



## NGSS Standard: 5-PS1-4



### Adventure Description:

In this adventure, you will think like a food scientist and create a new drink!



### Activity

#### Step 1: Background on Food Scientists (5 minutes)

- Show [Video: Food Science](#).
- Explain to students that food scientists carry out many jobs that relate to food. For example, food scientists can develop new food and drink products. They can also create food labels.
- Pass out [Handout: Food and Drink Labels](#) and go over the parts of a food label with the class.
- Ask students to think about why food labels are important. Ask questions such as: What would happen if there wasn't a food label? What would happen if the information on the food label was inaccurate (ex: wrong expiration date, wrong ingredients listed)?
  - Discuss how people wouldn't know what is in the food. People also wouldn't know how old the food is. People could also get sick if they had an allergy to an ingredient and they didn't know the ingredient was in the food.

#### Step 2: Creating a New Drink (15 minutes)

- Explain to students that they will create a new type of drink! They will also create a label to go on the bottle.
- Provide each student with [Handout: Producing a New Drink](#). Go through the steps as a class.
- Provide each student with the following materials:
  - 2 small cups of base liquids (1 cup with regular water and 1 cup with sparkling water)
  - 1 small cup of fruit (any fruit will work! We suggest a few strawberries, raspberries, or pieces of banana)
  - 1 small cup of juice (apple, orange, or cranberry juice work best)

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- Food Coloring (groups can share)
- Paper or plastic cups, paper plate, and plastic utensils
- Have students complete the steps.
- Point out to students they can have up to three trials to make their drink. Tell them a trial is when you start over and repeat something again. A trial is a normal part of creating new food. Sometimes a food scientist might take 20 trials to get the right combination of ingredients!

### Step 3: Creating a Label (10 minutes)

- Explain to students that they will now create their own drink label. Provide students with [Handout: Creating a Label](#).
- When students are finished, have them cut out their drink label. They can place their label next to their drink if the cup is small. If the cup is bigger, they can take their food label on to the cup.
- Extra Time? Have students use a separate sheet of paper to create a name for the drink. They can tape the name onto the drink or put it next to it.

### Step 4: Reflection (5-10 minutes)

- Have a few students volunteer to explain the drink that they made.
- Then, ask students whether the substances they mixed together resulted in a new substance created.
- Explain to students that none of the liquids used today made new substances when mixed together. This is because none of the ingredients reacted with each other in a way that made them change. For example, when food coloring was added to the drinks, the actual drink doesn't change and a new substance isn't created. Similarly, when fruit was added to the drink, a new substance wasn't created. The fruit may look different, but it did not create a new substance!

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# Food Scientist: Food Science

## Materials List

### Provided online:

- Video: Food Science
- Handout: Food and Drink Labels
- Handout: Producing A New Drink
- Handout: Creating a Label

### Not provided (each pair of students needs):

- 2 small cups of base liquids (1 cup with regular water and 1 cup with sparkling water)
- 1 small cup of fruit (any fruit will work! We suggest a few strawberries, raspberries, or pieces of banana)
- 1 small cup of juice (apple, orange, or cranberry juice work best)
- Food Coloring (groups can share)
- 2-3 empty paper or plastic cups
- 1 paper plate
- 1 plastic knife or spoon
- Teacher Note: Have on hand extra drink, fruit, and juice for trials

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