**Cookie Mining Activity** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Mining Operation :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What to do:

* **Prospecting**: Select your cookie
* **Development**: Purchase Mining machinery/equipment (toothpicks, etc).
* Place cookie on grid and trace around it.
* **Extract your resource**: Start timer and WITHOUT TOUCHING your cookie, dig out the chocolate chips with your equipment.
* **Reclamation:** Keep timer running, using your tools – not your hands – move bits of land (cookie) back to your circle. Count all the extra squares that your cookie now takes up.

**Cost Benefit Analysis:**

**Expenses**

1. Land Purchase: (cookie) = \_\_1 \_\_$ 1200 = \_\_\_\_1200\_\_\_\_\_
2. Equipment: flat toothpicks \_\_\_\_ x $100 = $\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 round toothpicks \_\_\_\_\_ x 300 = $\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 paper clips \_\_\_\_\_ x 500 = $\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Operating Cost (Labor) \_\_\_\_\_ minutes x $50 = $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Reclamation cost: extra squares from tracing after mining \_\_\_\_\_x $30 = $\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Revenue**

Clean chips \_\_\_\_\_ x $300 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dirty chips \_\_\_\_\_ x $ 200 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Broken chips \_\_\_\_ x $ 50 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Total Revenue = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Profit:** Total Revenue – Total Expenses (land, equipment, labor, reclamation)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_ Profit/Loss

**Cookie Mining Questions** Name: \_\_\_\_\_\_\_\_\_

1. This was only a simulation of a mining operation. How is this activity similar to the real thing? How is it different? Be specific.
2. What are some ways YOU could increase profit in your cookie mining operation?
3. What are some ways an ACTUAL mining operation might try to cut costs?
4. What are some of the things mining companies must factor into their decision on which land to mine? List at least three.
5. Describe what you learned about how mining for mineral resources can impact an area both environmentally and economically.
6. What questions do you still have about the mining process?
7. Describe how you think the mining process would be if there were no reclamation laws.
8. Were the minerals (chips) evenly distributed throughout the earth (cookie)? \_\_\_\_. How closely do you think this distribution models the way minerals are distributed throughout the earth in the real world?
9. Did you make a profit or lose money? \_\_\_\_\_\_\_\_\_
10. When you were mining for chocolate chips, what was your biggest expense?
11. There were crumbs of earth (cookie) that were left on the sheet or fell on the floor while you were mining. How does this affect the reclamation process?
12. What did the **chocolate chips** represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. What did the **cookie that needed to be cleared** away first represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. What did the cookie still attached to your dirty chips represent? \_\_\_\_\_\_\_\_\_