

# DIY Air Force Activities: Water Works



## Materials:

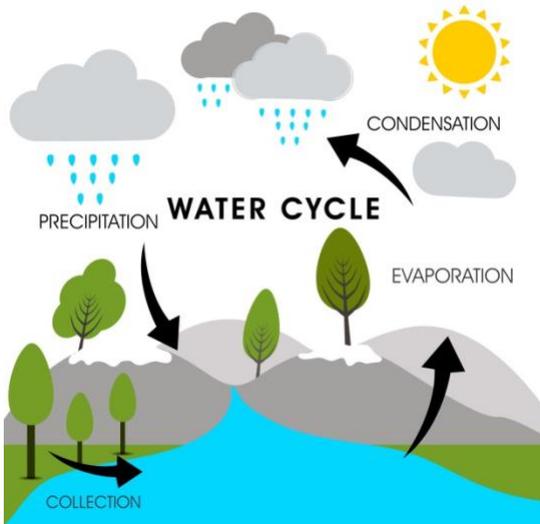
- Sandwich size closable bags – (a Ziploc baggie or something similar)
- Permanent Markers
- Water – (approximately 1/4 Cup)
- Food Coloring
- Clear Tape

Have you ever wondered where the rain comes from? It comes from clouds which are an important part of the earth's water cycle. The water cycle begins when water in the oceans, rivers, lakes and streams is warmed and changes from a liquid form into a vapor, or gas form (evaporation). That vapor travels up towards the sky and cools as it travels. This cooling vapor then begins to change back to a liquid (condenses). When enough water rises into the atmosphere and the water droplets get too big, the water falls in the form of precipitation, or rain. When the water falls from the sky, it might land in a body of water like a river or ocean or it might fall on dirt where it will soak into the soil and help plants to grow or collect on the ground and give animals water to drink. The water cycle is a simple process that is especially important to the earth and all living creatures.

## Activity: Water Cycle in a Bag

1. Use your permanent markers to decorate your bag. Draw the sky in the upper half of the bag, including the sun and clouds. They are important elements to the water cycle!
2. Add food coloring to ¼ cup water and mix until completely dissolved. Then carefully pour the water into your bag and zip it closed. Make sure it is nice and tight!
3. Find a window in your house that gets a lot of sunlight. Tape your bag to the window at the top and bottom; make sure your bag is taped securely to the window so it won't fall down!
4. Check on your bag every few hours. Depending on the amount of sunshine your bag is getting, you should start to notice drops of water sticking to the side of the bag. Some of these drops will be up high in or near the clouds while others will be making their way back down the bag (just like rain).
5. Keep checking back on your bag every day (especially sunny days!) to see the water cycle in progress!

**Note:** *This experiment is fun for older kids as well! Have them draw and label each stage of the water cycle on their bag and keep a journal of the changes they see over a period of time.*



## Air Force Associations:

Water may seem like it's in endless supply, but in some climates every drop of water is precious! In the hot, dry climate of Iraq, keeping the Kirkuk Air Base supplied with water is literally an endless cycle of work! Water used here circles in an endless loop under the oversight of guardsman. They treat more than 100,000 gallons of water each day! The water used on base goes to a treatment facility where microorganisms are utilized to clean the waste water, it is a fascinating process! Once cleaned, the water is cycled back out (although it is NOT used for drinking)! A similar process is employed in the US although the water is returned to the local rivers and streams.