

Macroinvertebrate Identification Sheet Set

- 1.A. Has a shell →
- B. Does not have a shell Go to 2

- 2.A. Segmented legs Go to 3
- B. No segmented legs Go to 4

- 3 A. Worm-like, small posterior legs, often C-shaped, 1/2" long →
- B. Not as above Go to 5

- 4.A. Slender worm-like appearance ↗
- B. Can be up to 3" long. May have fleshy, finger-like extensions at one end ↘

- 5.A. Uses wings to fly Go to 6
- B. Does not use wings to fly Go to 7

- 6. **A.** Wings vertical at rest, long tail-like appendages . .
- B.** Wings horizontal at rest, large eyes



- 7. **A.** Six true legs Go to 9
- B.** More than six true legs Go to 8

- 8. **A.** Looks like small lobster, 2 large front claws
- B.** Looks like small shrimp, swims quickly on its side . . .




- 9. **A.** Body, oval and flat, head and legs concealed beneath body
- B.** Body longer than it is wide Go to 10



- 10. **A.** Two or three distinct long “tails” Go to 11
- B.** Not as above Go to 13

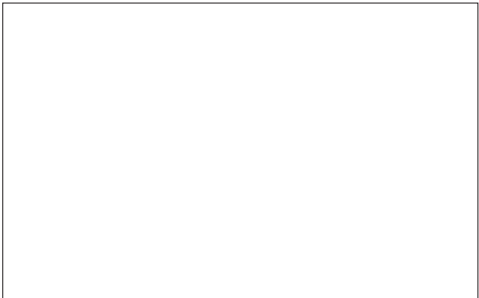
11. A. Two "tails," may have hair-like gills under thorax
B. More than two "tails" Go to 12



12. A. Up to 2" in length, "tails" (actually gills) more paddle-like
B. Up to 1" in length, long slender tails



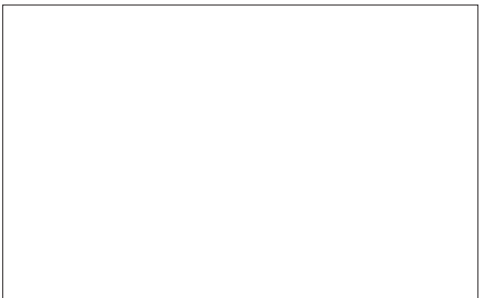
13. A. Beetle-like body Go to 14
B. Body not beetle-shaped Go to 15



14. A. Swims slowly on bottom
B. Swims on backside with oar-like strokes . . .



15. A. Fat abdomen, large eyes, up to 2" in length
B. Not as above Go to 16



16. **A.** May be hiding in a case made of sand, gravel, or plant material
B. Not as above. Go to 17



17. **A.** Well defined lateral filaments from multiple abdominal segments
B. Not as above. Go to 18



18. **A.** ¼ to 1" long, distinct head, small legs
B. Not as above. Go to 19



19. **A.** Moves quickly along the surface of the water
B. Often seen beneath the surface of the water
and uses strong pincher-like forelegs for grasping prey



Post-Lab Questions

1. What descriptions in the dichotomous key were most helpful in leading to identification?
2. If you were to create your own dichotomous key using the macroinvertebrates in this activity, what additional features or descriptions would you use?
3. Why are macroinvertebrates used to determine water quality?
4. A specimen sample was taken from a local stream. The sample contained mayflies, stoneflies and waterpenny larvae. What might the presence of these organisms indicate about the water quality of the stream?