WHAT MAKES YEAST GROW?

Introduction

This week's newspaper is about doughnuts. People use yeast when making some kinds of doughnuts. These doughnuts are called yeast doughnuts. In this experiment, your students can explore yeast. Yeast is a leavening agent, which means it helps dough for baked goods rise and grow in size. This rising gives these baked goods a light and fluffy texture. Here, students can see what helps yeast react the most.

Under the right conditions, yeast grows and produces carbon dioxide. The carbon dioxide helps the dough for doughnuts rise and grow. When you bite into a baked yeast doughnut, you may see small holes throughout it. These holes were made by the bubbles of carbon dioxide that grow in the dough.

You must add things to the yeast to help it grow. With this experiment, students should be able to conclude warm water and sugar are needed to make yeast grow the most.

Watch the bags closely during this experiment. The yeast may grow to such a degree that the bag pops. If this appears to be happening, open the bag slightly and then reseal it.

What We Know:

- A new Krispy Kreme doughnut store opened on September 15.
- The store sells doughnuts.
- Many doughnuts have yeast as an ingredient.
- The yeast grows and makes doughnut dough rise.

Step 1: Ask a Question

- What helps yeast grow the most?

Step 2: Make a Guess / Hypothesis

I think...

warm water and sugar	warm water	cold water and sugar

Need:

tape

Bag Labels (page 60), cut apart

3 zip-top sandwich bags

6 t yeast

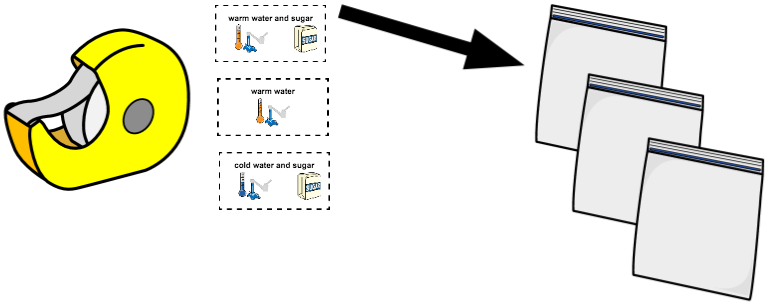
4 t sugar

1 C warm water (about 130°)

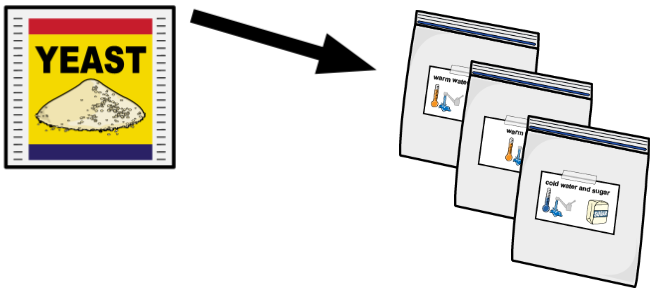
½ C cold water

Step 3: Do an Experiment

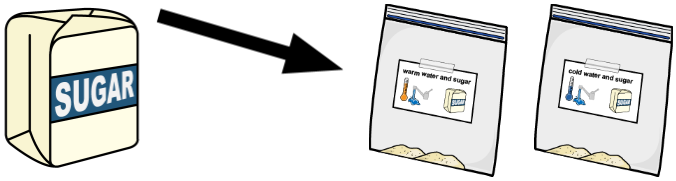
1. Tape one label onto each zip-top bag.



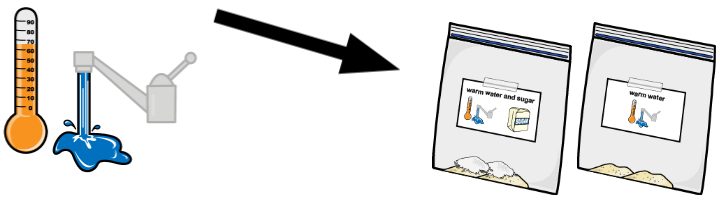
2. Put 2 t yeast into each bag.



3. Put 2 t sugar, each, into two bags labeled “sugar.”

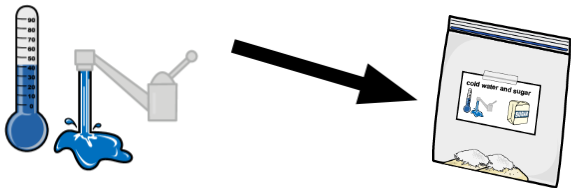


4. Put ½ C warm water, each, into two bags labeled “warm water.”

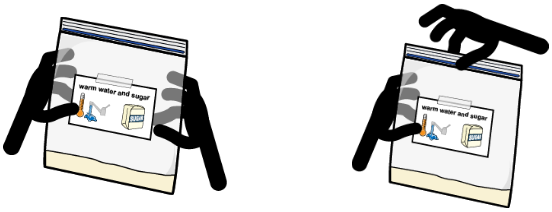


Step 3: Do an Experiment

5. Put ½ C cold water into bag labeled “cold water.”



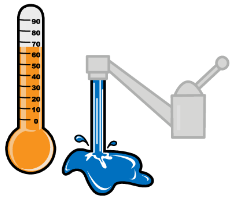
6. Gently squeeze air out of each bag. Seal each bag.



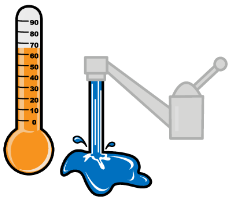
7. Observe for 30 minutes.

