

ACTIVITY!

Inquire & Investigate



VOCAB LAB



Write down what you think each word means.

What root words can you find to help you?

What does the context of the word tell you?

atom, bond, chemical reaction, compound, element, kinetic energy, mixture, molecule, solution, and temperature.

Compare your definitions with those of your friends or classmates. Did you all come up with the same meanings? Turn to the text and glossary if you need help.

To investigate more, pick another recipe to watch for physical and chemical changes. What physical changes to food ingredients do you observe? What chemical changes? Is there any evidence of a chemical change?

CHEMICAL OR PHYSICAL?

In the kitchen, chefs combine and alter food ingredients to create a finished dish. Some of these changes are physical—the food changes form, shape, and size—but the molecules that make up the food do not change. Other changes in food are chemical. When food undergoes a chemical reaction, a new substance is created. During a chemical change, bonds within molecules are created or destroyed. In this activity, you will classify different changes food undergoes during cooking as either physical or chemical.

CAUTION: Always ask an adult to help with cooking!

• Choose a few of the “recipes” below.

- Prepare a mixed green salad with chopped vegetables, shredded cheese, and sliced almonds.
- Make a fruit smoothie by blending fruit, ice, and juice.
- Make popsicles by placing fruit juice into popsicle forms and placing in the freezer.
- Make pancakes by preparing batter and frying on a griddle.
- Sauté onions in butter on a stovetop.
- Cut an apple into slices and let it sit for a period of time.

• **Did a physical or chemical change occur?** Is there a new odor or color? Did you hear any kind of sound from the ingredients? These can be signs of a chemical change.

• **Explain your reasoning for your conclusions.** Record your observations in your science journal.