

# PARAMECIUM

- 1** **Paramecium** are unicellular protozoans classified in the **Kingdom Protista**. Recall that protozoans are animal-like protists, named that way because they move and eat just like animals only they are made of a single cell. Paramecia live in quiet or stagnant ponds and feed on algae scum and other microorganisms. All paramecium move by tiny hair-like projections called **cilia**. *Color the cilia black and the corresponding box for cilia black also.* Each box should match the color of the structure.
- 2** The paramecium cannot change its shape like the amoeba because it has a thick outer membrane called the **pellicle**. The pellicle surrounds the cell membrane. *Color the pellicle blue.* The **cell membrane** is a thin layer just inside the pellicle. *Color the cell membrane light blue.*
- 3** There are two types of **nuclei** (plural of nucleus). The large nucleus is called the **macronucleus** which controls cell activities such as respiration, protein synthesis, and digestion. *Color the macronucleus purple.* The much smaller **micronucleus** is used only during reproduction. *Color the micronucleus pink.* Reproduction in paramecium involves the exchanging of DNA between two paramecium within the micronucleus; this process is called conjugation.
- 4** **Contractile vacuoles** are used in protozoans to remove the excess water. It is easy to identify the contractile vacuole due to its star shape. *Color the contractile vacuole orange.*
- 5** Paramecium are heterotrophs and must consume food. The area of the paramecium that appears pinched inward is called the oral groove. Cilia sweep food into this area. Food enters the paramecium through the **oral groove** (mouth pore) and goes to the **gullet** (*color the oral groove and gullet light brown*). At the end of the gullet, **food vacuoles** are formed. *Color all food vacuoles brown.*
- 6** Paramecium can respond to temperature, food, oxygen, and toxins and have a very simple defense mechanism. Just inside the pellicle are threadlike organelles called **trichocysts**. The paramecium can shoot tiny threads out of the cell to entangle a predator or to make themselves appear bigger. *Color the trichocysts grey.* Paramecium are also known to exhibit **avoidance behavior**. This is where the paramecium will move away from a negative or unpleasant stimulus.
- 7** There are 2 kinds of cytoplasm in the paramecium. The cytoplasm around the edges is clear and is called **ectoplasm**. *Leave the ectoplasm clear, uncolored.* The rest of the cytoplasm is more dense is called **endoplasm**. *Color the endoplasm yellow.*

