

Cooking with Physical and Chemical Changes

To help your child learn more about physical and chemical changes, work in the kitchen to prepare a meal or food item together. Try to prepare a dish that will allow you to demonstrate both physical changes (cutting, mixing, dissolving, boiling, melting) and chemical changes (baking, frying, burning).

For example, to demonstrate physical changes, you and your child can work together to prepare a salad. You must cut each ingredient in the salad into many small pieces. After you have put all the pieces into a bowl, you must mix them together by tossing the salad. Additionally, you could prepare a salad dressing, which includes mixing oil and vinegar. The processes of cutting and mixing are examples of physical changes.

Baking and frying are common ways to illustrate chemical changes. Baking a cake or cookies produces several examples of evidence of chemical changes: the dough changes color and increases in temperature as it cooks, and gases are produced in the form of air bubbles. Frying an egg produces similar evidence of chemical changes. If you happen to overcook an item and it burns, point out that burning is also a chemical change.

Here are some questions to discuss with your child:

1. Which of the actions that you performed resulted in physical changes? Explain in terms of physical and chemical properties.
2. Which of the actions that you performed resulted in chemical changes? Explain in terms of physical and chemical properties.
3. What other physical and chemical changes happen during cooking?