**Learning Intention-** To understand how gravity affects the land and use vocabulary to describe erosion.

**Success Criteria-** Participation and mastery 70%

**Pre-Lab**

1. What is erosion?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What are the 4 agents of erosion? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is mass movement? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What are the types of mass movements? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is the difference between a slump and a creep? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is the difference between mudflows and earthflows? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Hypothesis**

Below write a hypothesis for which mass movement will change the original earth the most and why. Remember your hypothesis needs to be an If, then statement.

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**Materials**

Shallow pan and cup Cornmeal

Plastic Knife 2 Pieces of Cake (You will not be eating this!!)

**Procedure**

1. First you will be modeling a slump in the earth using your first piece of cake. Take a plastic knife and begin cutting a crescent shape in the cake and then slowly move the block down and move it away from the cake piece(parent rock).
2. Make three(3) good observations below:

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1. Draw your cake below. Make sure to label the scarp, the slump block and the toe. Your drawing must include color and detail for full credit.
2. What type of mass movement are you modeling here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What agent of erosion is being used here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Next, take your second piece of cake and carefully expand and contract it.
5. Make three(3) good observations below:

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1. Draw your cake below. Make sure to label where the cracks are occuring. Your drawing must include color and detail for full credit.
2. What type of mass movement are you modeling here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What agent of erosion is being used here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**You are now done with the cake, throw it away and clean up your area!**

1. Next, go to your instructor to get some cornmeal (land). Form it into a mountain on your pan. Then, fill your cup with water and dump the cup onto the mountain in less than 3 seconds. Draw below what happened. Your drawing must include color and detail for full credit.

1. What type of mass movement are you modeling here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Where is it common place for this type of mass movement to occur?\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What agent of erosion is being used here?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Next, come and get some more “land” from your instructor. Recreate your mountain. Then fill your cup with water again. Now you are going to pour the same amount of water in the same spot of land for a whole minute. You can time that with your phone or count to 60.. Draw what happened before. Your drawing must include color and detail for full credit. Finally, label the scarp, displaced regolith and the toe.
3. What type of mass movement are you modeling here? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. What agent of erosion is being used here?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion**

1. Which type of mass movement changed the earth the most? Why?

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1. Which type of mass movement changed the earth the least? Why?

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1. Do you accept or reject your hypothesis? Why or why not?

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1. Which type of mass movement changed the earth the quickest? Why do you think that is?

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1. Which type of mass movement changed the earth the slowest? Why do you think that is?

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