

# Benthic Macroinvertebrate Worksheet

## 1. What are Benthic Macroinvertebrates?

- a. Benthic means \_\_\_\_\_
- b. These organisms are greater than \_\_\_\_\_ mm in length
- c. These organisms lack a \_\_\_\_\_
- d. They live on \_\_\_\_\_, logs, \_\_\_\_\_, debris and aquatic plants in streams for part of their life cycle.

## 2. Taxonomy

### Phylum Annelida

- a. Class Oligochaeta - \_\_\_\_\_
- b. Class Hirudinea - \_\_\_\_\_

### Phylum Mollusca

- a. Class Bivalvia - \_\_\_\_\_
- b. Class Gastropoda - \_\_\_\_\_

### Phylum Arthropoda

- a. Class Malacostraca - \_\_\_\_\_
  - Order Decapoda - \_\_\_\_\_
  - Order Amphipoda - \_\_\_\_\_
  - Order Isopoda - \_\_\_\_\_

Phylum Arthropoda

a. Class Insecta

- Order Plecoptera - \_\_\_\_\_
- Order Trichoptera - \_\_\_\_\_
- Order Ephemeroptera - \_\_\_\_\_
- Order Megaloptera - \_\_\_\_\_
- Order Coleoptera - \_\_\_\_\_
- Order Odonata - \_\_\_\_\_
- Order Diptera - \_\_\_\_\_
  - Family Simuliidae - \_\_\_\_\_
  - Family Tipulidae - \_\_\_\_\_
  - Family Chironomidae - \_\_\_\_\_
  - Family Athericidae - \_\_\_\_\_

3. Complete Metamorphosis

Involves 4 stages:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

4. Incomplete Metamorphosis

Involves 3 stages:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

5. Complete the 3 charts below:

Pollution Intolerant Benthic Macroinvertebrates	

Moderately Pollution Tolerant Benthic Macroinvertebrates	

Pollution Tolerant Benthic Macroinvertebrates	

## 6. Laboratory Analysis

### a. EPT Richness

- The number of \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ in a sample.
- These organisms are \_\_\_\_\_ to aquatic pollution.

### b. Biotic Index

- Organisms are assigned a \_\_\_\_\_.

### c. Percent Model Affinity

- Compares your community to a \_\_\_\_\_ community of \_\_\_\_\_ water quality.