



MACROINVERTEBRATE INVESTIGATION

Materials needed:

1. Ice Cube Tray
2. Water Shoes
3. Tarp
4. Data Sheet with Macroinvertebrate ID
5. Magnifying Glasses (Optional)
6. Garden Gloves (Optional)

Steps:

1. Watch the Alice Ferguson Foundation video about how to perform a **Macroinvertebrate** Investigation here: <https://youtu.be/EFdWF80rR2o>
2. Find your local creek or stream using Google Maps
3. Gather materials and head to your local stream
4. Find a spot where the water is slow and there are many “**leaf packs**”
5. Fill the Ice Cube tray with stream water
6. Spread the tarp on flat ground
7. Walk into the stream and look for leaf packs and larger rocks
8. Use your hands to collect some leaf packs and rocks and place them onto the tarp
9. Look carefully through the leaf packs and rocks to see if there is anything moving
10. Place macroinvertebrates into the ice cube tray to prepare and identify them
11. Once all of the macroinvertebrates have been pulled from the leaf packs and rocks gently place the rocks and leaf packs back where you found them
12. Using the macroinvertebrate key identify what you found
 - a. Start at where it says “Begin Here”
 - b. Answer each question to the best of your ability
 - c. If there are any questions feel free to reach out to AFF on Facebook and we will help you identify your Macroinvertebrates.
 - d. Creatures like fish and eels are not on this key because they are not Macroinvertebrates
13. Place the macroinvertebrates gently back into the water
14. Fill out the data sheet with what you found
15. Determine if your creek or stream is **Polluted**, Somewhat Polluted, or Clean
16. Can't get to a creek or stream? Do a virtual dip here: <https://fergusonfoundation.org/hbf-kids-zone/lets-take-a-dip/>



