

Chocolate Cookie Mining



Materials:

- Your Favorite Chocolate Chip Cookie
- Financial Table (included)
- Grid Paper (included)
- Flat Toothpicks (enough for multiple per student)
- Round Toothpicks (enough for multiple per student)
- Paper Clips (enough for multiple per student)
- Calculators (optional)
- Mining Bucks (optional)

Time: 30 -45 minutes

About Reclamation. What you need to know:

Mining is important to industry and technology. Minerals are mined to provide the materials needed to make thousands of products that we have come to depend on daily. Coal provides energy for homes, schools, and businesses. Zinc is found in our food and in products we use like Cosmetics, airplanes, automobiles. Lead is found in our car batteries, ammunition, cable sheathing, weights for lifting, or, radiation protection. Additionally, many kinds of minerals are used in our cell phones and computers.

There are several different kinds of mining. Underground mining (longwall mining and room and pillar mining) and surface mining (strip mining and open pit mining).

But what happens when a mine is all mined out?

After a mine closed, the mining company is responsible for reclamation of the land. Restoring the land to a more natural state. Mines must factor in the costs of reclaiming the land when they initially request a permit to mine. This means the reclamation plan must be in place before they begin mining. They need to estimate how much reclamation will cost and then be able to factor those costs into how much they need to get out of the mine to make it cost-effective, to make a profit.

Mine reclamation has come a long way in recent decades. The process includes decontaminating tailings areas, reforming the area to its former natural appearance, and developing a sustainable, natural ecosystem for the area.

Mining Regulations

1. You will start with \$25 in your account. First, you must buy your own “mining property,” which is one cookie. Your property costs \$7.
2. After the cookie is bought, place the cookie on the grid paper, and trace the outline of the cookie. Count each square that falls inside the circle. Count partial squares as a full square. Add this number to your chart.
3. Buy your “mining equipment.” More than one piece of equipment may be bought. Equipment may not be shared between students. If the mining tools break, they are no longer usable, and a new tool must be bought Mining equipment for sale is:
 - a. Flat toothpick — \$2
 - b. Round toothpick — \$4
 - c. Paper clips — \$6
4. Mining costs are \$1 per minute with a maximum of 5 minutes.
5. After the cookie has been “mined,” try to put the rest of the cookie back inside the circle outline. Count how many ‘squares’ are covered by any cookie crumbs. Reclamation costs are \$1 for each square covered outside the original outline.
6. Total your mining expense.
7. The sale of one chocolate chip mined from a cookie results in a \$2 profit. (Broken chocolate chips can be combined to make one whole chip). Total your mining profits and write it on your chart.
8. Add your profits to the remaining money from your mine purchases.

For fun and to help keep track of your spending, cut out some mining money!

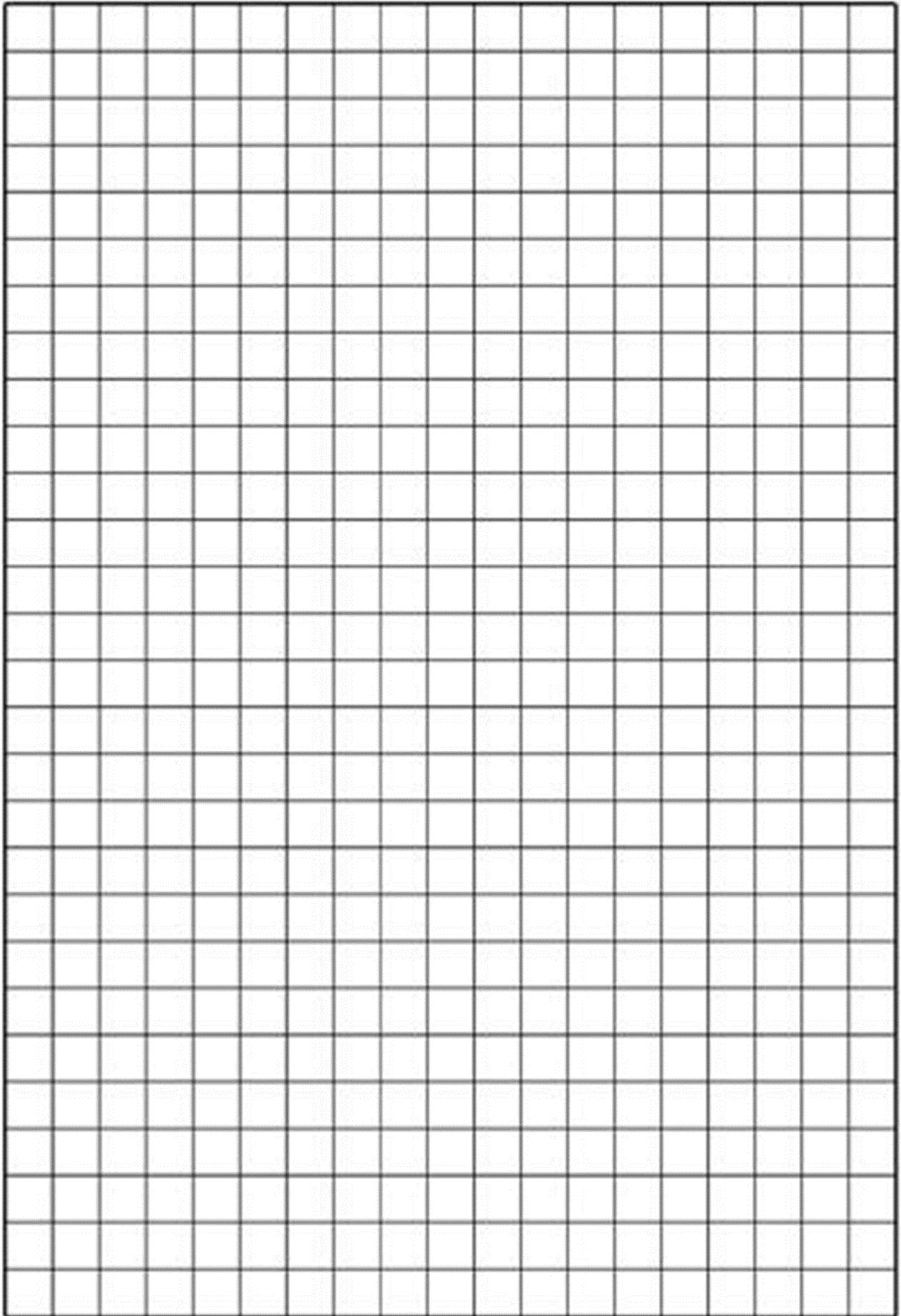
Need more instruction? Watch this! www.youtube.com/watch?v=29wkSANMy08

Mining and Reclamation to Protect the Environment



Use the table below to calculate the cost and profit of your mine.

Item	Cost	Running total Total Starting Amount \$25
Land Acquisition ● Cost of Cookie = \$7	\$7	\$18.00
Equipment ● Flat Toothpick = \$ 2 ● Round Toothpick = \$4 ● Paper Clip = \$6		
Time Spent Mining ● Each Minute = \$1		
Reclamation ● Each land square = \$1		
Total cost of mining		\$ _____
Number of Chocolate chips = \$2 each		
Total profit = Remaining Mining money + money from chocolate chips		\$ _____



THE MINING & ROLLO JAMISON MUSEUMS

\$1 ONE



Mining Bucks

\$1 ONE

THE MINING & ROLLO JAMISON MUSEUMS

\$1 ONE



Mining Bucks

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