

WHAT ARE WE INVESTIGATING?

Can you design a waterproof “bottle” that can keep your message from getting wet under water?

MATERIALS:

- Toilet Paper/Paper Towel Roll
- Aluminum Foil
- Saran Wrap
- Tape
- Paper
- Sink full of Water
- Timer
- Strive Academy’s Engineering Design Process Handout (found at www.striveacademy.org)
- Pencil or Pen

EXTENSION:

- * Can you build a bottle that floats when you put it in water?
- * Can you build a bottle that sinks when you put it in water?

Message in a Bottle

DIRECTIONS:

1. Gather all your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at www.striveacademy.org), fill in the title of your experiment (Message in a Bottle).
3. On your handout, fill in your hypothesis. You want to answer the question: How will I keep a message dry in my bottle?
4. On your handout, draw a design of what your waterproof “bottle” will look like. It may help to label the materials that you plan to use.
5. On a piece of paper, write a message - this can be anything you want.
6. Build your waterproof “bottle”. Don’t forget to put your message inside before you close it up! Feel free to decorate your bottle!
7. Under “Data Collection/Observation”, draw a picture of your final bottle.
8. Fill your sink up with some water (or put water in a big bowl). Put your bottle in the water. Time for 30 seconds and then take your bottle out of the water.
9. Open your bottle and look at your message. Under “Results”, describe or draw a picture of what your message looks like. Can you still read it?
10. Answer the “Analysis” questions on your handout:
 - Was your bottle able to keep your message dry?
 - If your message stayed dry, what material do you think best kept it dry?
 - If your message did not stay dry, what do you think you could do differently next time to keep it dry?
 - How could you redo this activity and make it more scientific?

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