



# **SNS COLLEGE OF TECHNOLOGY**

Vazhiamyampalayam, Coimbatore-35

**(An Autonomous institution)**

Accredited by **NBA-AICTE** and Re-Accredited by **NAAC-UGC** with **A+ +Grade**

Approved by **AICTE**, New Delhi & Affiliated to **Anna University**, Chennai



## **DEPARTMENT OF PHYSICS**

**COURSE NAME : 23CHT103 ENVIORNMENTAL SCIENCE  
AND SUSTAINABLITY**

**I YEAR / I SEMESTER**

**UNIT : 1. ECO SYSTEM**



# BRAINSTORMING WITH RECAP





# INTRO TO AQUATIC ECOSYSTEM



## Fresh water life zone

- Pond
- Lake
- Stream
- River



## Salt water life zone

- Ocean
- Estuaries





# CHARACTERISTICS OF POND ECOSYSTEM



- temporary
- Only seasonal
- stagnant
- Easily polluted





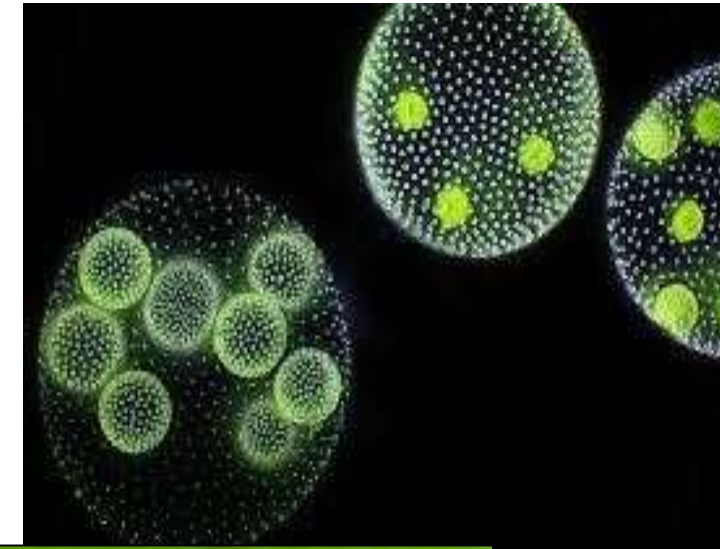
# STRUCTURE & FUNCTION



## 1. Abiotic components:

Physical components found in soil, water & atmosphere

**Example:** Climatic factors & minerals



## 2. Biotic components:

1. Producers: Photosynthesis process

**Example:**

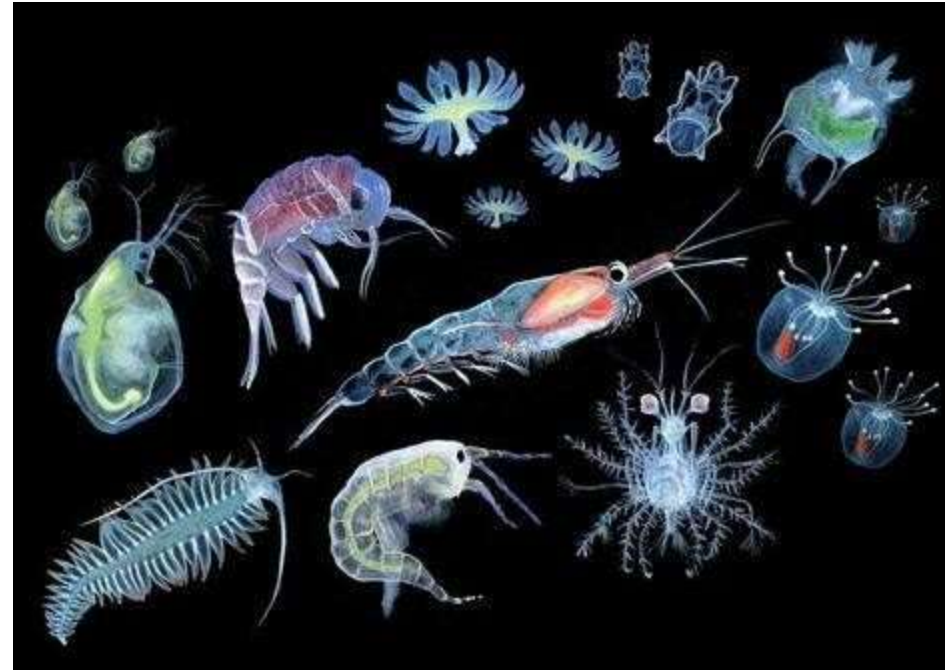
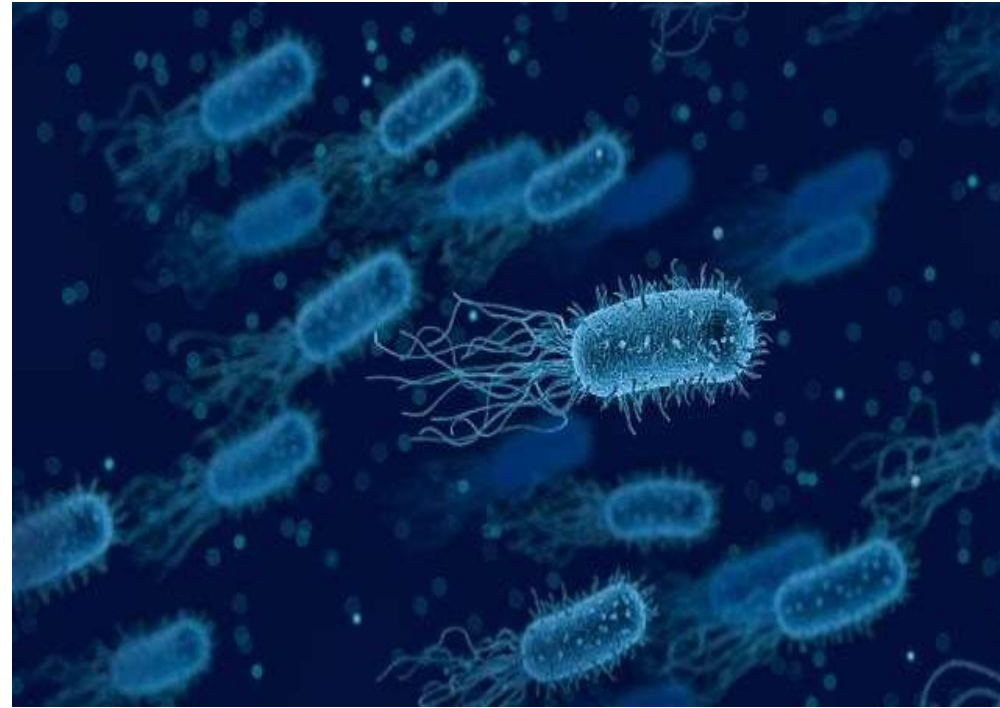
a. **Phytoplankton:** Algae, Volvox

