

## WHAT ARE WE INVESTIGATING?

How can you tell if an egg is raw or hard boiled without cracking it open?

## MATERIALS:

- Raw Egg
- Hard Boiled Egg (make sure it has been in the refrigerator and is the same temperature as the raw egg)
- Strive Academy's Engineering Design Process Handout (found at [www.striveacademy.org](http://www.striveacademy.org))
- Pencil or Pen

## EXTENSION:

- \* Try this variable - use different brands or types of eggs and try the experiment again. For example, regular vs. organic.
- \* Try this variable - use different sizes of eggs and try the experiment again.
- \* Research what makes one of the types of eggs keep spinning even after you try to stop it - INERTIA! What are some other examples of when inertia keeps objects moving?

## DIRECTIONS:

1. Gather all of your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at [www.striveacademy.org](http://www.striveacademy.org)), fill in the title of your experiment (Spinning Eggs).
3. On your handout, fill in your hypothesis. You want to answer the question: What will be the differences when I spin a raw egg vs. a hard-boiled egg?
4. On your handout, sketch a design of your experimental setup. You will be spinning each egg on the table. Feel free to use color and label the materials that you will be using!
5. Have a parent help with this so you don't accidentally make a mess! Take the raw egg and carefully spin it. Under "Data Collection/Observation", record how well the egg spins.
6. Repeat Step 5 with the hard boiled egg.
7. Now take the raw egg and spin it again. This time, try to stop it by lightly touching the egg. Under "Data Collection/Observation", record how easy it was to stop the egg.
8. Repeat Step 7 with the hard boiled egg.
9. Under "Results", make a table with two columns. Label one column "Raw Egg" and the other column "Hard Boiled Egg". Under each column, list the observations that you made.
10. Answer the "Analysis" questions on your handout:
  - Which egg was easier to spin? Why do you think this is true?
  - Which egg was easier to stop? Why do you think this is true?

**\*\* Try the extension activities on the first page for more fun! \*\***