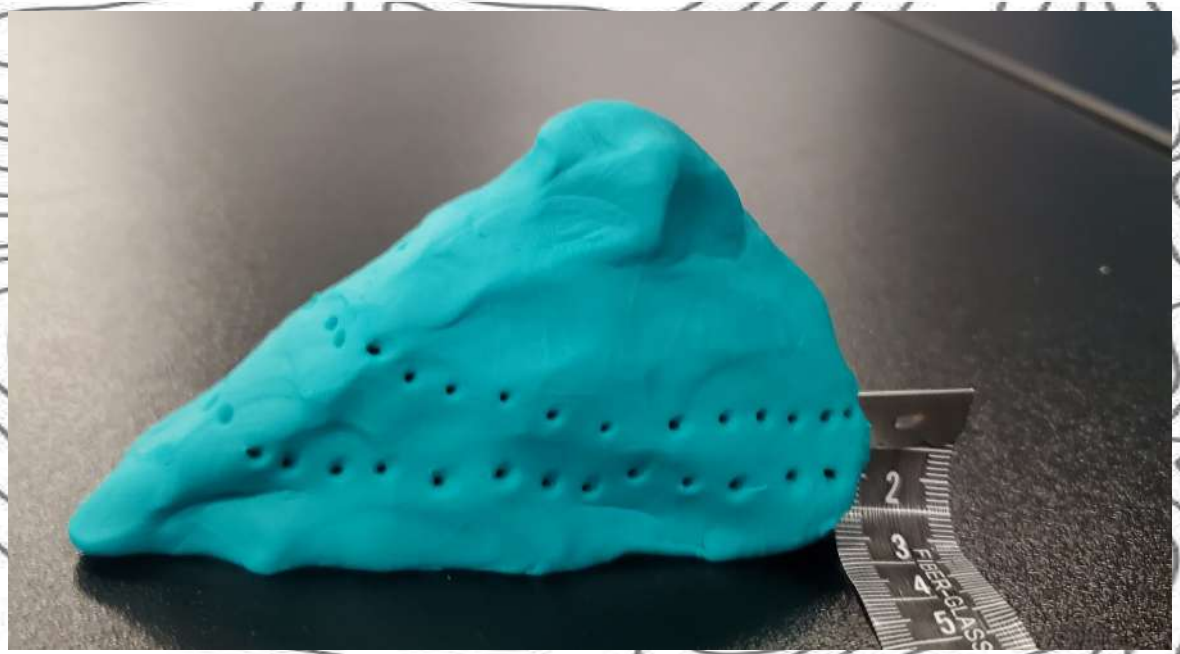
Topo Playdough Lab



Agenda

1. Warning
2. Instructions
3. Lab
4. Clean Up
5. Answer Questions
6. Do Stuff!

Topo Playdough Lab

Introduction: In this lab, you will create a topographic landscape using playdough and then construct a topographic map representing your landscape.

Materials: Playdough, Ruler, Dental Floss, Pencil, Paper, Device for taking pictures.

Instructions:

1. Create a mountain landscape using the playdough. The mountain should have a steep slope and a more gentle slope and should be at least 4 cm tall.. You may choose to have more than one summit. Photograph your completed model and insert the picture into this document in the table below.
2. Working with a partner, use a pencil and ruler to mark elevations at 1 cm increments all around your model.
3. Put your model on a piece of white paper and use the pencil to bore a hole through the center of your model marking the paper. You will use this to center your model when creating your topographic map. Trace the outline of your model on the page in pencil. This will represent sea level (0 meter contour). Let's say every centimeter of height on your model will equal 100 meters on your map and every centimeter of distance will equal 1 kilometer. Create a map legend stating this. Also draw a compass on the page (Never eat sour worms)
4. Use the dental floss to cut the model along your 1 cm increments and trace each level onto your page using the hole in the center as a reference point. Label each contour appropriately.
5. Draw a river onto your map. Redraw the contour lines where they cross the river. (Remember contour lines point upstream.)
6. Draw two points onto your map and label them A and B. Calculate the gradient between these points. (Do this in the question section)
7. Title your topographic map and take a picture of it. Insert that picture into the table below in this document.
8. Clean up your area. Return the playdough to the containers. Close the lids!

