinosaur on the left side of the house, or the ne side of the house, etc. After that quick review, split the class into groups numbers 1-6.

3. Read the first set of map directions to the first team. As you read each direction, they will make it in the box. Example - "There is a town in the NW." Group 2 will give them props for their map which includes houses, dinosaurs, farm animals, fences, etc.

4. After the first team finishes their map, put props back, flatten out the map and start with the next group. The first group will go to the photos of different landscapes and pick out the one that depicts the map they just made. (photos of landscapes are in tub). This group will then move on to make a landform on a cookie sheet with kinetic sand while the other kids make their map in the box. When they move to landforms, you may not want to give them pictures of landforms if they have already learned them. You may also introduce some unique ones like arches and hoodoos. When they are done building their landform, they can leave it on the cookie sheet and go back to the box to watch the other groups build in the box. After all the teams have made their maps in the box, picked out the photo of their map and created a landform, the kids can guess which landform each group made. (photos of all landforms are in the tub if you would like to use them).

5. Additions to the above activities:

- \* Give each student a copy of the directions of the map they made in the box. Have them draw a 2D map using symbols and making a key.

- \*Have student teams make up new directions for a map and give those to another team to make it in the box.

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## Maps to make in the Sandbox

1. **The entire map is pretty flat.** There is a town in the northwest corner of map. A **curvy river runs through middle of map from northeast to southwest.** Big tree to the east of the town. **There is a farm on the southeast side of the map.**

2. **Large volcano in the middle of map.** There is a lake west of volcano. **It is not deep.** Trees are north and south of lake. **Dinosaurs are in the lake.**

3. **Small hills and mountains in the north.** On east side of map, a curvy river runs north to south. **There is a house on the west side of the river.** There is a construction site in the southwest.

4. **Tall mountains are in the north.** The center of the map is low ground with a lake in the middle. **In the south are small hills.** There are dinosaurs in the in the southwest part of the map on the hills.



5. **Big river is in middle of map. It runs north and south.** It splits into 2 rivers at the north end – like the tongue of a snake. **The land is flat on both sides of river.** On the east side of the river, past the flat part, there are mountains. **To the west of the river in the north, there are pyramids.**

6. There is a curving ocean all along the south side of map. **There is a beach along the water to the north.** There are rocks going into the water on the west side of the beach. **There is curvy road that is north of the beach and rocks.** There are tall hills and mountains along the north of the beach. **There are tall trees on the north east side of the road on the hill.**

(Photos of activity on following pages)

**Photos from Facebook Post:** Glandorf Elementary School, January 16, 2025.





