

Design Thinking in the Makerspace

Lesson Outline

Purpose Statement: Create one of the land forms; mountains, valleys, plateaus, deserts, canyons, messas, plains, and volcanoes. Students will show how they are formed and create a model of one of the landforms.

Step 1: Understand

- **Empathize-** Working in groups of 2-3, students will research how their landform is created.
 - Students will create a model of their landform.
 - Students will show how their landform is created.
- **Define-**
 - **Problem Statement:** create a model of a landform and be able to show the forces of earth that shape this particular landform.
 - Use weathering and erosion to show how the land is shaped.
 - Students will share how the landform interacts with the atmosphere and the hydrosphere.

Step 2: Explore

- **Ideate-** Students will come up with a way of creating a model of their landform.
 - Identify the different materials in the room. Hold up different items and have students discuss how that might be useful to represent their landform.
 - Present - When they present, be sure to include how the landform is formed and how it is shaped by the atmosphere and hydrosphere.
- **Prototype-** Build/ Create your solution
 - Supplies needed: After discussing the materials available, students will be able to choose what they would like to use to create their model.
 - Students will work together to build a model of their landform.

Step 3: Materialize

- **Test-** Give groups adequate time to discuss their ideas and formulate a plan. Encourage students to brainstorm numerous ideas and come up with a group plan as to how to solve create their landform.
 - Reflection- After students have had adequate time to work together and develop their model, they will need to work together to present their information to the class. They should be able to share how their landform was created and how it interacts with the atmosphere and hydrosphere.



- Implement-
 - Find a way to share this with the masses- authentic audience - Have students share their landforms with other 5th grade classes. Discuss how they are similar and how they are different.

- Battle Creek Science EARTH AND SPACE SYSTEMS (5.ES.NGSS) Lesson 4