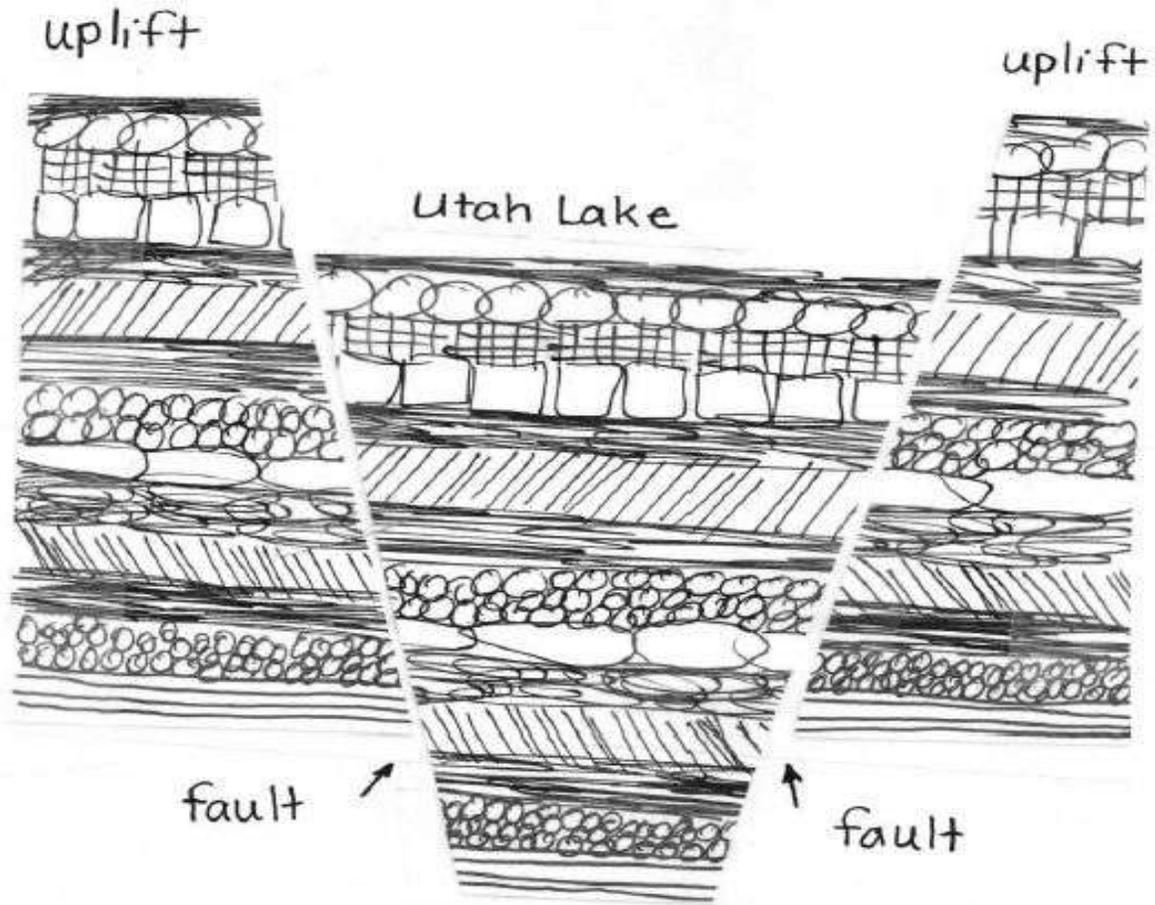


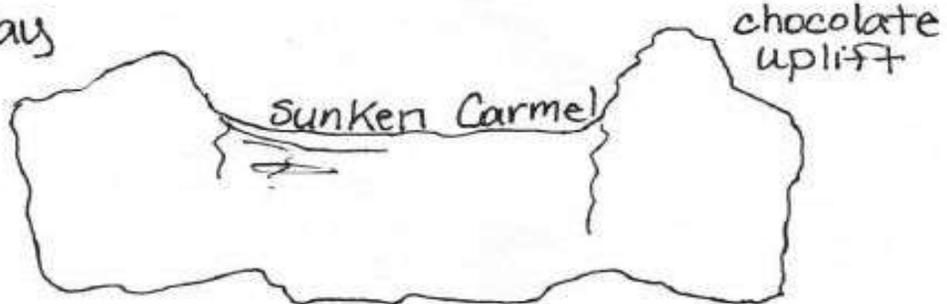
SEDIMENTATION OF UTAH LAKE

Sample Student Notes



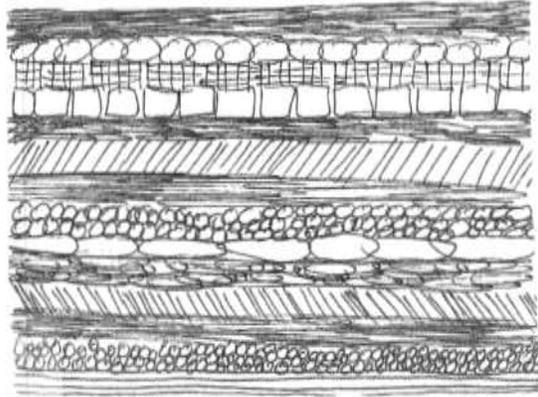
students could draw a sketch of their candy representation of Utah Lake Formation.

