

Collecting the Clues

You just got your first job as a stock person in the new Food Lion. The manager greets you and assigns you your first task. He waves his hand over the entire mess at the delivery entrance, and says, *“These need to be put into the cooler. Separate the boxes by apple type and put the Granny Smiths on the left side, the Golden Delicious in the middle, and the Red Delicious on the right. Then put some of each out in the store in the produce section.”* Before you can ask any questions, an urgent summons for the manager comes over the intercom system and he rushes off. You look at the cases and see no labels on the boxes. *“No problem,”* you say to yourself. *“I’ll just look in the boxes to see what’s what.”* So you look in the boxes. However, you only see two different colors of apples, not three. The only identifying feature is a number on a sticker. Just as you are about to panic, another worker walks by. *“How do you tell the difference between Granny Smith, Golden Delicious, and Red Delicious apples?”* you ask him. He gives you a strange look and says, *“The Granny Smiths are green, the Golden Delicious are yellow, and the Red Delicious are red. Duh!”* You think to yourself: Why can’t I see three colors? Is it my eyes, or something else that affects how we are able to see? Can you act as an engineer and design a device that could be used to help distinguish these three colors from one another?

Answer the following questions (by yourself):

1. What are your ideas about why you cannot see three different colors?

2. What background knowledge is needed?

3. What do you know about light, colors and sight already?

Class Suggestions:

Main Points:

- 1.
- 2.
- 3.