

DISSOLVING IN WATER

Name: _____ Date: _____

The temperature of water can bring change to many things. Think about an egg. When it is placed into boiling water, its yolk becomes solid. After cooking vegetables, chefs put green vegetables into cold water so that the green color is maintained. Water can even dissolve things. Think about hot tea. When you put sugar into hot tea, it dissolves. Why does this happen?

First, let's talk about solutions. A solution is a substance where one thing (the solute) is dissolved in another substance (the solvent). The hot tea would be a solution. The solvent is the unsweetened tea. The solute is the sugar.

There are tiny bonds of molecules that hold tea together, and there are tiny bonds of molecules that hold sugar together. When the two substances are combined, they produce energy. This energy is strong enough to cause the bonds in hot tea and sugar to fuse together. The temperature of the water used in hot tea affects the speed at which the solute dissolves. If the water is warm, it will dissolve more rapidly. If it is cool, it will dissolve at a slower pace.

In a moment, you will conduct an experiment involving candy hearts and varying temperatures of water. Before you begin, answer the questions that follow. Use the text to support your answers.

1. Do you think water will be able to dissolve candy hearts? Explain your reasoning?

2. You will use different temperatures of water and see the effect they have on dissolving the candy hearts. Based on what you read, predict if the temperature of water will have an effect on dissolving the candy hearts.

DISSOLVING CANDY HEARTS

Name: _____ Date: _____

Question: Does the Temperature of Water Matter When Dissolving Candy?

Materials:

4 clear bowls

Water of varying temperatures (Examples: boiling - 212 degrees, warm - 100 degrees, room temperature - 65 degrees, just above freezing - 40 degrees)

A thermometer

Candy Conversation Hearts

A timer

Printable table cards

Procedures:

1. Pour your water of varying temperatures into 4 bowls.
2. Label each bowl of water with its printable card.
3. Make your predictions. What will happen when you add candy hearts into each bowl? Will they dissolve? Will the writing wear off? Will the temperature of the water have any effect?
4. Add a few candy hearts into each bowl.
5. Set your timer for 10 minutes and check on the candy. Record your observations.
6. Set your timer for another 10 minutes and check on the candy. Record your observations.
7. Write your conclusion. Were your predictions correct? What can you conclude from your observations?

DISSOLVING CANDY HEARTS

Name: _____ Date: _____

PREDICTIONS

What will happen when you add candy hearts into each bowl? Will they dissolve? Will the writing wear off? Will the temperature of the water have any effect?

OBSERVATIONS/DATA

After First 10 Minutes:

After Second 10 Minutes:

CONCLUSION

Did the temperature of the water have any affect? Were your predictions correct?

 212° WATER  

 100° WATER  

 65° WATER  

 40° WATER  

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