Milky Way
Lake

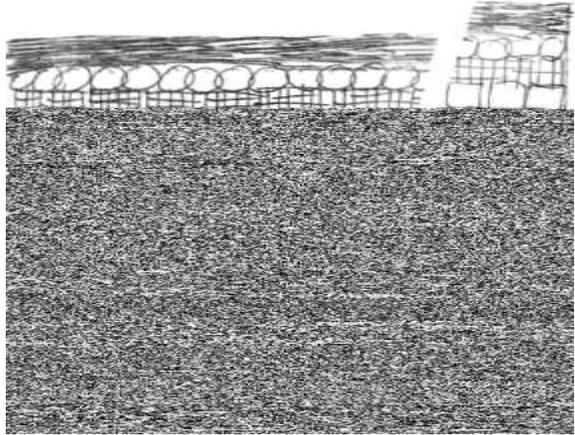


Guide Sheet for Utah Faults

Original Cut

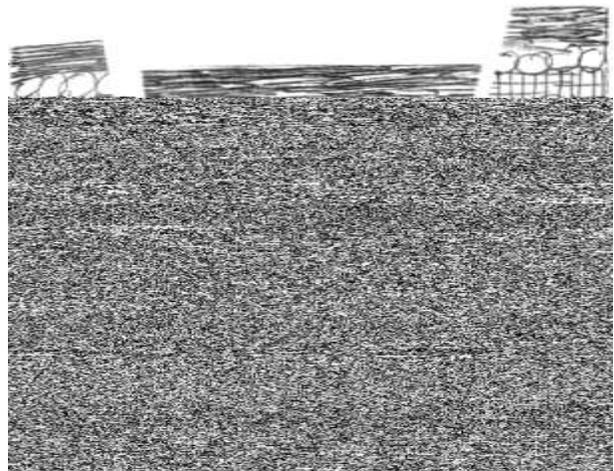


1st Cut



2nd cut

This will be taped or glued to students' journal or note taking paper.



