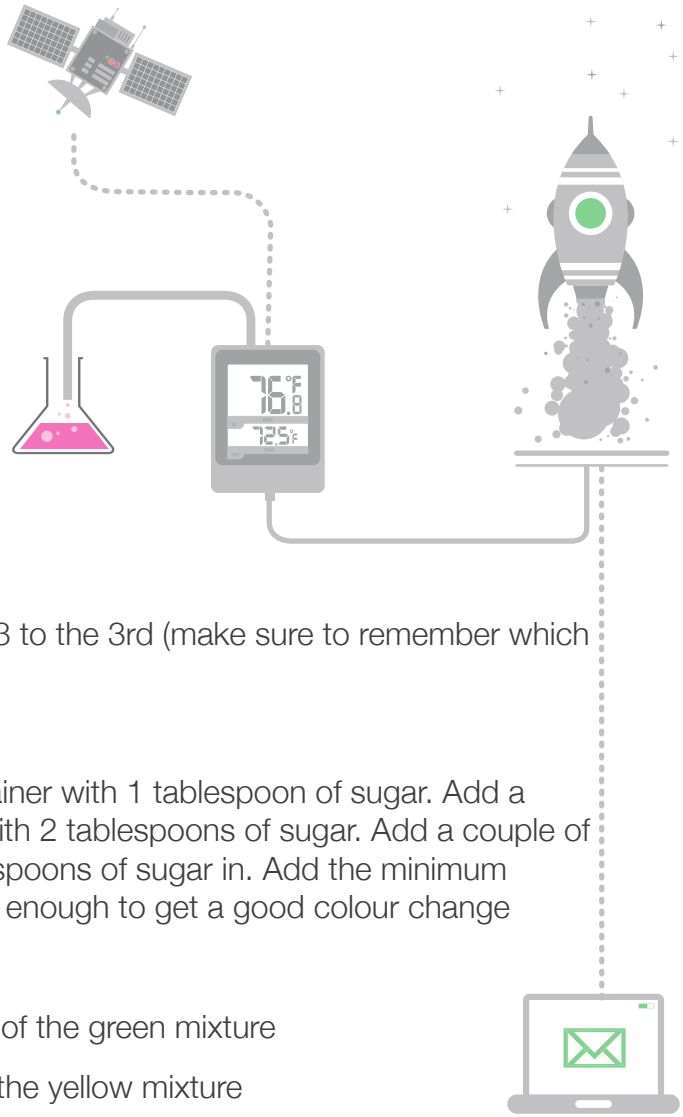
STEM AMBASSADOR HUB
STEM Ambassador Hub North East

TRAFFIC LIGHTS



Equipment

- 1 test-tube per child
- 3 different food colourings (Red. Green, Yellow)
- Granulated sugar
- Something to stir with
- 3 plastic cups
- Pipette

Method

1. Pour 45ml of water into each plastic cup

2. Add 1 tablespoon of sugar to 1 container, 2 to the 2nd, 3 to the 3rd (make sure to remember which is which)

3. Stir the sugar until it has all dissolved

4. Add a couple of drops of red food colouring to the container with 1 tablespoon of sugar. Add a couple of drops of yellow food colouring to the container with 2 tablespoons of sugar. Add a couple of drops of green food colouring to the container with 3 tablespoons of sugar in. Add the minimum amount of food colouring to each container while still using enough to get a good colour change

5. Slowly pipette the green water into a test-tube

6. Slowly pipette the yellow water into the test-tube on top of the green mixture

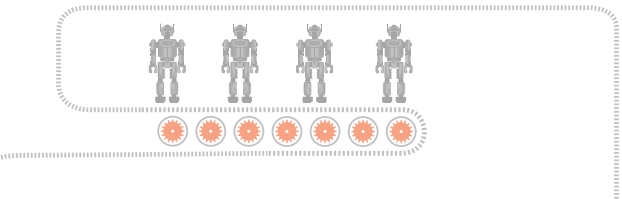
7. Slowly pipette the red water into the test-tube on top of the yellow mixture

8. You now have traffic lights in a bottle! How clear your layers are depends on how well you can stop them mixing when pouring.

The Science

The liquids remain in layers due to how dense, or heavy, each solution is. The solution with the most sugar dissolved in it is the heaviest, and sits nicely on the bottom. The next dense solution is not quite as heavy as the previous solution and so on and so on.

Layering them from heaviest to lightest from the bottom up ensures that the traffic lights maintain their distinct lines.



RTC inspiring growth

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