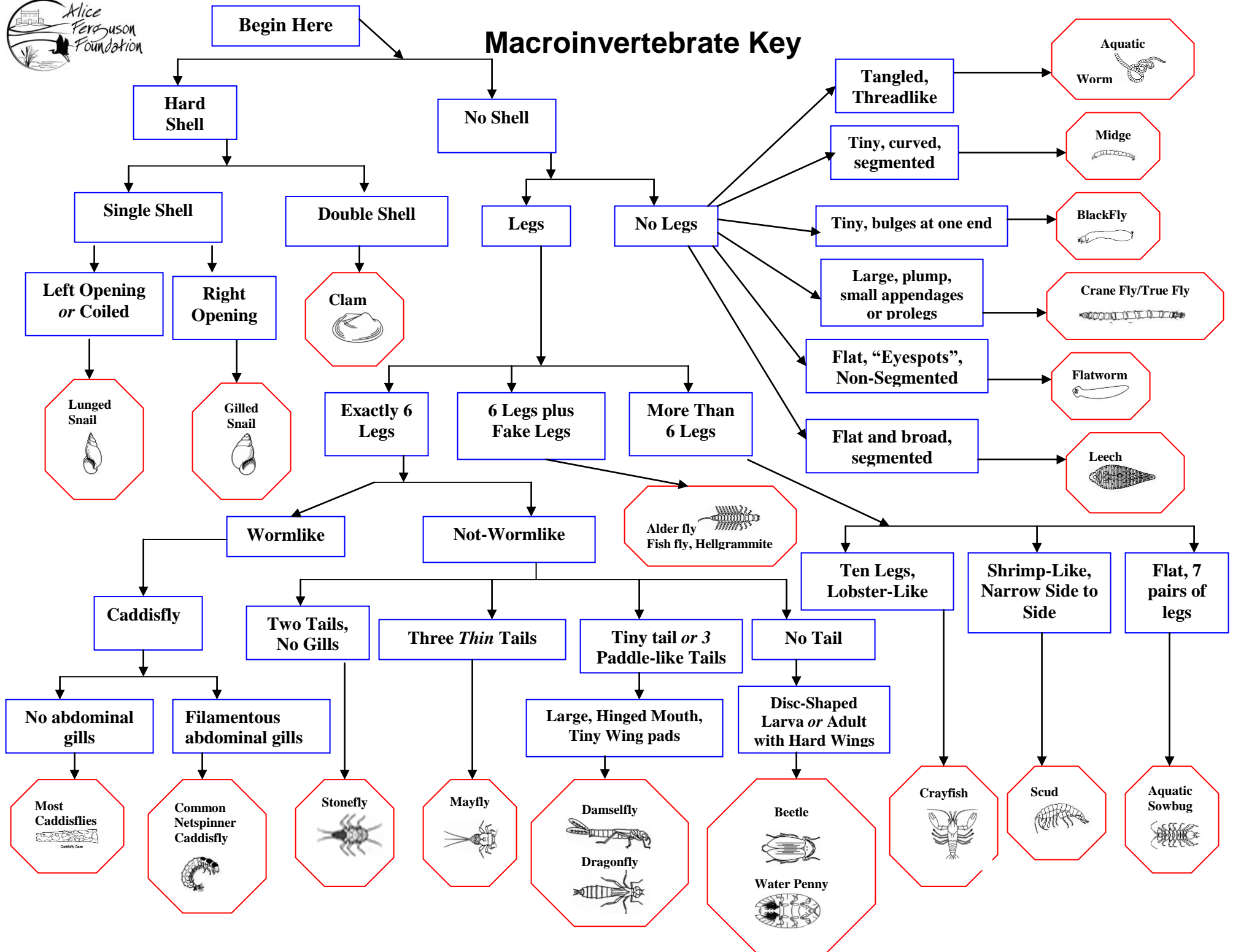
MACROINVERTEBRATE INVESTIGATION VOCABULARY

Term	Definition
Adaptation	Characteristics that make an animal fit in a particular situation or habitat
Aquatic	Having to do with water
Bank	The sloping area that edges a stream. A bare bank will allow erosion of soil and sediment into the stream. A bank well covered in vegetation will prevent this runoff, and protect the stream
Biological Indicator	A living thing whose presence or absence tells something about the quality of the environment
Biomonitoring	Assessing the water quality of a pond or stream by sampling the invertebrate animals living there
Canopy	Tree cover over a stream that shades and cools the water. The canopy also allows leaves to fall into the stream, which are the start of the aquatic food chain and provides leaf pack
Crustacean	One of the groups of invertebrates whose members are characterized by having more than eight legs and a hard shell. Examples of aquatic crustaceans are crayfish and scuds
Dissolved Oxygen	Molecules of oxygen gas that are dissolved in water and are available to animals that breathe with gills
Gill	An organ in insects, fish or amphibians that allows dissolved oxygen from the water to be used by the animal
Habitat	An area that meets the needs of an animal: food, water, shelter, and space
Larva	The immature form of an animal that hatches from an egg. For instance, a caterpillar is the larva of a butterfly, and a tadpole is the larva of a frog
Leaf Pack	A grouping of fallen leaves caught in a stream or creek
Macroinvertebrate	An animal without a backbone that is large enough to be seen without a microscope
Pollution	The presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects.

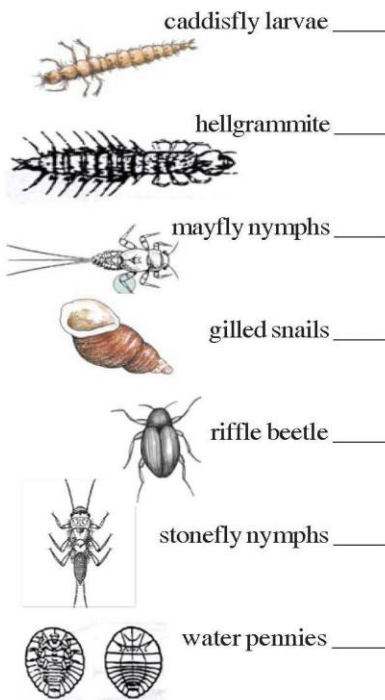


Begin Here

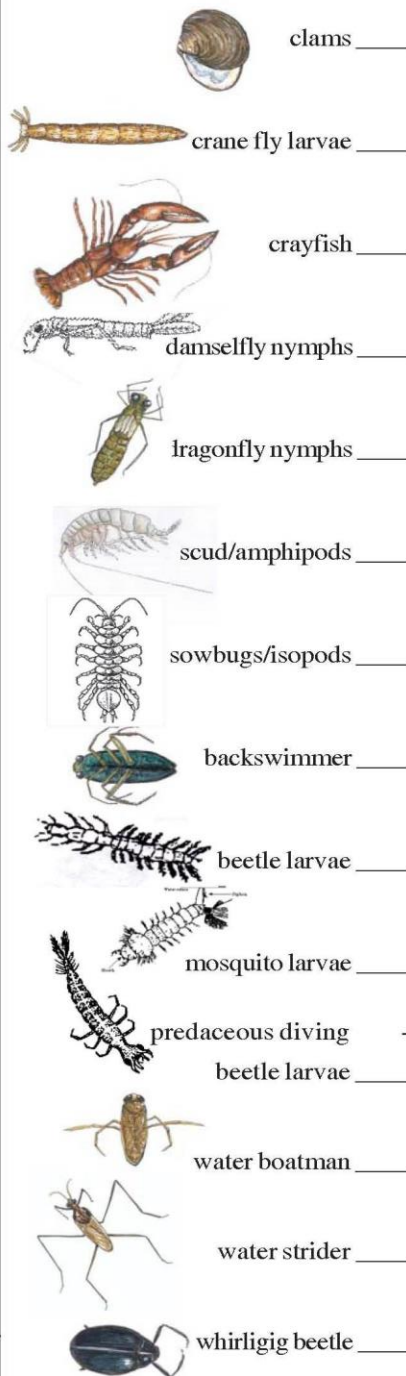
Macroinvertebrate Key



CLEAN STREAM
Pollution Sensitive
Organisms



PARTLY POLLUTED STREAM
Somewhat Pollution Sensitive
Organisms



POLLUTED STREAM
Pollution Tolerant
Organisms

