

Young children naturally build knowledge by being curious about the world around them.

When you do science with your children, you can share their sense of wonder about the natural world. They'll develop self confidence when they ask and answer their own questions.

How to get the most out of your explorations:

- Dress for the mess
Science explorations can be messy.
- Take your time
Play for as long as the activity holds your child's interest. Don't rush towards the 'right' answer.
- Be curious
Ask "What would happen if..." and then find out. Let your child's questions guide you.

Pizza Dough/Bread

Bread is light and fluffy thanks to the bubbles yeast makes in the dough.

What you need:

- 1 cup hot tap water
- 3 cups flour
- 0.5 tsp salt
- 2 tsp olive oil
- 1 package yeast and extra
- 1 tsp sugar

Hands on:

1. Measure and mix all the ingredients together in a large bowl.
2. Put the extra yeast in a clear container with some warm water and a bit of sugar.
3. Knead the ball of dough with your hands.
Sing the lyrics to the tune of "Row, Row, Row Your Boat." →
4. Allow the kneaded dough to rest in a warm place for 10–30 minutes.
5. Observe your dough. Observe the yeast in the container.
6. Transfer the dough to a cookie sheet.
7. Bake dough at 230°C (45°F) for 15–20 minutes or until golden brown.

Hint:

Once you've mixed the ingredients, you can divide the dough into several pieces to make buns, or spread it out flat to make a pizza crust.

Questions to Ask

- Why does the dough get bigger?
- What is happening to the yeast?
Where do the bubbles come from?
- What would happen to our bread if bubbles didn't appear?

• Song •

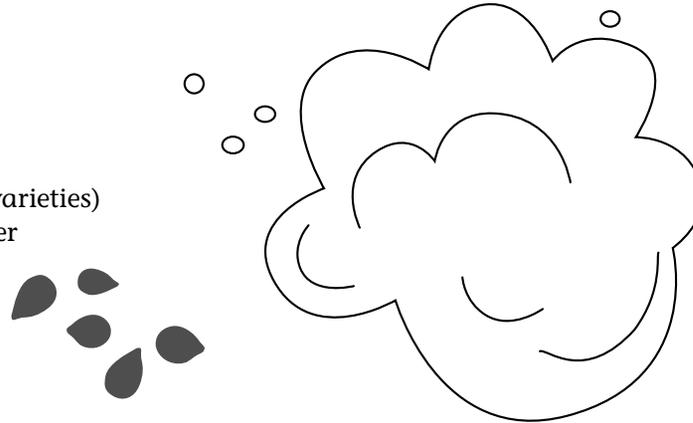
*Knead, knead, knead the dough
Then we let it rise.
Yeast makes it grow and grow
Right before our eyes.*

Exploding Kernels

Popcorn has more starch than other kinds of corn, and a very precise amount of water, it also has a hard outer shell. When popcorn is heated to more than 170°Celsius, the pressure inside the kernel gets very high, preventing the water from turning to steam. Eventually the pressure becomes so great the hard shell breaks open, then the water turns to steam and expands by 1500 times.

What you need:

- Raw popcorn kernels
(one or more brands/varieties)
- Hot air popcorn popper
- Paper
- Glue
- Pencil or crayons



Hands on:

1. Examine the kernels. Observe their size, shape, texture and colour.
2. Choose a number of kernels to experiment with (e.g. 10, 25). Count out that number of kernels from one type of popcorn.
3. Predict (guess) how many of your kernels will pop (e.g. 8 out of 10 or more simply: all, some, none).
4. Pop your corn: put your kernels inside the popcorn popper and plug it in. Make sure there is a bowl under the spout of the popper to catch the kernels. Wait until the kernels are popping less than once every 30 seconds, then unplug the machine. CAUTION! HOT!
5. Remove any remaining kernels from the machine. Observe your popped and unpopped corn. Count the number of popped and unpopped kernels.

What next?

- Try again with a different variety of popcorn but the same number of kernels.
- Try the same variety of popcorn and a different number of kernels.

Hint:
Glue 10 unpopped and 10 popped kernels to a piece of paper to see how much space they each take up.



Questions to Ask

- How have the kernels changed after being put in the popcorn popper?
- What is happening inside the machine?
- Can you find the kernel shell on the popped pieces of popcorn?
- Where did all the white stuff come from?
- Why did some of the kernels not pop?
- Was your prediction correct?



Looking for More?

Online:

More science activities for young children can be found at:
www.scienceworld.ca/preschool.html

This website has short videos, games and activities for 3–5 year olds:
www.peepandthebigwideworld.com

Our favourite books:

Science Play by Jill Frankel Hauser
ISBN 1-885593-20-1

Science Arts by MaryAnn F. Kohl and Jean Potter
ISBN 0-935607-04-8

