MEASUREMENT MATTERS!
Presentation Notes
Measurement Matters!

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Measurement - a collection of quantitative data made by comparing a quantity with a standard unit.
The metric system is a decimal system of measurement.

All units in the metric system are divisible by ten.

Examples of the metric system in the United States are:
- drinks sold in liters (L)
- food masses shown in grams (g)
- road signs show distance in kilometers (km)
- running competitions measured in meters (m)
It is important to know how to measure and read measurements accurately in science and in the kitchen.

Recipes are scientific equations that help produce the same product every time.

Just as we know 2 + 2 will always equal 4, we know that our cookie recipe should produce the same product every time.

The only difference between these two formulas is that with the recipe, you are responsible for accurate measurements to develop a consistent product.
In this food science course, we will use the basic metric units of length, mass, temperature, time and volume.
Length is the distance between two points.

Demonstrate how to use a metric ruler and/or a meter stick.
Mass is a measure of the quantity of matter.

The two most common tools for measuring mass are the electronic balance and triple beam balance (scales may also be used).

A triple beam balance has three beams.

Items to be weighed will need to be placed on weighing papers, weighing dishes, cupcake liners or coffee filters.

Demonstrate how to measure mass.
Time will be measured in seconds in most food science experiments using a clock or a watch.

Someone should be assigned as a timer to record start and stop times.
Temperature is a measure of heat intensity.

Most laboratory thermometers are marked with both Celsius and Fahrenheit scales.
Volume is the amount of space occupied by an object.

Liquids are usually measured by volume.

Be sure to place the container on a level surface and read the volume at eye level.

Demonstrate this procedure.
Click on image to view YouTube™ video:

U.S. Switch to Metric System?

'The Federal Eye' Ed O'Keefe answers a reader's question about U.S. efforts to switch to the metric system.

http://youtu.be/xXK-QJ_9SLs
Units

- Be sure to list the units being measured
- Clarify whether the items measured are in metric or English units
- Specify which units you used
- Examples include:
  - ounces
  - pounds
  - grams
  - kilograms

Reminder - during the food science experiments, be sure to list the units for the items being measured on your data sheets.
References and Resources

Images:
- Shutterstock™ images. Photos obtained with subscription. (Slides 3, 5, 7, 8, 10, 11, 13, 14)

Textbook(s):

YouTube™:
- U.S. Switch to Metric System?
  'The Federal Eye' Ed O'Keefe answers a reader’s question about U.S. efforts to switch to the metric system.
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