Stoichiometry/Limiting Reactants Lab

Name(s): Gevonne Myers

Product Selected ☒ S'mores ☐ Pancakes ☐ Hot Chocolate

NGSS: HS-PS1-7. *Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.*

Procedures ****Each phase must have teacher signature before moving to next phase***

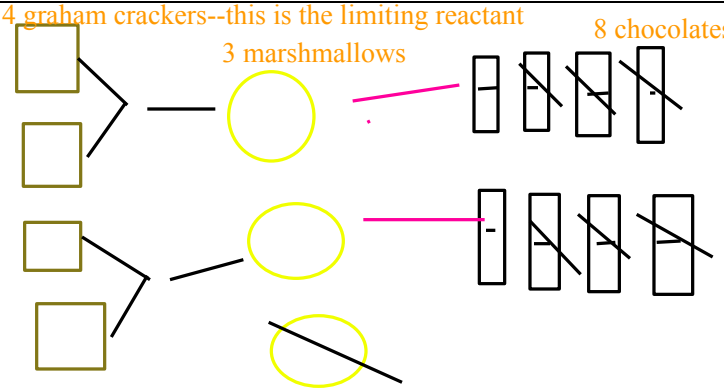
Phase 1

- Draw/design a representation of their predicted model of a chemical reaction
- Identify the limiting reactant in the drawing (representational model)
- Predicts yield based on previous step
- Identify the excess reagent

4 graham crackers--this is the limiting reactant

3 marshmallows

8 chocolates



Predicted yield is 2 s'mores

Excess reagents are
1 marshmallow and
6 chocolates

Teacher Signature/Comments: MSP

Phase 2

- Test their hypothesis by creating (cooking) a physical model of a chemical equation
- Accept or reject hypothesis of predicted yield
- Insert image of your model



Teacher Signature/Comments: MSP

Phase 3

Provide the mathematical representation of their model including all reactants, yield, product and reagants

4G + 2M + 2C -----> 2 smores

R: 1M, 6C

Teacher Signature/Comments: MSP

Phase 4

Explains mathematical model by restating claim including reactant, yield, and reagent (Oral/Video/Written)

My claim that my **yield prediction** would result in 2 s'mores was correct.

Each s'more needed the following **reactants** -

2 graham crackers, 1 marshmallow, and 1 piece of yummy, delicious chocolate.

The grahams were the **limiting reactant** because once I used the 4 grahams that I had, I couldn't make any more.

Once the 2 s'more **products** were created, I was left with the following **reagents**-

1 marshmallow and 6 chocolates.

Teacher Signature/Comments: MSP