Name _____

Date _____

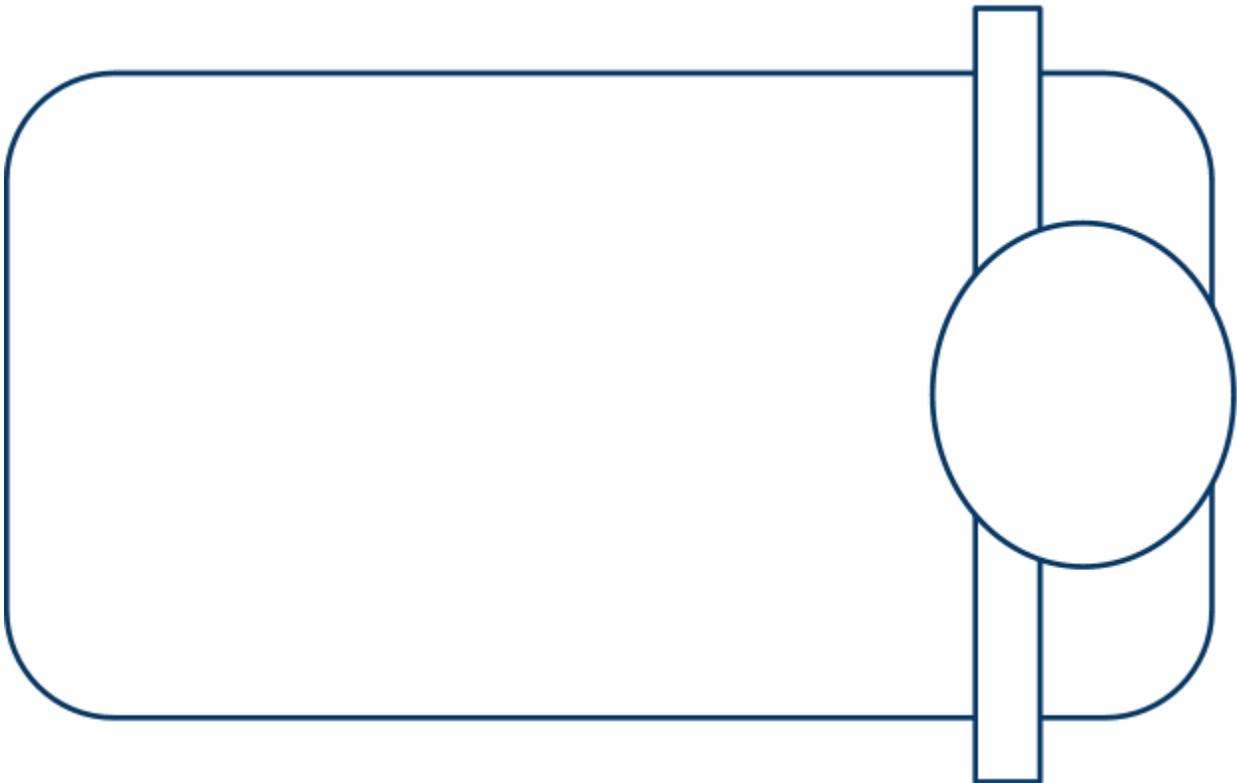
Period _____

Purpose: The purpose of this lab is to investigate the sorting of materials based on size and density as they are carried by water from streams to lakes.

Question: What causes the sorting of earth materials in stream beds?

Procedure:

