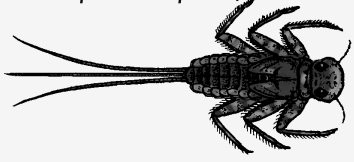

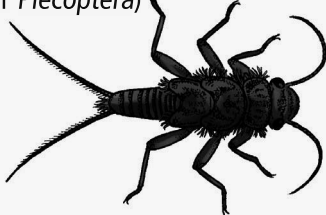




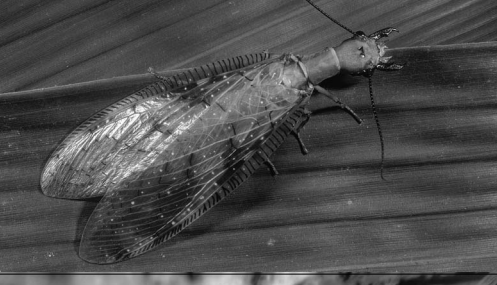
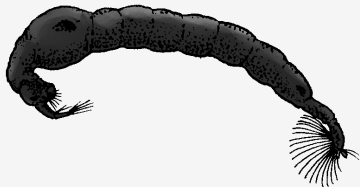



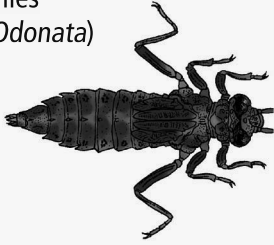

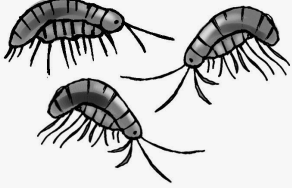



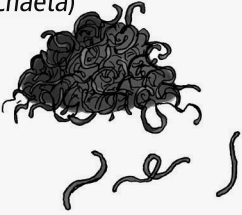







Macroinvertebrate	Looks like . . .	Represented by . . . (for example, beads, coins, paper clips)
<p>Mayflies (Order <i>Ephemeroptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Anderson</p>	
<p>Stoneflies (Order <i>Plecoptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © Hemera—Thinkstock Photos</p>	
<p>Caddisflies (Order <i>Trichoptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Anderson</p>	
<p>Dobsonflies (Order <i>Megaloptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Rowan</p>	
<p>Midges (Order <i>Diptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Anderson</p>	
<p>Craneflies (Order <i>Diptera</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © Robin McLeod</p>	



Macroinvertebrate	Looks like . . .	Represented by . . . (for example, beads, coins, paper clips)
<p>Dragonflies (Order <i>Odonata</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Anderson</p>	
<p>Scuds (Order <i>Amphipoda</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © James Anderson</p>	
<p>Pouch snails (Class <i>Gastropoda</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © David Needleman</p>	
<p>Tubifex worms (Class <i>Oligochaeta</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © Daniel Kwok</p>	
<p>Leeches (Class <i>Hirudinea</i>)</p> 	 <p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PHOTO CREDIT: © iStockphoto—Thinkstock Photos</p>	



Macroinvertebrate Data Sheet I

Stream #:

Recorded by:

Date of Sampling:

Percent Composition of Major Groups

After the macroinvertebrates are sorted, tabulate the number of organisms for each of the major groups listed below and calculate their percent composition. This measure yields the relative abundance of macroinvertebrates within your sample.

$$\text{Percent Composition} = \frac{\text{Number of Organisms in Each Group}}{\text{Total Number of Organisms}}$$

Macroinvertebrates	Number of Organisms in Each Group	Percent Composition
Mayflies (Order <i>Ephemeroptera</i>)		
Stoneflies (Order <i>Plecoptera</i>)		
Caddisflies (Order <i>Trichoptera</i>)		
Dobsonflies (Order <i>Megaloptera</i>)		
Midges (Order <i>Diptera</i>)		
Craneflies (Order <i>Diptera</i>)		
Dragonflies (Order <i>Odonata</i>)		
Scuds (Order <i>Amphipoda</i>)		
Pouch snails (Class <i>Gastropoda</i>)		
Tubifex worms (Class <i>Oligochaeta</i>)		
Leeches (Class <i>Hirudinea</i>)		
Total Number of Organisms		

(Adapted from Mitchell 1997)



Macroinvertebrate Data Sheet II

Pollution Tolerance Index

1. Place a check next to each macroinvertebrate group present in your sample. For example, whether you found one mayfly or 50 mayflies, place one check next to the mayfly line in Group 1.
2. Complete the chart for all of the macroinvertebrate groups.
3. Calculate the group scores using the multipliers provided.
4. Total all of the group scores for your Total Score.
5. Compare your Total Score with the Water Quality Assessment Chart scores and record the relative water quality rating for your stream sample.

Stream #: _____

Recorded by: _____

Date of Sampling: _____

Group 1 Macroinvertebrates: Very Intolerant	Group 2 Macroinvertebrates: Intolerant	Group 3 Macroinvertebrates: Tolerant	Group 4 Macroinvertebrates: Very Tolerant
_____ Stoneflies	_____ Dragonflies	_____ Midges	_____ Pouch Snails
_____ Mayflies	_____ Scuds	_____ Leeches	_____ Tubifex Worms
_____ Caddisflies	_____ Craneflies		
_____ Dobsonflies			
# of checks = _____ <div style="text-align: center;"><u>X 4</u></div> Group Score = _____	# of checks = _____ <div style="text-align: center;"><u>X 3</u></div> Group Score = _____	# of checks = _____ <div style="text-align: center;"><u>X 2</u></div> Group Score = _____	# of checks = _____ <div style="text-align: center;"><u>X 1</u></div> Group Score = _____
Total Score = _____ Your Water Quality Assessment:		Water Quality Assessment Chart: ≥ 23 Potentially Excellent Water Quality 17-22 Potentially Good Water Quality 11-16 Potentially Fair Water Quality ≤ 10 Potentially Poor Water Quality	

(Adapted from Mitchell 1997)