Table

Model Photo	Topographic Map Photo
(Insert your picture here)	(Insert your picture here)

Questions *Answer in the space below each question based on your topographic map.*

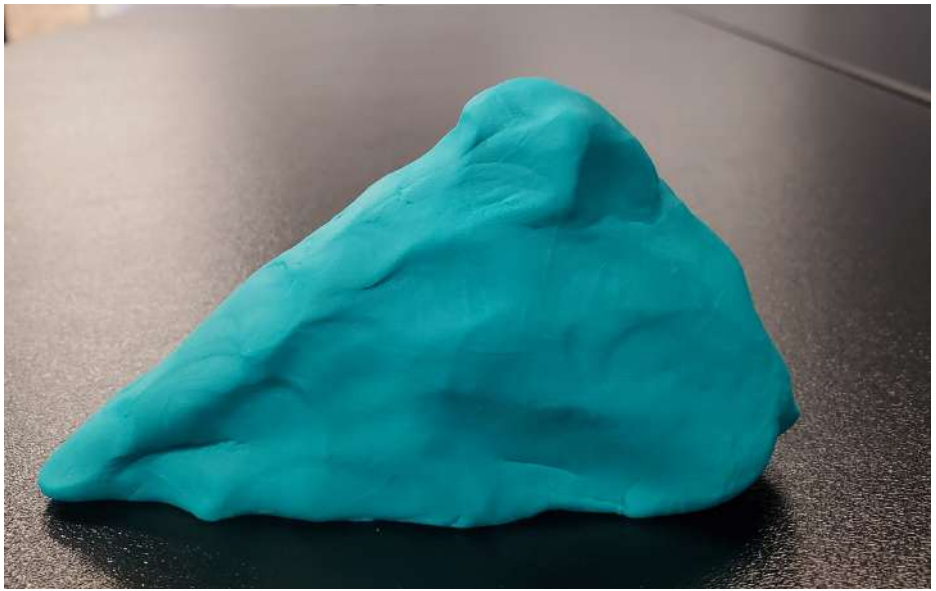
1. What is a contour interval? What is the contour interval for your map?
(Type your response here.)
2. Looking at your topographic map, how can you tell which slope is steep and which slope is gentle?
(Type your response here.)
3. Which direction is the river on your topographic map flowing? Cite two pieces of evidence to support this claim.
(Type your response here.)

Warning about playdough (and lab stuff in general)

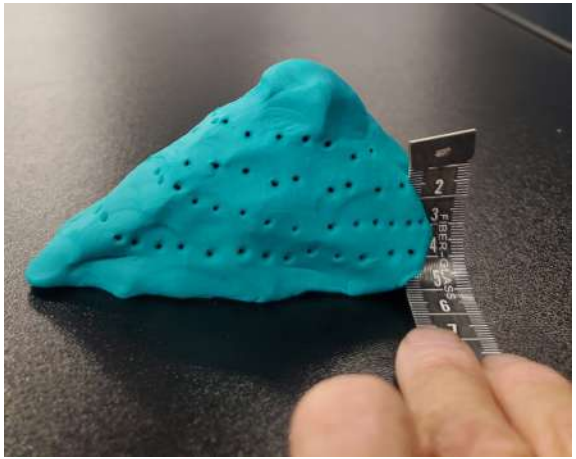
- Supplies are limited. Do not throw, lose, damage, etc!
- Use the materials as is described in the activity. Do not use them in a way that may result in damage to people, the equipment, or the school.
- Your behavior during this activity will inform me as to what activities we may be able to do in the future.
  (Translation: If you want to do cool stuff later on, don’t make me regret this activity)