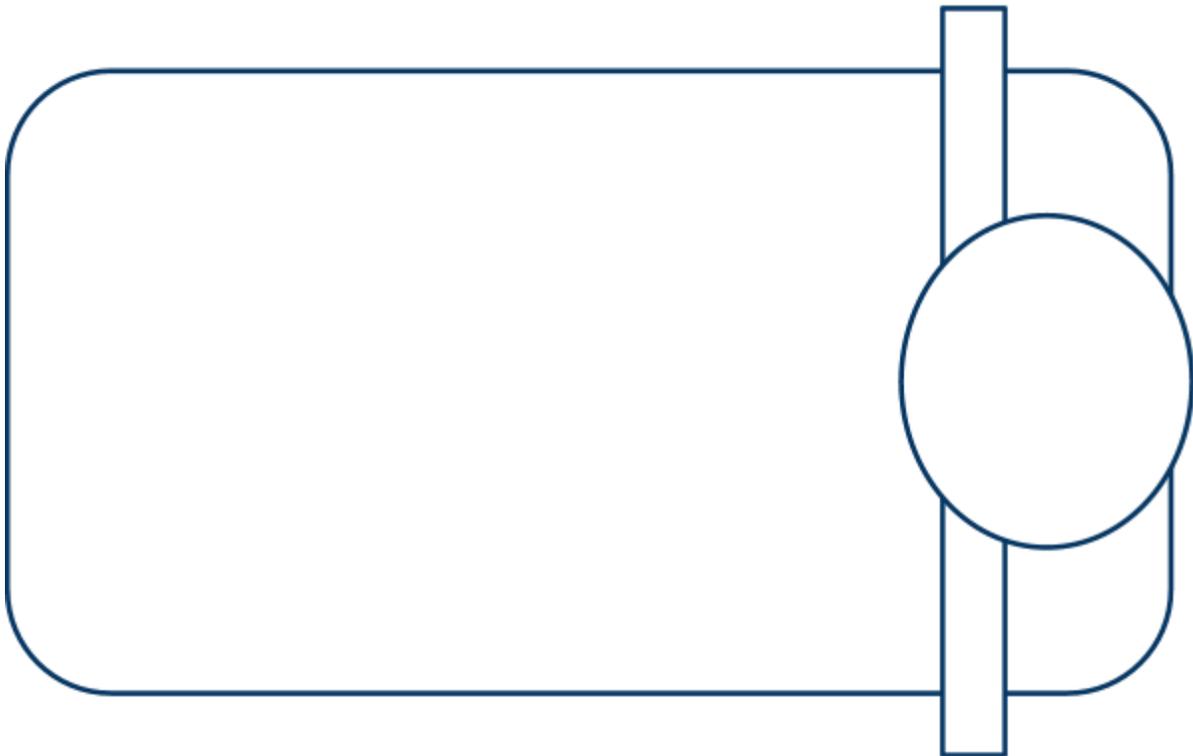
1. Place one end of your stream table on 2X4 blocks so that it is raised up.
2. Build a sloping pile of soil at the upper end of the stream table.
3. Place a ruler or strip of wood across the upper end of the stream table. Set the drip container so it sits on the edge of the stream table and the ruler.
4. In the box below draw, in as much detail as possible, what your "landscape" looks like. Use labels as needed.



5. Gently pour water into the drip container and let it run down the hill toward the lower end of the stream table.

6. Observe closely what happens as the water runs down. Record your observations in the space below. Be as detailed as possible.

