

Hands-On Activity

Identifying Acids and Bases

Objective:

Use an indicator to test predictions regarding whether common substances are acids or bases.

Estimated time to complete: 15 minutes

Materials:

For each small group:

- samples of every substances
- litmus or pH testing strips

Procedure:

Create a two-column chart. As a class, brainstorm a list of students' perceptions about whether common substances are acids or bases.

Distribute to each small group samples of common acidic and basic substances such as baking soda, citrus, apples, soap, vinegar, dairy, distilled water, etc., that you have collected before class. Ask students to predict whether each substance they have been given will be acidic, basic, or neutral. Have them explain their predictions.

Distribute litmus or pH paper to the groups, and direct them to test the pH of each substance and record pH values in a graphic organizer or table. After testing is complete, ask students if their predictions were correct, and if not, why their results might have been different than anticipated.

Inquiry and Nature of Science Skills in this Activity:

- Identify Questions
 - Develop predictions/hypotheses that:
 - State what may happen in an investigation based on prior knowledge or experience (prediction)
- Design Investigations
 - Practice lab safety by:
 - Following lab safety procedures
- Gather Data
 - Choose appropriate tools to conduct an investigation:
 - Other Laboratory equipment
 - Use senses to observe:
 - Seeing (color, shape, size, texture, motion)
 - Use the appropriate format to record data: