Activities
The Magic School Bus Goes Cellular

Grades: PreK–K, 1–2, 3–5

Overview
Kids experiment with yeast to learn about cells, biochemistry and food-making.

Field Trip Notes
It’s the night of the rock lover’s annual GRANITE awards, and Arnold is about to become the first kid ever to win the coveted Rocky Award. He's so excited that all he's been able to eat for weeks are Seaweedies - and lots of them! When he arrives for the big event, he's totally nervous. He's also totally orange! After Arnold’s friends determine that the orange isn't on his skin, they shrink down to find out what's underneath. They discover that his whole body is made of living cells - and they're all orange! But where is the orange coming from...and how can they make it go away in time?

Make a Yeast Feast
Time: 20 minutes, then observe periodically for next 40 minutes
Group Size: 2-4
Arnold's classmates discover that his body cells are alive. Your kids investigate whether yeast cells are alive.

**What You Need**
For the class:
• 3 1-pint plastic zipper bags
• 3 packets dried yeast
For each group:
• 1-pint plastic zipper bag
• Packet of dried yeast
• Pen or marker
• For the class and each group:
  • 1 teaspoon sugar
  • 1/4 cup warm (not hot) water
  • Copies of MAKE A YEAST FEAST page

**Talk About It**
Ask: What do you need to grow? (food, for one)

**What To Do**
1. With the groups, pour a yeast packet into a bag. Ask: Is yeast a living thing? How can we find out? Record ideas. (Yeast is a one-cell fungus. It grows by dividing or pinching off new cells.)
2. Ask: If yeast is alive, will this yeast grow all alone? Leave your bagged yeast to observe.
3. Ask: What might you give yeast to make it grow? When kids say food, let groups add sugar to their bags.
5. Ask: Is water food? (No, but it’s necessary for cells to function.) What will happen if we just add water to yeast? Make a class yeast-and-water bag.
6. Ask: Do you need water to survive? If yeast is alive, does it need water? Let kids add water to their yeast-sugar mix.

7. Have kids observe and draw yeast action. (Water activates yeast. Growing cells give off carbon dioxide gas, which inflates bags.)

8. Continue to observe. Ask: Is yeast alive? What is your evidence?

**Next Stop**

Have a pizza party. Make pizza dough. Ask: What makes dough rise? (carbon dioxide gas from the feeding yeast cells)

- Subjects:
  - Cells, Biology, Chemistry, Food
MAKE A YEAST FEAST

How can YOU discover if yeast is a living thing?

Think About It:

1. What do you think? Is yeast a living thing?  Yes ___ No ___
2. How could you find out?

What to Do:

1. Pour the yeast into the zipper bag.
2. What will you add to find out if yeast is alive?

3. Seal the bag. Mark the level of the yeast at the start.
4. Observe, mark the level, and draw what happens at each observation.

START  AFTER 20 MINUTES  AFTER 40 MINUTES  AFTER 60 MINUTES

Take-Home Challenge:
Go on a yeast hunt in your kitchen. What things contain yeast? What food recipes use yeast as an ingredient?

Wrap-Up

Did the yeast grow?  ___Yes ___No
Is yeast a living thing?  ___Yes ___No
Write the reasons for your answer on the back.