Directions:
Bury several kinds of trash and food scraps in a small (≈5ft x 5ft) area. After two to three months, dig up the area to investigate what types of materials biodegraded, composted or remained the same.

Suggested Materials: (Assorted trash and pieces of food (ex. save your lunch trash!))

- Tomato
- Lettuce
- Carrot
- Bread
- Plastic Straw
- Styrofoam Container
- Cigarette Butt
- Plastic Utensil
- Paper / Cardboard
- Metal Scrap
- Plastic Baggie
- String (~40ft) to mark area
- Shovel
- Notepad & Pen
- Disposable Gloves

Vocabulary/Definitions

- **Biodegradable** - Anything that undergoes degradation resulting from the action of naturally occurring microorganisms such as bacteria, fungi, and algae. (i.e. plants, papers, boxes, bags, etc.)
- **Decompose** - Decay by progressive natural changes
- **Compostable** - Organic matter that is capable of disintegrating into natural elements in the environment.
- **Organic Matter** - Matter from a recently living organism, is capable of decay, or the product of decay.
- **Inorganic Matter** - Matter not having the structure or organization characteristic of living bodies.

**Compostable material is biodegradable, not all biodegradable material is compostable**

Safety Issues
Handling garbage is unsanitary. Make sure to wear gloves and wash hands after handling.
Be careful when handling shovels. Instruct them in the correct way to dig up small amounts of soil at a time.

Troubleshooting Tips
It helps to loosen the soil in the designated plot before having kids help.
Locate the test plot in a garden area to make moving the soil easier.
Bury as many types of organic and inorganic materials as possible.
Include several organic items to aid decomposition.
Conducting experiment in warmer months helps organic matter to decay faster and reduces the waiting period.
1. Predict for each selected material whether or not it will biodegrade, compost or remain the same over at the end of the experiment. Record your predictions below:

<table>
<thead>
<tr>
<th>GARBAGE ITEM</th>
<th>PREDICTIONS</th>
<th>RESULTS</th>
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2. **PART 1:** Record on grid (page 3) where each item is buried in the plot.

3. **PART 2:** Two to three months later (longer if the experiment is performed during the winter months) bring worksheets, shovel and gloves outside. Use grid to record results (page 4).

4. **PART 3:** Answer questions below:

What items decomposed? ______  
-Why do you think they were able to decompose? ______

Which types of garbage did not decompose? ______  
-Why do you think they were not able to decompose? ______

Which types of trash were not recognizable? ______  
-What happened over the last several months that made those pieces of trash change? ______
PART 1
Directions:
Imaging the grid is your plot. Record the length and width. Use the grid and label what organic or inorganic item is placed in the ground.
PART 2
Directions:
Using the grid below, as items are discovered, guess what each item is. Then describe what the item now looks like. Has it decomposed, biodegraded or remained the same?