



Observation Station!

Supplies:

- Empty girl scout cookie boxes
- Tape
- Mystery items of your choice. Good ideas: pencil, quarter, straw, eraser, small rock, marble, etc.

Directions:

Place a mystery item in an empty Girl Scout cookie box and tape it closed. Have each girl shake and move the box in different ways to try and determine what is inside. As each girl is shaking the box, encourage questions like: How heavy is it? What does it sound like as it is moving different ways in the box? How much of the inside of the box does it seem to take up? How easily does it slide in the box based on how it sounds? Have we moved or shaken the box in all the different ways we could? Does it bounce? What are the sounds the item makes when the items hit one of the sides- does it sound the same on another side of the box? Each girl should communicate their observations either verbally or by writing them down. Even if they know what it is, encourage them to describe their observations without defining the item itself in order to practice recording objective, non-biased data.

STE(A)M Subject(s):

Scientific method, objective and indirect observations, research/data collection.

The hallmark of successful use of the scientific method is conducting proper research. Scientists cannot always directly see what they are studying and must rely on instruments and indirect observations in order to understand. Also very important is to record objective or non-biased observations in order to make the most accurate conclusion. Analysis of indirect observations has led to some amazing discoveries including how matter behaves and what DNA actually looks like.

Related Badge(s) or Journey(s):

(B) Making Games (J) Detective (S) Truth Seeker

Additional resources:

Scientific Method: http://www.sciencemadesimple.com/scientific_method.html

Indirect Observation: <https://www.youtube.com/watch?v=rmXMkvt-mKE>

Observation and Instrumentation: http://undsci.berkeley.edu/article/howscienceworks_05

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