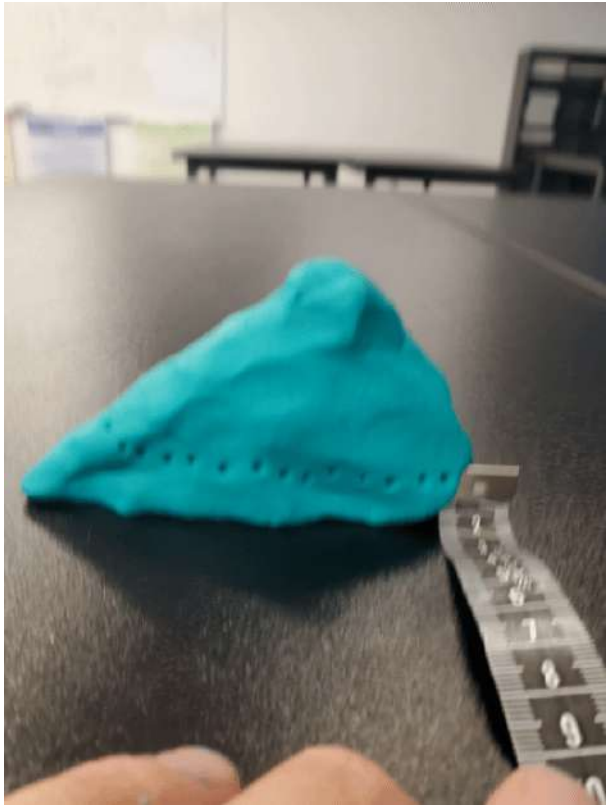
1. Create a mountain landscape using the playdough. The mountain should have a steep slope and a more gentle slope and should be at least 4 cm tall.

Photograph your completed model and insert the picture into this document in the table below.

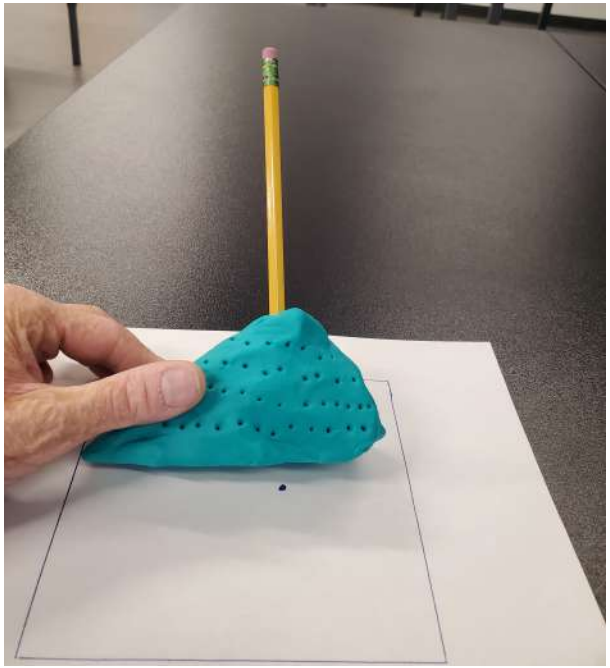


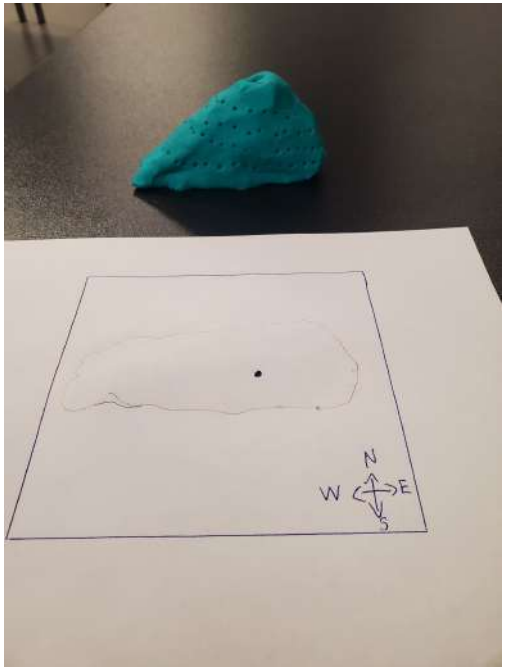
2. Working with a partner, use a pencil and ruler to mark elevations at 1 cm increments all around your model.





