**Cat Food and Stinky Cheese**

**Adapted from Living By Chemistry’s “Cat Food and Stinky Cheese” and “Sniffing Around”**

**Purpose**

To explore the connection between chemistry and smell.

**Part 1: Smelling**

Smell the samples of household items. Describe the smell in one or two words. Try to avoid judgment words like bad, stinky, weird, yucky, etc.

|  |  |
| --- | --- |
| **Sample** | **Substance Smell Description** |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **5** |  |
| **6** |  |
| **7** |  |
| **8** |  |
| **9** |  |
| **10** |  |
| **11** |  |

**Part 2: Looking for Patterns**

1. Enter the group consensus smells in the smell data table.

|  |  |  |
| --- | --- | --- |
| **Smell** | **Chemical Name** | **Molecular Formula** |
| Minty | L-carvone | C10H14O |
| Fishy | phenylethylamine | C8H11N |
| Sweet | pentyl propionate | C8H16O2 |
| Sweet | isopentyl acetate | C7H14O2 |
| Minty | menthone | C10H18O |

2. Look for patterns in the data. Write down at least eight patterns you discover between

your data and the various smells.

1.

2.

3.

4.

5.

6.

7.

8.

**Questions**

1. Why do you think there are sometimes disagreements over how to classify smells?

2. From the data, what generalization could you make about substances that contain oxygen atoms?

3. Which patterns might be useful in helping you predict smells?

4. **Making Sense:** What evidence is there that smell, molecular formula, and chemical name are related?