Name _____ Date _____

SEN Entry 2-2: Predictions About Changes in Properties

Think about 2 materials, a soda can that gets crushed and a piece of paper that gets torn into 100 pieces.

1. When a material changes shape, is it still the same material? Why do you think this?

_____

_____

_____

2. When a material changes shape, does the amount of the material remain the same? Why do you think this?

_____

_____

_____

_____

_____

_____

Name _____ Date _____

Investigation 2-2: Crush
What happens to materials when they are crushed in the landfill?

Investigation plan		✔
1	Gather materials: € 1 Electronic scale € 1 Clear plastic cup (any size, approx. 10 oz) Crush materials: € 1 Soda can (emptied and cleaned) € 1 Piece of paper € 1 Cookie in a plastic baggie € _____ € _____	
Plan for each material		
2	Prepare the electronic scale: € Place the scale on a flat surface. € Press the power button to turn on the scale.  € Make sure the scale unit is in grams (using the kg/lb button).  € Place the clear plastic cup on the scale. € Calibrate the scale by pressing the “0.0 TARE” button. 	
3	€ With your group, select 1 material. € Identify and record the properties of the material (color, texture, and reflectivity) in the table. € Measure and record the weight of the material in the table. ** Make sure to place the material in the plastic cup when you weigh it. See the paper example to the right: 	
4	Crush the material over the clear plastic cup. Make sure all pieces of the material are in the cup – don’t lose any pieces. Record the properties in the table.	

5	Prepare the electronic scale using the instructions in step 2. Weigh the crushed material. Record the weight in the table.	
6	Repeat steps 2 - 5 for each material.	
7	Answer the questions at the end of the investigation.	

Name _____ Date _____

Investigation Table 2-2

Material		Property			Weight (grams)
		Color	Texture (Rough or Smooth)	Reflectivity (Shiny or Dull)	
Material 1 _____	Before Crushing				
	After Crushing				
	Weight Difference				
Material 2 _____	Before Crushing				
	After Crushing				
	Weight Difference				
Material 3 _____	Before Crushing				
	After Crushing				
	Weight Difference				
Material 4 _____	Before Crushing				
	After Crushing				
	Weight Difference				

Name _____ Date _____

Investigation 2-2: Crush (Questions)

1. Compare the **properties** of the materials before crushing and after crushing. What do you observe?

_____

_____

_____

_____

2. Compare the **weight** of the materials before crushing and after crushing. What do you observe?

_____

_____

_____

_____

3. Other observations:

_____

_____

_____

_____

Finding Patterns in Our Investigation

4. Look at the data about the properties of the materials.

    a. Can you identify the materials after crushing?

    _____

    _____

    b. Look for a pattern in the properties before and after crushing. Are the properties the same or different before and after crushing?

    _____

    _____

    _____

5. Look at the data about the weight of the materials.

    a. Look for a pattern in the weight of the materials. Is the weight of the materials the same or different before and after crushing?

    _____

    _____

    _____

    b. Compare the pattern of properties with the pattern of weight. What happens to the **amount** of material after crushing?

    _____

    _____

    _____

    _____

    _____

Name _____ Date _____

Arguing from Evidence 2-2

Question: When materials are crushed, does the amount of material change?

Claim: _____

_____

Evidence

Evidence 1 _____

_____

_____

Evidence 2 _____

_____

_____

Evidence 3 _____

_____

_____

Reasoning _____

_____

_____

_____

Name _____ Date _____

SEN Entry 2-2: Conservation of Matter

Answer the following questions individually:

1. Imagine that we tear a piece of paper into very small pieces. Then we tear the paper into even smaller pieces until we can't see the pieces anymore. Is the paper still there? Support your answer with evidence from the crush investigation.

_____

_____

_____

_____

EXTENSION:

1. What data could you collect to investigate whether the amount of paper has changed?

_____

_____

_____

Name _____ Date _____

What Have We Figured Out?

Our Driving Question:

What did we ask?	What did we do?	What did we figure out?	Do you have any new questions to add to the DQ Board?

What did we ask?	What did we do?	What did we figure out?	Do you have any new questions to add to the DQ Board?