

Metamorphic Crispy Treat



Objective:

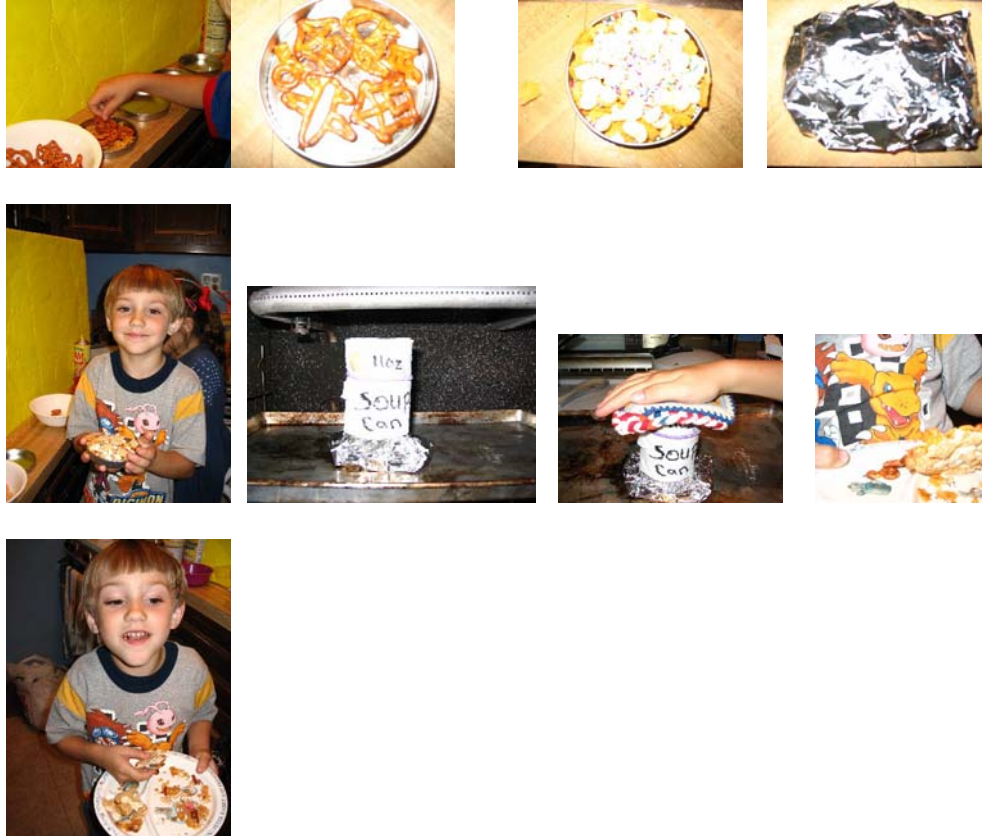
To apply heat and pressure to edible sediments (cereals and candies) to simulate the metamorphic process to rock layers.

Materials:

1. Small tart tins or pie plates
2. Heavy Duty Aluminum Foil
3. Assorted small cereals-allow the students to form a list (Take into account any allergies or restrictions) Rice Krispies™, Cheerios™, Flakes, Fruit Loops™
4. Small marshmallows, chocolate and butterscotch chips
5. Sprinkles (nuts & coconut optional)
6. Wax Paper
7. Napkins or Paper Towels
8. Plastic Knife
9. Soup can or weight
10. Oven (something to heat the wrapped pan like a toaster oven, ask the cafeteria or Home Economics' Teacher or send them home)
11. Paper to and pencil to record before and after diagrams and descriptions (Data Record)

Procedure:

1. Layer the ingredients with a cereal layer on the bottom, followed by candy chips, followed by cereal and mini marshmallows and sprinkles or nuts. Top with a layer of cereal in the tart pan.
2. Draw and describe the layers from a side view.
3. Wrap the tart pan with the treat layers in Aluminum foil and place a weight on top. (Keep the soup can sealed with the soup inside)
4. Bake at 200 - 225 degrees for 15 - 20 minutes.
5. Take out of oven with oven mitt and apply pressure.
6. Allow to cool completely.
7. Unwrap and remove treat from the tart pan.
8. Have the students cut the treats in half and have them draw and describe the side view.



1. How are your before and after diagrams alike? **Both contain the same ingredients. There are still cereal, marshmallow and candy in the before and after treats. How are they different? In the before treat the ingredients were in layers. For example Fruit Loops™, marshmallows, Rice Krispies™ and butterscotch candy chips. While after the ingredients are all mixed together. The marshmallow and butterscotch are now in between the openings in the cereal. The chips are now flat solid areas. The after treat is thinner and flatter.**
2. What type of rock does the before diagram represent? **The before diagram represents sedimentary rock formed in layers, strata or beds. The before treat might also represent layers of extrusive igneous rock and ash.**
3. What type of rock does the after diagram represent? **The After treat represents metamorphic rock. The treat has been heated and held under pressure.**
4. What are the two factors that produced the after treat? **Heat from the oven and Pressure from the soup can or weight.**
5. In what way might the treat not fully represent a metamorphic treat? **Since the candy and marshmallow probably melted in the oven the treat contains part of the igneous process and is only a simulation or approximation of the metamorphic process metamorphic.**

Follow-Up:

Enjoy observing other student's treats and if allowed enjoy eating and rating the taste of your treats **Have the students design an evaluation sheet for texture, taste, type of treat (Breakfast, Lunch, snack or dessert) or whatever they feel is relevant**

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