

# Naming and Drawing Carboxylic Acids

### Remember that

- The carboxylic acid group must always be on the end of a chain.
- The carbon atom of the carboxyl group must be given the number one.

#### • Identify the root:

Locate the longest chain that includes the carboxyl group. Name the parent alkane.

#### • Identify the suffix:

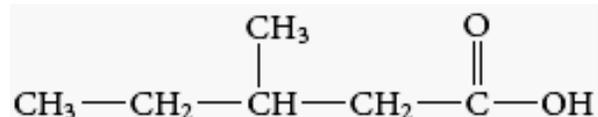
Drop the *-e* at the end of the name of the parent alkane and replace it with *-oic acid*.

#### • Identify the prefix:

Name and number any alkyl side groups on the main chain. The carbon atom of the carboxyl group is always number one.

### Sample Problem

Name the following carboxylic acid:



**Identify the root:** The longest chain that includes the carboxyl group has five carbon atoms including the carbon atom in the carboxyl group. The parent alkane is pentane.

**Identify the suffix:** Replace the *-e* at the end of pentane with *-oic acid*. The name includes pentanoic acid.

**Identify the prefix:** There is a methyl group on carbon atom number three, so the prefix is 3-methyl.

**Solution:** The name of the compound is 3-methylpentanoic acid.