

LESSON
40
ACTIVITY

Sorting It Out

Shape and Smell

Name _____

Date _____ Period _____

Purpose

To help you determine which pieces of chemical information are most valuable in determining the smell of a compound.

Materials

- set of 24 Molecule cards

Instructions

Sort the cards as best you can into groups that will smell similar. Put any cards that your group is unsure about into a separate pile.

Questions

1. What features did you use to sort your cards?

2. Which cards are you not 100% sure about?

3. Explain what caused confusion about each card you were unsure how to sort.

4. Which group did you put these cards into? Explain why in each case.

Card M:

Card S:

Card R:

5. Which (if any) compounds did you sort mostly by looking at shape?

6. Take the cards that your group is unsure about and sort them by shape. Where does each one end up? Is this correct?

7. What functional groups are present in the camphor-smelling compounds?

8. What functional groups are present in minty-smelling compounds?

9. Which smell classifications have only one functional group in them?

10. Once you settle on your smell categories, fill in the following information for each smell. (In the third column, note whether the molecules have 1 O atom, 2 O atoms, etc.)

Smell classification	Cards	Molecular formula info	Shape(s)	Functional group(s)
sweet				
minty				
camphor				
putrid				
fishy				

II. Making Sense How would you decide if a compound belongs in one of the five smell categories? What chemical characteristics would you look for first? Second?