7. Draw a detailed picture of the new “landscape” in the space provided. Use labels as needed.

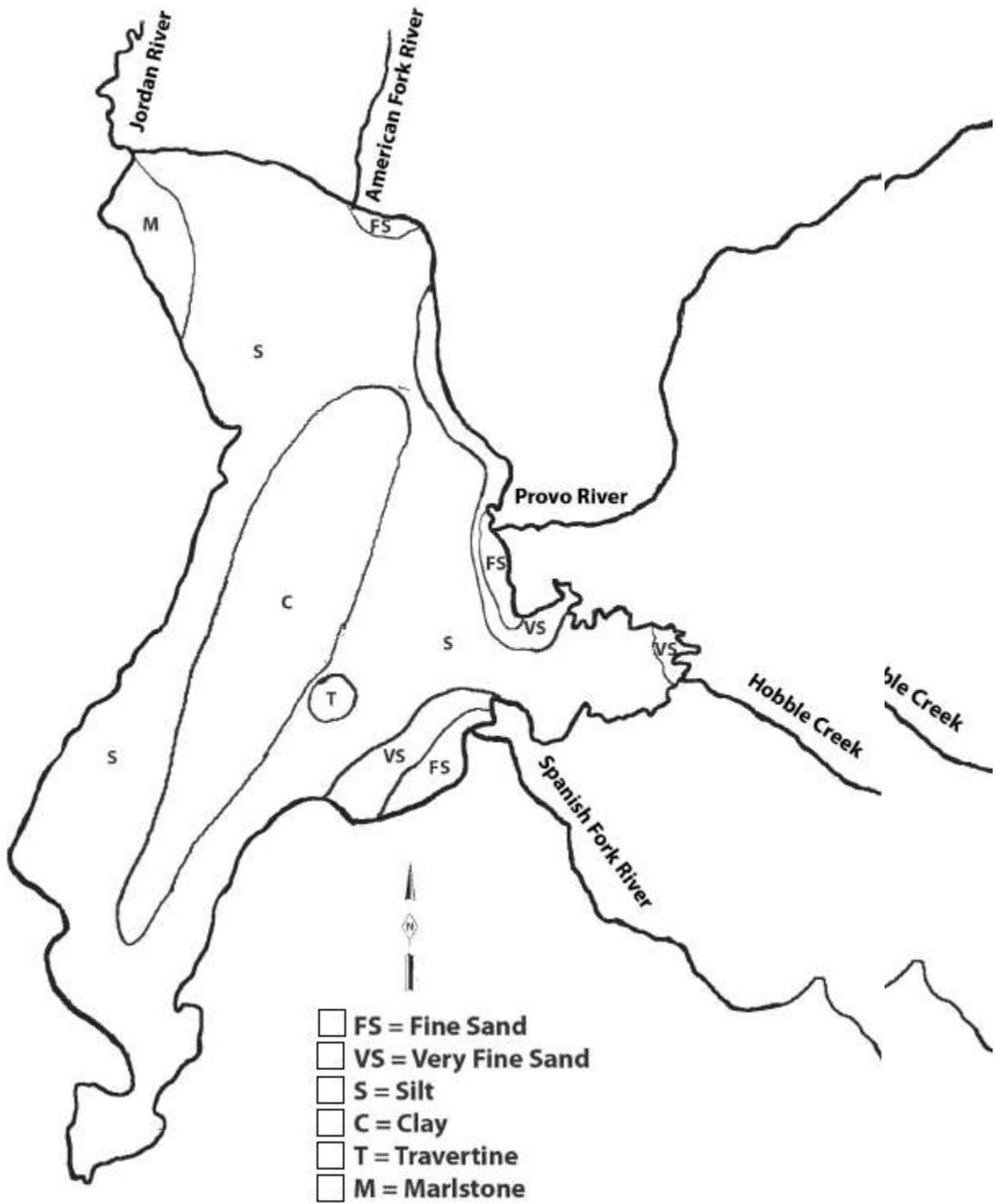


8. Answer the questions below.
- a. What caused the soil to move down the stream table?

 - b. Describe the order in which the particles of soil and rock were sorted.

- c. Why did they sort in this way?
 - d. How do streams and rivers affect the landscape?
9. Holding a bucket under the drain hole and keeping the stream table at the same angle, carefully remove the stopper and allow the water to drain.
- a. What do you notice was left behind at the bottom of the stream table?
 - b. Why do you think this happened?
10. Clean up your table as instructed by the teacher.

Utah Lake Sediments



Utah Lake Sediments

QUESTIONS

1. Where would you look for clay in the lake bed to make bricks or pottery? Clay is a finely divided, low density material.
2. The south and east shores of Utah Lake near the river mouths have a gradient of material from coarse sand on the shore to very fine clay on the lake bed in the middle of the lake. Why is this?
3. The lake bed in the northwest part of the lake is a soft rock called marlstone that is a mixture of calcium carbonate and clay. This rock is continuous with no gradient of particle size. How do you think this part of the lake bed was formed?
4. Bird Island, in Utah Lake, is made of travertine flowstone, a rock formed from minerals dissolved in spring water. Locate Bird Island on your map. What may have caused Bird Island to form in this location?
5. If you were to look for gold in the Provo River, where would be the best place to look? High in the canyon where the river flow is fast, in the valley where the flow is slow, or in Utah Lake? Remember that gold is a very dense material.
6. Why are the gravel pits, where rocks larger than one inch are mined, in Utah Valley found near the mountains and not near Utah Lake?
7. If you were to dig a trench in an old river delta in Utah Valley and find alternating layers of sand and clay, how would you explain this?
8. The northwest corner of Utah Lake with a marlstone bottom is shallower than the northeast corner of the lake. Explain what might cause this?
9. The average depth of Utah Lake is 9 feet (2.75 meters). If it is being filled with sediment at a rate of 1 mm/year, how long will it be before the lake no longer exists?

Utah Lake Sediments

10. The north end of Utah Lake is only 3 feet (0.9 meters) deep, on average. If sediment is being deposited at 1 mm per year, when will the north end of the lake become a seasonally flooded wetland?

11. Where it grows, phragmites deposits about 10 cm of biomass on the lake bed each year. Phragmites can grow in water that is up to 50 cm deep. At this depth of water, how many years does it take to fill in the lake and create a wetland peat bog?