

Daily Dose of Science Challenge: Mystery Bags and the Power of the Scientific Method

Question: What is in the bag? What observations can we make to find out?

Background:

The Scientific Method is the basis of all scientific inquiries. Scientists make observations that help them develop hypotheses about different phenomena.

Activity:

Suggested materials:

- Opaque bags (such as paper lunch bags)
- Stapler to seal the bags
- Student recording data page
- Small objects to hide in the bags such as:
 - Paperclips
 - Modeling clay or dough ball
 - Raisins
 - Coins
 - Beads
 - Birthday candles
 - Marshmallows

Vocabulary to incorporate into this lesson:

- Observation
- Hypothesis
- Scientific method

Procedure:

#1) Fill a paper lunch bag or cardboard box with a “mystery item” and seal it shut.

#2) Use your “scientific superpowers” (observations) to figure out what might be in the bag. Think about things like what sound it makes, if it has a smell, how heavy is it, etc. Let children do anything short of opening the bag to figure out what it may be.

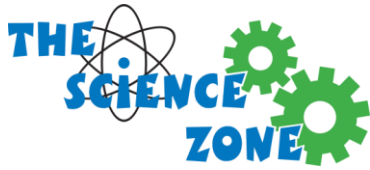
#3) Don’t open the bags! Unless you’ve filled them with candy and you’d like to give a treat, leave the bags unopened. This will keep in the inquiry process happening.

Explain:

Have a discussion about the differences between observing, inferring, and guessing, and how scientists continually revise their inferences as they get more observational data.

Ask: What do you think is in the bag? **Why? What evidence did you collect to make you think that?**





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Extension:

Have two bags (one with all paper clips, one with all marbles). Have kids identify all the differences they can before they try to guess what is in each bag.

Go further: put two or three different kinds of objects in one bag.

Connect with us:

Let us know your most bizarre mystery bag item—bonus points for a video of people trying to guess what’s in it.

Additional resources:

<https://www.youtube.com/watch?v=KRvwKpbroO4&feature=youtu.be>

