



CHALLENGE LEVEL

THE TRIANGLE TEST

MATERIALS AND EQUIPMENT

- scissors
- coffee filter paper
- ruler
- sharp knife
- lemon
- lime
- spoon
- pencil
- a blindfolded friend without a cold

Do you have a talented nose? Can you tell the difference between two closely related smells? Can you remember what you smell? The “triangle test” is given to job applicants in the perfume and fragrance industry to see how well they smell. Test yourself and your friends.

Method of Investigation

- 1 Cut the coffee filter paper into strips about $\frac{1}{4}$ inch wide and 3 inches long. You need three strips for each test. That’s why it’s called the “triangle” test.
- 2 Transfer the oils, which contain the molecules you smell, from the citrus fruit to the end of the test strips. To do this, cut a piece of lemon peel and a piece of lime peel. Place the peel, outside skin side down, on the end of a strip of filter paper. Press the peel over the strip with the back of a spoon to squeeze its oil onto the filter paper. Make one lemon oil strip, one lime oil strip, and either one for the third strip.

Number the ends of the strips so you know which is which.

- 3 Tell a blindfolded friend that you are going to present three smells and to tell you which two are alike. As you hold a strip under your friend’s nose, state the number. Do three trials for the test, alternating the order in which you present the strips. To refresh the nose between sniffs, have your friend sniff a tissue or a sleeve.

Observations & Suggestions

Have your friend try the triangle test on you. Do the triangle test on lots of people. Are females more talented smellers than males? Are adults better smellers than children? Test two brands of coffee, two different perfumes, apricots and nectarines, almond extract and cherry extract, or the cooking water of broccoli and cauliflower.