3. Put your model on a piece of white paper and use the pencil to bore a hole through the center of your model marking the paper. You will use this to center your model when creating your topographic map.

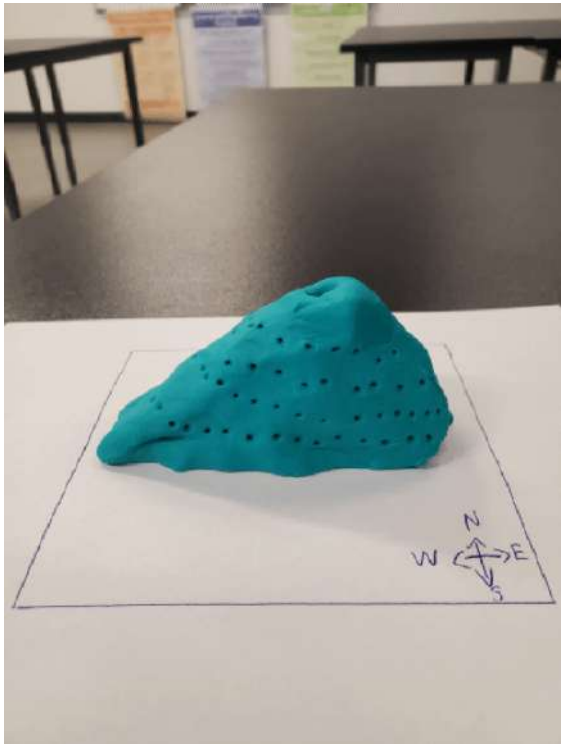


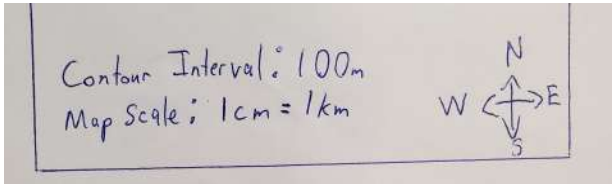


3. (Continued) Trace the outline of your model on the page in pencil. This will represent sea level (0 meter contour).

Let's say every centimeter of height on your model will equal 100 meters on your map and every centimeter of distance will equal 1 kilometer.

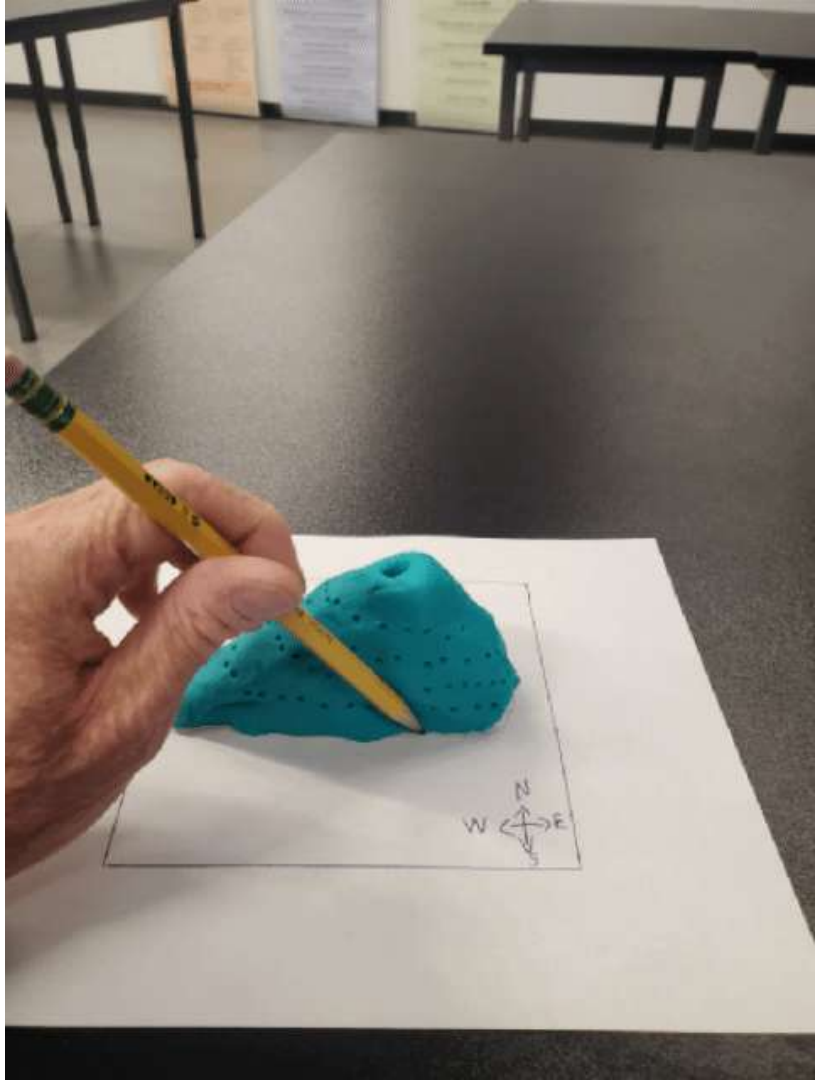
Create a map legend stating this. Also draw a compass on the page
(Never eat sour worms)



