

**2019 Science Treasure Hunt**  
**Explanations**

1. Evaporate Some Water  
Explanation: The water level in the uncovered glass should have been lower. The cover reduced the evaporation rate in the other glass.
2. Count Your Pulse  
Explanation: One's pulse is higher after exercise.
3. Produce some Carbon Dioxide  
Explanation: A chemical reaction between the baking soda and vinegar produces carbon dioxide. The detergent produces bubbles filled with the carbon dioxide.
4. Go "Birding"  
Explanation: The thrush you saw was most likely a robin, although here are two other species of thrush you might have seen: bluebird and brown thrush.
5. Sky Watching  
Explanation: I observed the sun and the moon
6. Keep it Warm  
Explanation: The covered cup should have been warmer because the cover retained more heat than the open cup.
7. Deep Diving Raisins  
Explanation:  
    The raisins in the **tap water** did not rise and sink.  
    The raisins in the **soda drink** rose and sank because carbon dioxide from the drink collected on them causing them to rise. Upon reaching the surface the carbon dioxide bubbles escaped into the air causing the raisins to fall to the bottom again.
8. Shapely Leaves  
Explanation: Species of Tree (Your own findings)  
Smooth Edges Simple Leaf \_\_\_\_\_  
Simple Leaf with Lobes or Teeth \_\_\_\_\_  
Palmately Compound Leaf \_\_\_\_\_  
Pinnately Compound Leaf \_\_\_\_\_
9. Official Illinois Nature Species  
Explanation:  
A. Bird: Cardinal  
B. Tree: White Oak  
C. Flower: Common Violet  
D. Insect: Monarch Butterfly  
E. Grass: Big Bluestem  
F. Animal: White Tail Deer
10. Float that Cork in the Middle of the Bowl  
Explanation:  
A. With the water level **below the top of the bowl** the cork or ball probably went the side of the bowl because there was a **negative meniscus** which attracted it there.

B. With the full bowl the water formed a **positive meniscus** so the cork or ball was attracted to the crown of the meniscus in the middle of the bowl.