



# Minds in Motion

## Practicing the Scientific Method

### Activity Rundown:

Every single day, scientists around the world are making amazing new discoveries from new medicines to save countless lives to a distant galaxy far far away or even a new species of animal no one has ever categorised before! How do they manage to go from something that's completely unknown to a new discovery? Every single one of them uses something called the scientific method! In this activity, we'll be practicing using the scientific method in order to determine what objects are in a mystery box.

### You will need:

- + Large cardboard box
- + Multiple random objects that are safe to touch
- + A partner

### Let's do it!

1. Cut two holes in a side of a cardboard box that are large enough for someone to fit their arms into.

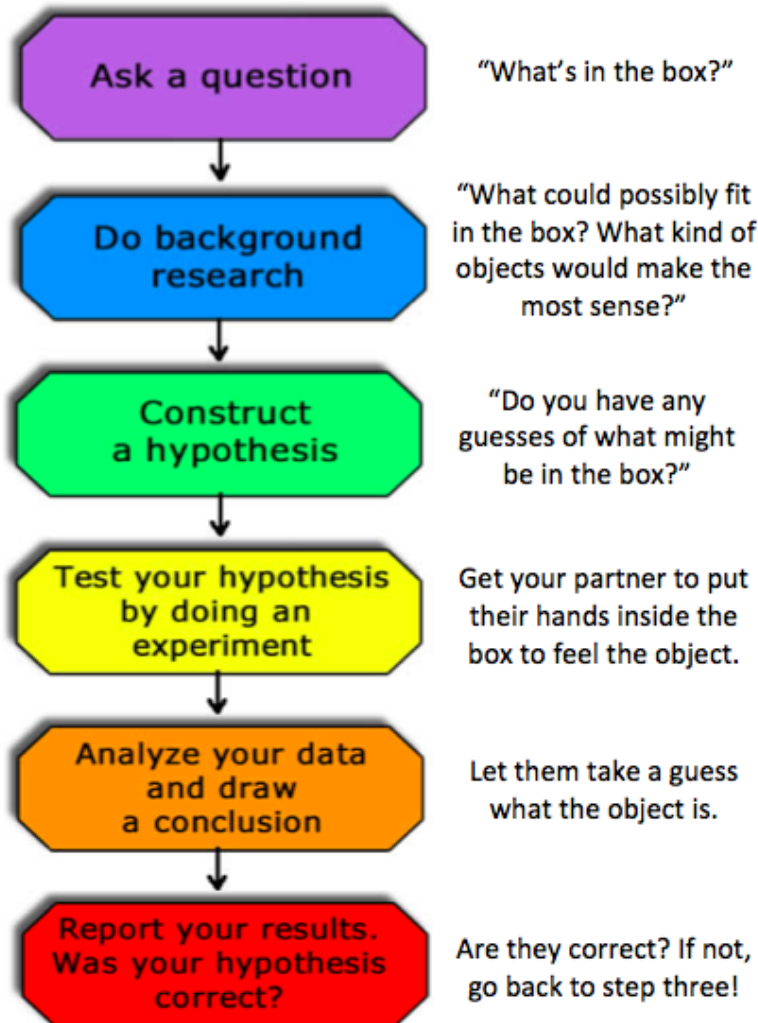


2. Get your partner to leave the room while you pick an object to place inside the box.
3. Place the selected object in the mystery box and invite your partner back into the room.
4. Prompt them through the following questions in order for them to practice using the scientific method and figure out what's inside the box!



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## The Scientific Method



Fun recommendations for mystery objects:

- Cooked, cold spaghetti
- Slime
- Peeled grape
- Ball of yarn
- Unraveled ball of yarn
- Toothpaste
- Pebbles
- Tightly crumpled piece of paper
- Washable paint



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## Background:

The word “*science*” comes from the Latin word that means **knowledge**: scientia. So we can think of science as a way to gain knowledge of the world around us! The word “*method*” comes from the Greek word that means **road**: methodus. If you put the words “science” and “method” together, you end up with the road or path to gaining knowledge. This is called the **scientific method**: a way to figure out the great unknowns of the universe.

Steps to the scientific method:

1. **Formulation of a question.** This step is the first step to many great discoveries and can be as open ended as you want! Examples of questions could be: “Why is the sky blue?” or “How many observable stars exist?”
2. **Do some background research.** Find some facts and information on what you’re studying. For example, if you’re studying why the sky is blue it may be a good idea to start off with some research into colours and the composition of the sky.
3. **Hypothesis.** A hypothesis is a form of scientific prediction based on observations and evidence from the background research.
4. **Testing.** This step involves the investigation in the form of an experiment to help you determine if your hypothesis was correct or false.
5. **Analysis and conclusion.** Looking at the results of the testing, does your hypothesis still make sense? Can you conclude that your hypothesis was correct? If not, you can go back to the hypothesis or background research steps on the method.
6. **Report the results.** Once you have reached a conclusion that you’re happy with, it’s time to tell others about your amazing discovery!



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## Reach out!

We would love to hear from you about all the amazing STEM projects you are doing at home! Show us your finished products on any of the following social media platforms by tagging us or by using the following hashtags. We hope these projects have brought some excitement to your day during these difficult times.

Let us know how we did! Please [click here](#) to fill out a short survey on how well we did and what you would like to see more of in the future. Thank you!

Twitter: **@MyMindsInMotion**

Facebook: **@mindsinmotion2014 & @ucactiveliving**

Instagram: **@ucalgaryactive**

Please use the following hashtags!

**#ucalgarycamps #ucalgarytogether**