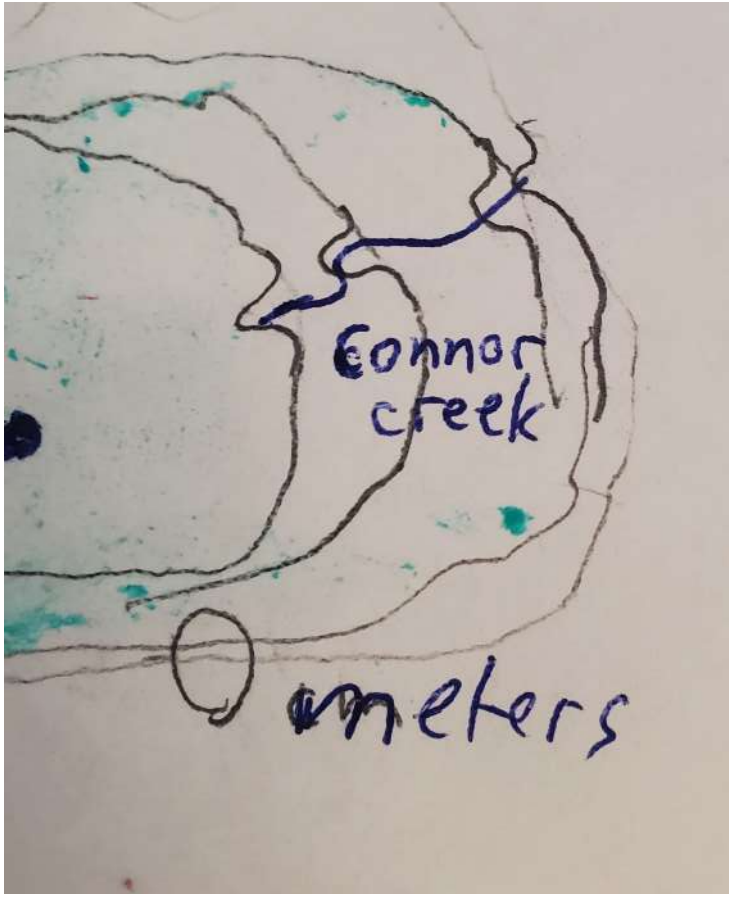


4. Use the dental floss to cut the model along your 1 cm increments and trace each level onto your page using the hole in the center as a reference point.

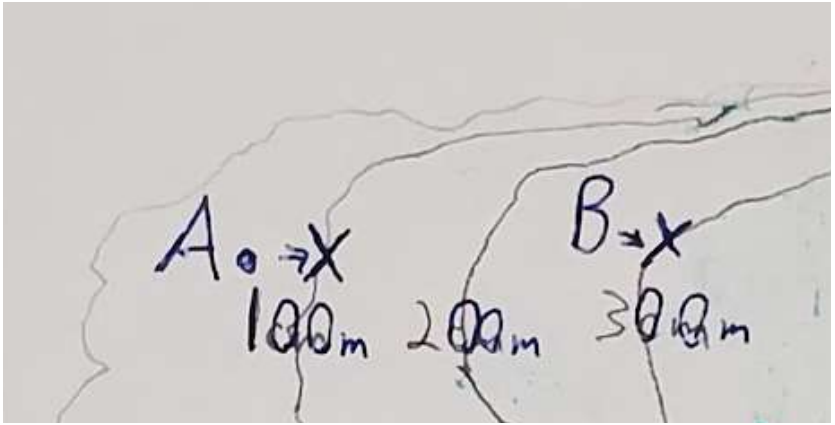
Label each contour appropriately.



