Create your own water cycle! (30min)

Watch the Story of Water videos for background information on the water cycle:
The Natural Water Cycle

What better way to learn about the water cycle than to make your own. Follow the instructions below to make your own water cycle in a bag!

What you'll need:

- Small Ziplock bag
- Permanent marker
- Blue food dye
- 100ml of water

Instructions

1. **Let's Draw:** Grab your permanent marker, and let's get creative on the upper half of your bag. Create landscape with mountains, waves, clouds and a sun. You can also label your diagram with the water cycle stages.
2. **Colour The Water:** Take around 100ml of water and add a few drops of blue food colouring. Mix it up until it turns blue!

3. **Pour Water Into Bag:** Carefully pour the blue water into the ziplock bag and seal it up!
4. **Hang in Sunny Spot:** Find a window that receives a lot of sunlight and hang your bag with water up there. Use clear tape to secure the corners.

5. **Observation Time:** Keep an eye on the bag over the next few hours and then again after about a day. You'll notice tiny droplets forming and moving around. Some droplets will gather in the "clouds," while others will "rain" down. You've done it – you've created a mini-water cycle in a bag!

Observations:

1. Did you notice any changes in the water over the course of the day?
2. At what time of day was most of the water a liquid/gas?
    a. Why do you think this might be?
3. What would happen on a cloudy/sunny day?
4. Did you observe any precipitation? What colour was it?

What's going on?

Just like the real thing, the energy from the sun heats up the surface layer of the coloured water in the bag and turns the liquid molecules into a gas.
These tiny water gas molecules rise to the top of the bag (atmosphere) as water vapour. This is the process of **Evaporation.**
The gas water molecules begin to cool against the bag and turn back into liquid droplets through the process of **Condensation.** Eventually, the water will fall back into the bottom of the bag (ocean) as **Precipitation**.

Tip*: You can explore the other steps of the water cycle by adding sand or soil to the bottom of the bag. Try to see if you can figure out where* ***Infiltration*** *and* ***Run-off*** *may occur!*