Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period

Cookie Mining Lab

Coal mining can be a very lucrative industry, but just like anything, there is a price that comes with making money. Unfortunately in this situation, Earth pays the ultimate price. During this activity, you will begin to realize the expenses accrued during an operation such as coal mining. Making you aware of the expenses as well as the damage done to the Earth, hopefully, will help you realize the extent in which we need to treat the Earth well. Follow the steps below to find out if it is all worth it!

Rules:

1. You may **NOT** use your fingers to hold the cookie. The only things that can touch the cookie are “mining tools” and the paper on which the cookie is sitting.
2. You are allowed a maximum of 8 minutes, which will be kept by the teacher, to mine your cookie. If you should finish mining before the 8 minutes are used up, you will only record your actual time spent mining.
3. You can purchase as many mining tools as desired, but it will cost you.
4. If your mining tool breaks, it is no longer usable and a new tool must be purchased.
5. You goal, as a business, is to make money by the end of all calculations.

Procedures:

1. You start out with $19.00
2. You must buy your own “mining property”, which is one cookie. Only one “mining property” per player.

Cookies cost $5.00

1. After purchasing the cookie, trace the outline of the cookie on the grid below. Count each square. Count partial squares as a full square. This goes in the blank called Size of Mine
2. Now you must buy your own “mining equipment”. More than one piece of equipment may be purchased. Equipment CANNOT be shared amongst your teammates. NO RETURNS OR REFUNDS

Toothpick cost $4.00

1. Mining costs $1.00 per minute
2. The sale of one chocolate chip cookie mined from a cookie results in a $2.00 profit. (Broken chips can be combined to make one whole chip.
3. After the cookie has been mined, the cookie should be placed back together (reclamation). Remember, this can only be accomplished using the mining tools (NO FINGERS). Reclamation costs are $1.00 per uncovered square in the original circle.

**Mining Area**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Cookie Mining Costs**

1. Mining start-up funds $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Land Purchase Costs= price of cookie $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Size of Mine= size of cookie

(Squares covered on grid before mining used for reclamation) \_\_\_\_\_\_\_\_\_\_\_\_ squares

1. Equipment Costs

(Number of toothpicks \_\_\_\_\_\_\_\_\_\_\_ X $4.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Mining/Excavation Costs = chip removal

(# of minutes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x $1.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Minerals Mined

(# of chips mined \_\_\_\_\_\_\_\_\_\_\_\_ X $2.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Reclamation

(#of squares no longer covered \_\_\_\_\_\_X$1.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Profit/Loss

Start-up funds (A) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(A)

Total Mining Costs (B+D+E) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(I)

Total Reclamation Costs (G) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(G)

Total Goss Profit (F) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(F)

Did you make a profit?

$\_\_\_\_\_\_\_\_\_\_\_(A) + $\_\_\_\_\_\_\_\_\_\_\_(F) = $\_\_\_\_\_\_\_\_\_\_\_(J)

$\_\_\_\_\_\_\_\_\_\_\_(J) + $\_\_\_\_\_\_\_\_\_\_\_(I) = $\_\_\_\_\_\_\_\_\_\_\_(K)

$\_\_\_\_\_\_\_\_\_\_\_(K) + $\_\_\_\_\_\_\_\_\_\_\_(G) = $\_\_\_\_\_\_\_\_\_\_\_(M)

**Total Profit or Loss: $\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (M)**

**Mining Area**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Cookie Mining Costs**

1. Mining start-up funds $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Land Purchase Costs= price of cookie $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Size of Mine= size of cookie

(Squares covered on grid before mining used for reclamation) \_\_\_\_\_\_\_\_\_\_\_\_ squares

1. Equipment Costs

(Number of toothpicks \_\_\_\_\_\_\_\_\_\_\_ X $4.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Mining/Excavation Costs = chip removal

(# of minutes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x $1.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Minerals Mined

(# of chips mined \_\_\_\_\_\_\_\_\_\_\_\_ X $2.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Reclamation

(#of squares no longer covered \_\_\_\_\_\_X$1.00) $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Profit/Loss

Start-up funds (A) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(A)

Total Mining Costs (B+D+E) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(I)

Total Reclamation Costs (G) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(G)

Total Goss Profit (F) $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(F)

Did you make a profit?

$\_\_\_\_\_\_\_\_\_\_\_(A) + $\_\_\_\_\_\_\_\_\_\_\_(F) = $\_\_\_\_\_\_\_\_\_\_\_(J)

$\_\_\_\_\_\_\_\_\_\_\_(J) + $\_\_\_\_\_\_\_\_\_\_\_(I) = $\_\_\_\_\_\_\_\_\_\_\_(K)

$\_\_\_\_\_\_\_\_\_\_\_(K) + $\_\_\_\_\_\_\_\_\_\_\_(G) = $\_\_\_\_\_\_\_\_\_\_\_(M)

**Total Profit or Loss: $\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (M)**