5. Draw a river onto your map. Redraw the contour lines where they cross the river. (Remember contour lines point upstream.)



6. Draw two points onto your map and label them A and B. Calculate the gradient between these points. (Do this in the question section)



Questions *Answer in the space below each question based on your topographic map.*

1. What is a contour interval? What is the contour interval for your map?

(Type your response here.)

2. Looking at your topographic map, how can you tell which slope is steep and which slope is gentle?

(Type your response here.)

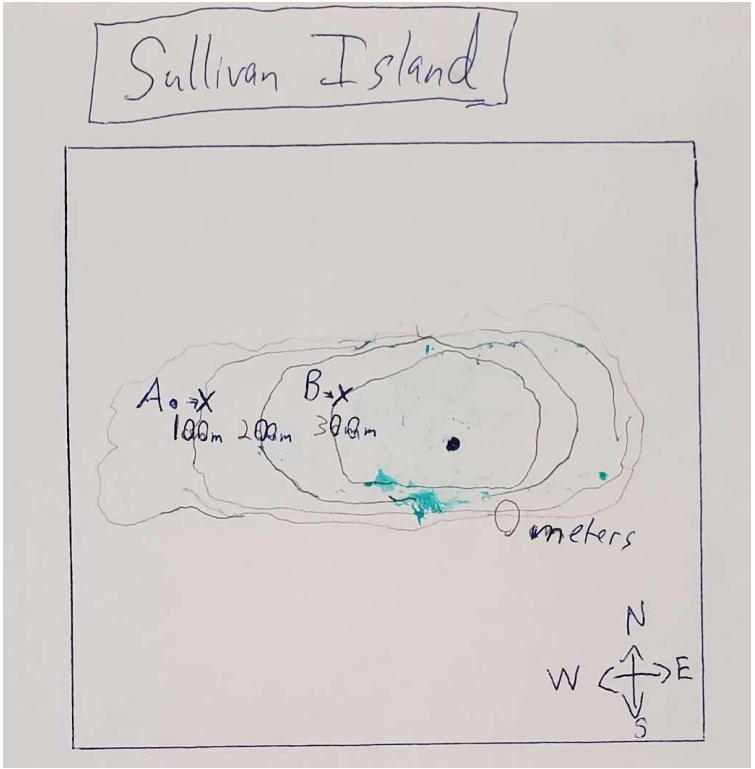
3. Which direction is the river on your topographic map flowing? Cite two pieces of evidence to support this claim.

(Type your response here.)

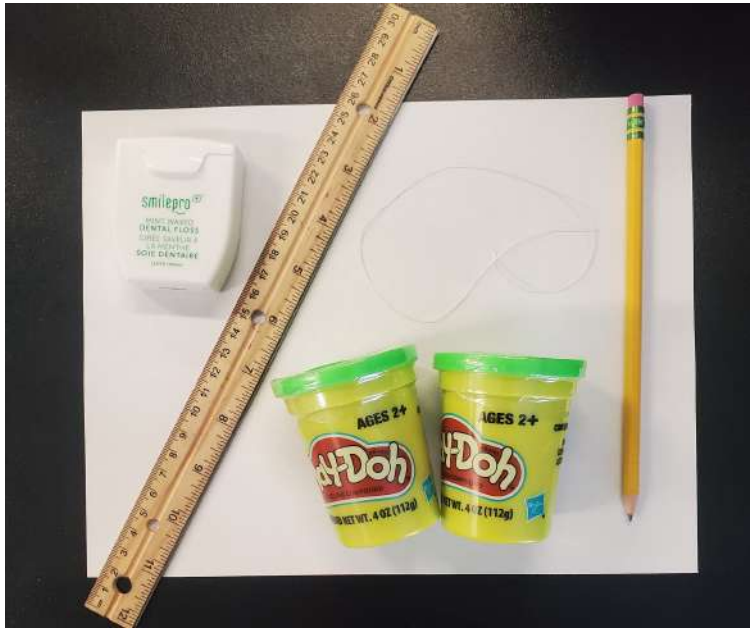
4. Calculate the gradient between points A and B that you drew. Show all work.