Bag Labels

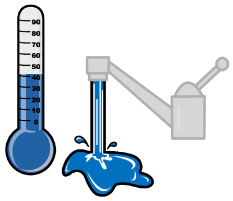
warm water and sugar



warm water

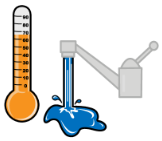


cold water and sugar



Step 4: Organize Data

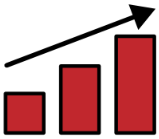
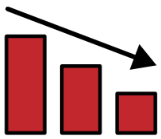
1. What did you put into every bag?

sugar	warm water	yeast
		

2. Did one bag change more than the others?

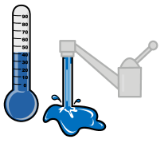
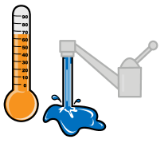
yes	no	maybe
		

3. How did that bag change?

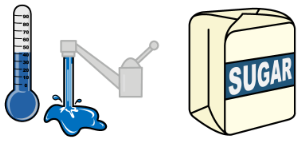
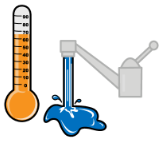
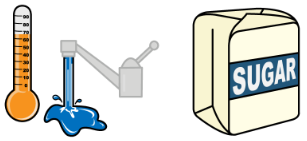
grew	shrunk	melted
		

Step 5: Find the Conclusion

1. What water helped the yeast grow best?

cold water	warm water
	

2. What was in the bag with the yeast that grew most?

cold water and sugar	warm water	warm water and sugar
		

3. Was your guess correct?

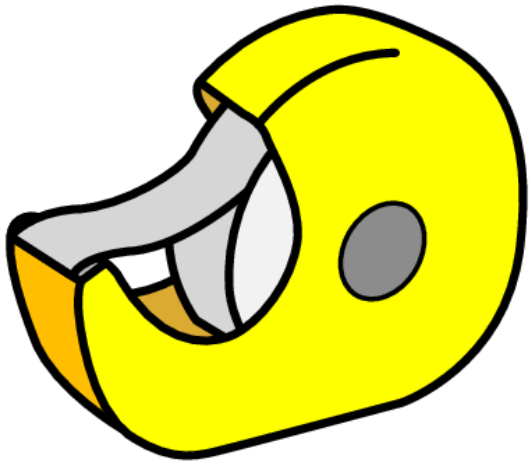
yes	no
	

Questions for Class Discussion

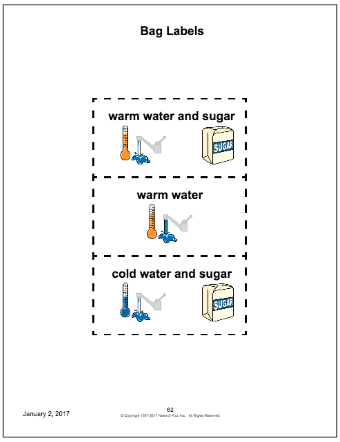
- Why do you think yeast is important for making doughnuts?
- What other ingredients might be in doughnuts?
- Would you like to make doughnuts? Why?

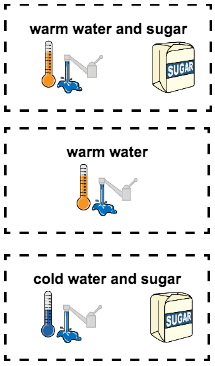
Read, practice and post these words on classroom or craft area word walls.

tape

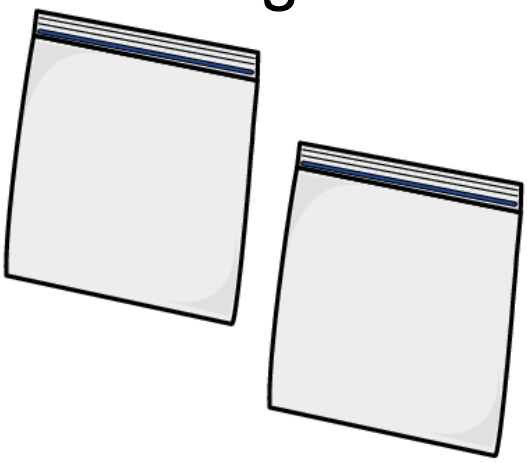


Bag Labels, cut apart





zip-top sandwich bags

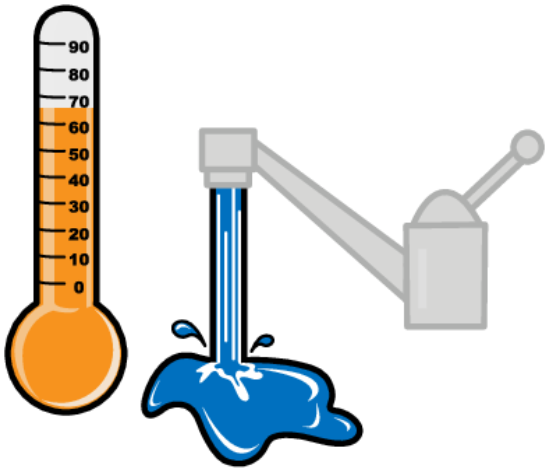


yeast

Read, practice and post these words on classroom or craft area word walls.

sugar

warm water



cold water