

MOLE-Y CHALK ART

This activity asks you to get your creative juices going as we review what we learned about stoichiometry by finding how “mole-y” chalk art can be. In groups of 2-3, you will create your masterpiece and then calculate how many moles and atoms of chalk were used to create your drawing.

Requirements

- Your drawing must be school appropriate
- You must use at least 3 different colors of chalk
- You must get the initial and final weight of each chalk used
- You must provide
 - 1) the number of moles of chalk used from each color
 - 2) the total number of moles of chalk used to create your drawing

Pre-Work Questions

Complete the following section before receiving your chalk.

1. What is the chalk made of and where does it come from?	2. What is the chemical nomenclature for the chalk?	3. What is the chemical formula for the chalk?
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4. Calculate the molecular weight of chalk. (Show your work)	5. What is the molar mass of chalk?
Molecular weight: _____	Molar mass: _____

6. How will you collect your data? Write a brief procedure in the space provided. Be sure to include:
- Scientific vocabulary (proper equipment names, types of measurement, etc.)
 - What data will you collect?
 - How will you collect this data?

Data Table

Color of Chalk	Initial Weight (g)	Weight after drawing (g)	Mass of Chalk used (g)

Data Analysis

1. Calculate the number of moles you used for each color of chalk in your masterpiece.

$$\frac{\text{grams of chalk (Used in artwork)}}{\text{grams of chalk (Calculated Molar Mass)}} = \text{moles of chalk used in artwork}$$

Show your work by using the following formula:

Color 1:

Color 2:

Color 3:

2. What is the total number of moles used to create your masterpiece? (Show your work)

Stem PBL. (2018). Moley Chalk Art: A Stoichiometry Activity.

<http://web1.tvusd.k12.ca.us/gohs/waanestad/Moley%20Chalk%20Art%20Stoichiometry%20Activity.pdf>