(Type your response here.)

7. Title your topographic map and take a picture of it. Insert that picture into the table below in this document.



8. Clean up your area. Return the playdough to the containers. Close the lids! Return materials to your teacher. Answer the questions.



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(Type your response here.)
3. Which direction is the river on your topographic map flowing? Cite two pieces of evidence to support this claim.
(Type your response here.)
4. Calculate the gradient between points A and B that you drew. Show all work.
(Type your response here.)

Don’t forget to insert your pictures!

Table

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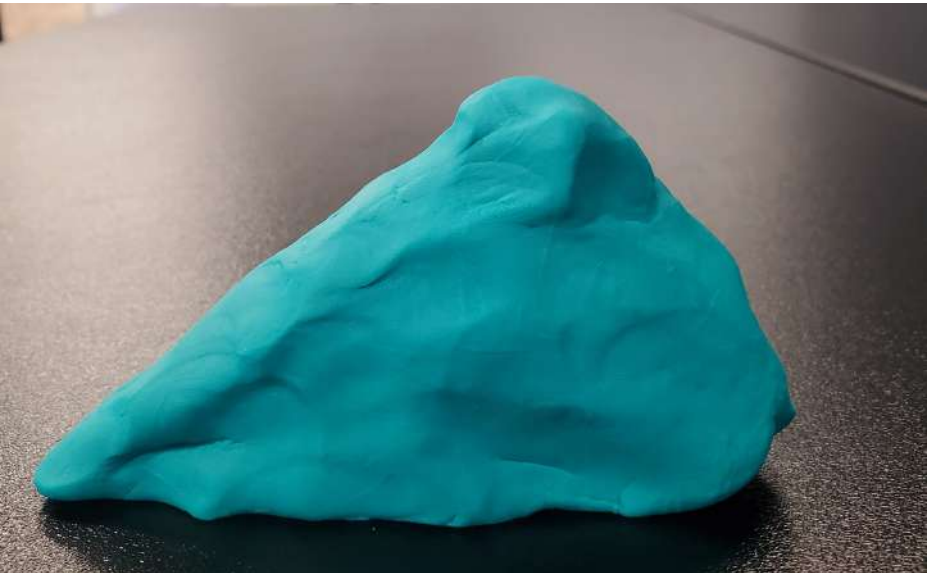

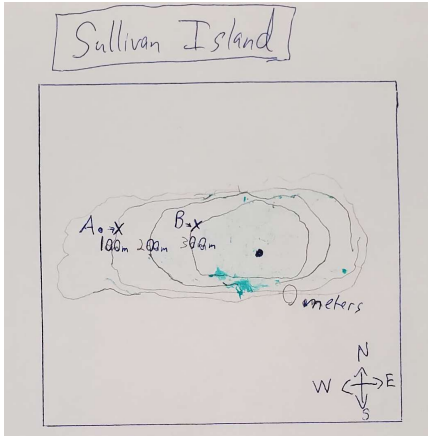

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Scoring Rubric

Model and Map Photo

Pictures of model and map inserted into the table

Exceeds	Meets	Approached	Does Not Meet
4 pts	*3 pts*	*2 pts*	*1 pt*
- Model and Map Photo Inserted - Map accurately illustrates the features of the model. - All map features (legend, drawn in river, etc.) are present and accurate.	- Model and Map Photo Inserted - Map accurately illustrates the features of the model. - Some map features (legend, drawn in river, etc.) are missing or inaccurate and accurate.	- Model and Map Photo Inserted - Map does not accurately illustrates the features of the model.	- Photos absent

Question 1

Reflection questions at the end of the lab

Exceeds	Meets	Approached	Does Not Meet
4 pts	*3 pts*	*2 pts*	*1 pt*
Question is answered correctly and completely. Pertinent vocabulary is used. All work is shown (if calculations are involved.)	Question is answered correctly. Some pertinent vocabulary, explanation, or shown work (if calculations are involved) may be missing.	The question is attempted but the answer is incorrect.	The question is not answered.

