STUDENT NAME: **CLASS:** **DATE:**

Circle your Ecosystem: River / Lake

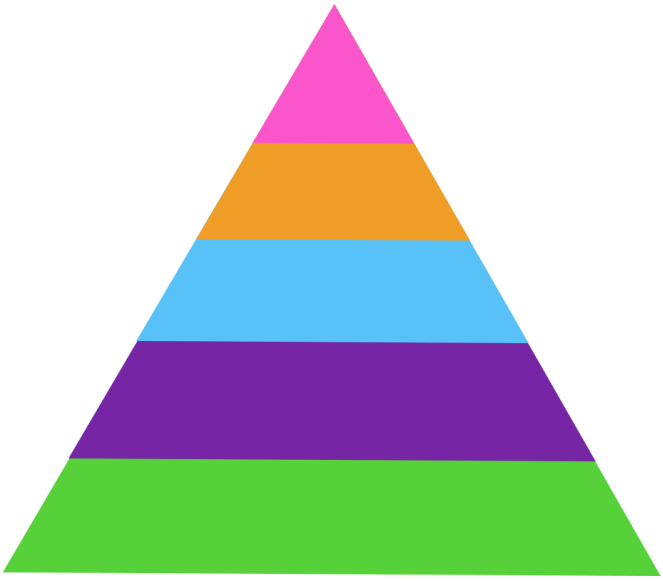
Ali Shakoor needs your help! Fisheries biologists have discovered that walleyes migrate between rivers and lakes for spawning, foraging, and overwintering habitat each year. To understand what walleyes need in their biotic communities to survive, Ali has assembled a team of fisheries biologists to decode the food webs of these two aquatic ecosystems. And you are part of the team!

In fisheries biology, you are a specialist in the **trophic pyramid.** A trophic pyramid is a representation of the hierarchy of predator-prey relationships within a biotic community. It is your task to decode the feeding relationships between the organisms in your community so that your group can help Ali chart the food web!

Consider researching the following trophic levels:

- What is a primary producer?
- What is a primary consumer?
- What is a secondary consumer?
- What is a tertiary consumer?
- What is an apex predator?

Now that you are savvy with trophic levels, appropriately label the levels in the trophic pyramid diagram on this worksheet. Then assist the Predator Expert by categorizing each of the organisms they find into the appropriate trophic level on the pyramid. Take note that every trophic level has its unique color!



Record your findings on a separate sheet of paper or computer document. Then, share your findings with your team members. As a group, design a food web and trophic pyramid on two large sheets of paper.

The **food web** must have:

- **Background:** The entire poster should have a drawing or painting of the ecosystem.
- **Organisms:** Place drawings or printed pictures of all the organisms where they live in the ecosystem.
- **Labels:** List the names of the organisms beneath the drawing of the organisms. The labels must be color-coded to the organisms' trophic levels.
- **Arrows:** Organisms are connected with arrows to show the flow of biomass. The arrows must be color-coded to the trophic level transferring the energy.

The **trophic pyramid** must have:

- **Pyramid:** Draw a large outline of the trophic pyramid and its levels.
- **Color:** Color in each trophic level to their designated color.
- **Organisms:** Place drawings or printed pictures of all the organisms into their correct trophic levels.
- **Labels:** Write labels for the trophic levels and the organisms.

Let your creativity go wild when building your posters. You may paint, sketch, cut construction paper, or glue in natural resources like sticks, pebbles, sand, moss, or grasses. You will present your food web and trophic pyramid to your class with supporting research. Use your diagrams to highlight what prey sources you conclude are important to the walleye in your ecosystem.