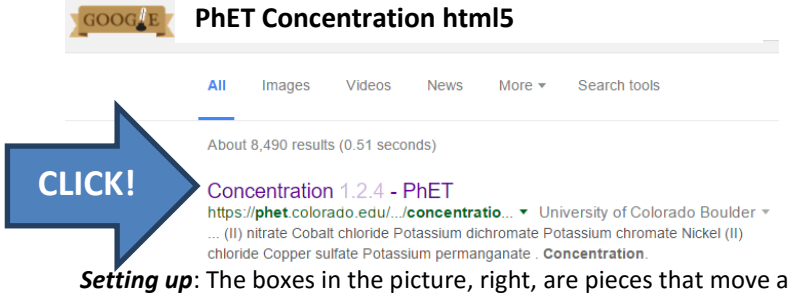
Name_____

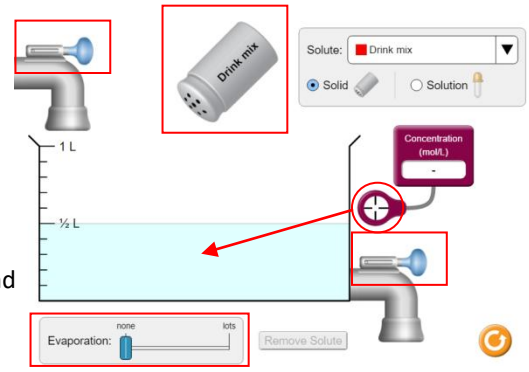
Period_____

Date_____

PhET Concentration html5



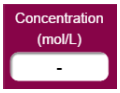
CLICK!



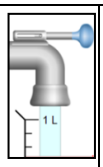
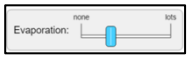
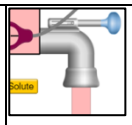
Setting up: The boxes in the picture, right, are pieces that move and affect the concentration and or amount of solution

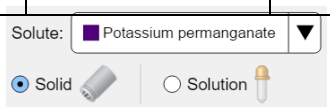
Move the concentration sensor into the solution (circle, arrow)

Directions: Add a couple shakes of drink mix to the water then take a couple minutes to see how the moving parts work and affect the Concentration of the solution.

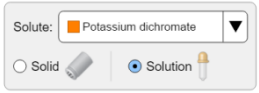


Part 1: **Click**  **replace**  **then add a few shakes of drink mix to the solution. Fill in table.**

Action	 Drink mix is added	Water is added 	 Evaporation occurs	 Solution is drained	 Solute is removed
What happens to concentration?					

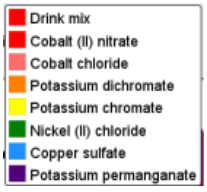
Part 2: **Click**  **replace**  **then change drink mix**  **to: and add as much as you can.**

- How do you know when a solution is ***saturated***? _____
- When a solution *is* **saturated**, and additional solid solute is added, what happens? _____
- Why do you think this is? _____
- How does adding this additional solute change the concentration of this **saturated** solution? _____
- How does evaporation change the concentration of a **saturated** solution? _____

Part 3: **Click**  **replace**  **and select:** 

- How can you measure the concentration of the solution inside the dropper? _____
  _____
  _____

- How might you get that concentrated solution to become saturated? _____
  _____



- Does it work? _____
- Do you think it would work for other solutions? Yes or No Why or why not?

- Are the concentrations of all of the solutions the same? _____

https://phet.colorado.edu/sims/html/concentration/latest/concentration_en.html

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Post-lab Questions:

1. Based on your observations using this simulation, what would your definition of "saturated" be?

2. Based on your observations using this simulation, what would your definition of "solute" be?

3. Based on your observations using this simulation, what would your definition of "evaporation" be?

4. Based on your observations using this simulation, what would your definition of "concentrated" be?

5. Adding pure water to a saturated solution (with no solids) would cause the concentration of that solution to *increase / decrease / remain the same*. (circle)

6. Adding pure water to a saturated solution (with some solids) would cause the concentration of that solution to initially *increase / decrease / remain the same.* (circle)

7. Adding a solid salt to a saturated solution causes the concentration of that solution to *increase / decrease / remain the same*.

8. Evaporation acting on an unsaturated solution causes the solution's concentration to *increase / decrease / remain the same*.

9. Evaporation acting on a saturated solution causes the solution's concentration to *increase / decrease / remain the same*.

10. Why do you think the concentrations of the concentrated solutions were NOT all the same?

11. Based on your experience with this simulation, what do you think your teacher wanted you to learn?