Complete the Topo Playdough Lab

Clean Up!

Answer Questions

Submit

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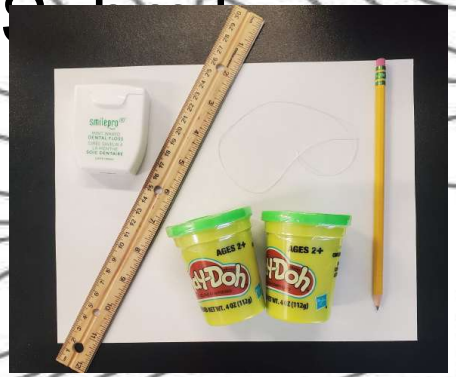
8. Clean up your area. Return the playdough to the containers. Close the lids! Answer the questions.



FYI: This will be graded.

How do I improve my grade?

1. Go to Infinite Campus and see what you're being graded on.
2. If you are missing or failing assignments, you should redo them. The assignments can be accessed on Google Classroom. Quiz Scores can be improved by using the feedback you received in your email.

Note: Just "doing" an assignment will not improve your grade if you receive a low score.

Infinite Campus
Student Portal Login

Google Classroom

Gmail

Do Something!

1. Finish the Playdough Lab. (Graded)
2. Finish pages 10 & 11 of the Guided Notes.
3. Do/Redo the Unit 1 Quiz 1 on Map Skills. (Due Monday!)

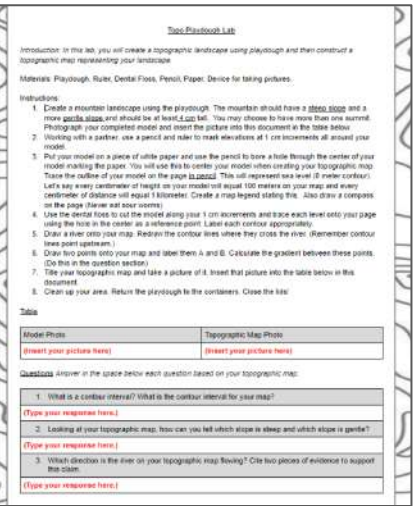
Complete the Topo Playdough Lab

Clean Up!

Answer Questions

Submit.

FYI: This will be graded.



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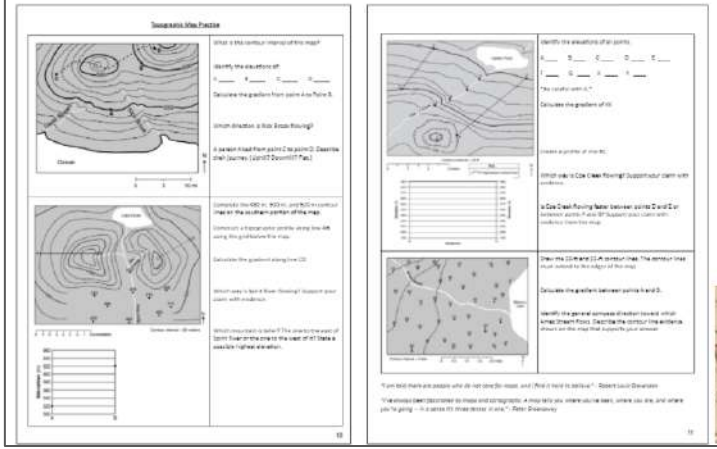
Complete the topographic map practice on pages 10 & 11



Unit 1 Quiz 1: Map Skills released. (Google Classroom)

Follow the link below to complete the quiz.

- Use your notes.

Map Skills

Ask for help if you don't understand something!