**PHYLUM \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: FLATWORM CHART**

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|  | Free Living  Ex. Planarians, Turbellarians. | Parasitic  Ex: tapeworm, fluke |
| Feeding | Can be carnivorous, scavengers.  Have a **mouth, pharynx and a digestive cavity** that is branched through out the body  The **pharynx** pumps food into the **digestive cavity**, where food is digested. Digested food (nutrients) **diffuse** from the digestive tract into all other body tissues. | Feed on blood, tissue fluids, or pieces of cells from the host. Obtain food that has already been digested therefore a complex digestive cavity is not req’d.  -absorb digested nutrients |
| Circulation | B/c their bodys are so flat and thin, a circulatory system to transport nutrients is not needed.  -rely on **diffusion** to transport oxygen and nutrients to their internal tissues and to remove carbon dioxide and other wastes from their bodies.  -no heart, blood vessels or blood |  |
| Respiration | No gills or respiratory organs |  |
| Excretion | May have **flame cells** that are specialized to remove excess water from the body. **Flame cells** may also filter and remove metabolic wasters such as urea and ammonia.  **Flames cells** are joined together to form a network of tubes that empties into the outside environment through tiny pores in the animal’s skin. |  |
| Response | A head encloses several **ganglia** (groups of nerve cells), that control the nervous system. Two long nerve cords run from the ganglia along both sides of the body  -may have an **eyespot** – which is a group of cells that can detect changes in the amount of light in their environment | Interact very little with their external environment therefore typically have a less complex nervous system. |
| Movement | May have **cilia** on their epidermal cells that help them move through the water.  Have **muscle cells** controlled by the nervous system that allow them to twist and turn to that they can respond rapidly to environmental stimuli. |  |
| Reproduction | **Hermaphrodites**  **Sexual reproduction** – two worms join in a pair and deliver sperm to each other.  The eggs are laid in clusters and hatch w/I a few weeks.  **Asexual Reproduction –** takes place by fission – an organism splits into two and each half grows into a new worm. | Complex life cycles that involve both sexual and asexual reproduction.  Refer to figure 27.5 p687 |