

# DEHYDRATION AND THE IMPORTANCE OF WATER

## STEAM Activity




The American Heart Association recognizes the importance of building healthy bodies and minds. This lesson is an introduction into combined concepts of Science, Technology, Engineering, Arts and Math; better known as STEAM.

### Objective:




Students will be introduced to the concept of dehydration, which can have a serious impact on the human body. We'll explore the effect of dehydration on your body and why it's important to stay hydrated.

Dehydration can be a problem for adults and children alike. Since our bodies are made up of 50 to 70% water, it is essential to drink plenty of fluids to keep our bodies healthy. Water plays many important roles in keeping our body in peak performance by giving nutrients to our cells, muscles, joints, our brain, skin and kidneys. Water also regulates our body temperature and helps our heart function properly.

### Materials Needed:

-  1 potato, small to medium size
-  2 shallow bowls or dishes
-  2 tablespoons of salt

-  Water
-  Knife
-  Cutting board

-  Stirring instrument, like a spoon
-  Piece of paper
-  Pen, pencil or marker

### Instructions:

1. Learn about the importance of water and [avoiding sugary beverages](#).
2. Conduct the activity.
3. Host a class discussion.

## Dehydration and the Importance of Water

Student Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Record your hypothesis of what will happen.

***A hypothesis is an educated guess, or a guess you make based on information you already know. After you make a hypothesis, then comes the really fun part: doing the science experiment to see what happens! This lets you discover if your hypothesis was correct or incorrect.***

What do you think will happen to the potato that's bathing in the plain water? What will happen to the potato that's bathing in the salted water? What if you were to use something other than salt, such as vinegar? What would be the effects on the potato? How about if you were to use a different vegetable?

Hypothesis: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1. Start by cutting a potato in half with your knife and the cutting board. The two halves should be fairly equal in size.
2. Fill each dish with the same amount of water. The water level should be high enough to cover at least half of the potato slices, but not too high that it overflows. Ideally, you want the water to cover the entire potato.
3. Take your paper and mark it with the word "salted" and place one of the bowls on it. Pour about 2 tablespoons of salt into this bowl. Stir until the salt is completely dissolved and then place one of the half potato pieces in the bowl.
4. Take your paper and mark it with the word "water" and place the other bowl on it. Take the remaining half potato piece and place it in the dish with just water, flat-side down.
5. Let the potatoes sit in the dishes undisturbed for at least an hour, but you can also go longer. The longer you leave them, the more drastic the difference will be between the two slices.
6. Compare the two halves to see the difference in size and moisture content. You can pick them up and hold them up flat-side to flat-side.

### Post Activity Group Discussion:

- What is dehydration?

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- What are the causes of dehydration?

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- What are the signs of dehydration?

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