b. **Microphytes:** walfia, hydrilla



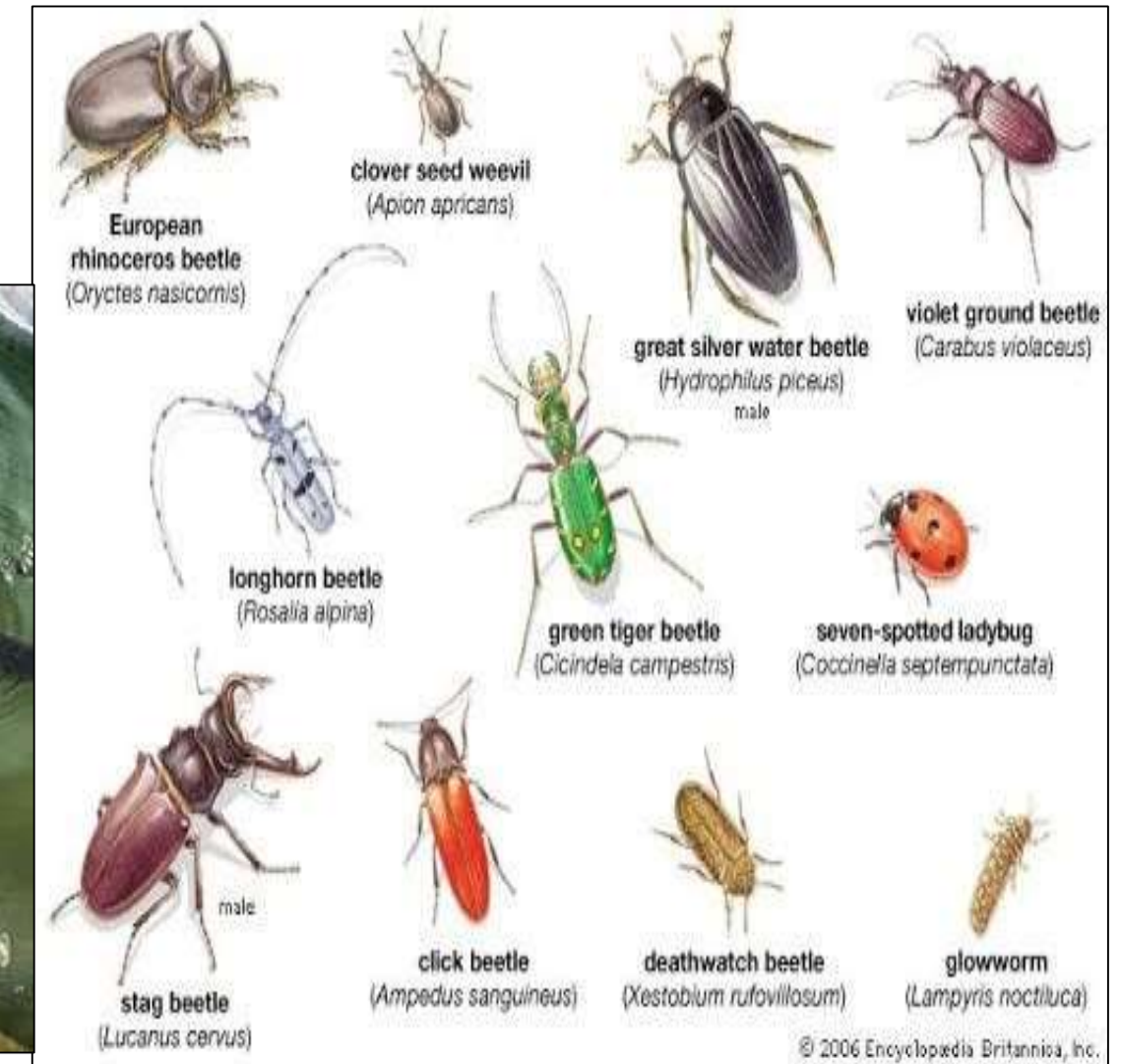


# STRUCTURE & FUNCTION



**2. Consumers**  
**a. Primary consumers(zooplankton):**  
**Example:** protozoa, very small fishes

**b. secondary consumers (primary carnivore):** depends zooplankton  
**Example:** water beetle, small fishes





# STRUCTURE & FUNCTION



**c. Tertiary consumers (primary carnivore):** depends primary carnivore  
**Example:** large fish

**4. Decomposers:** decompose dead plant & animals  
**Example:** Bacteria & fungi



## The 6 Kingdoms

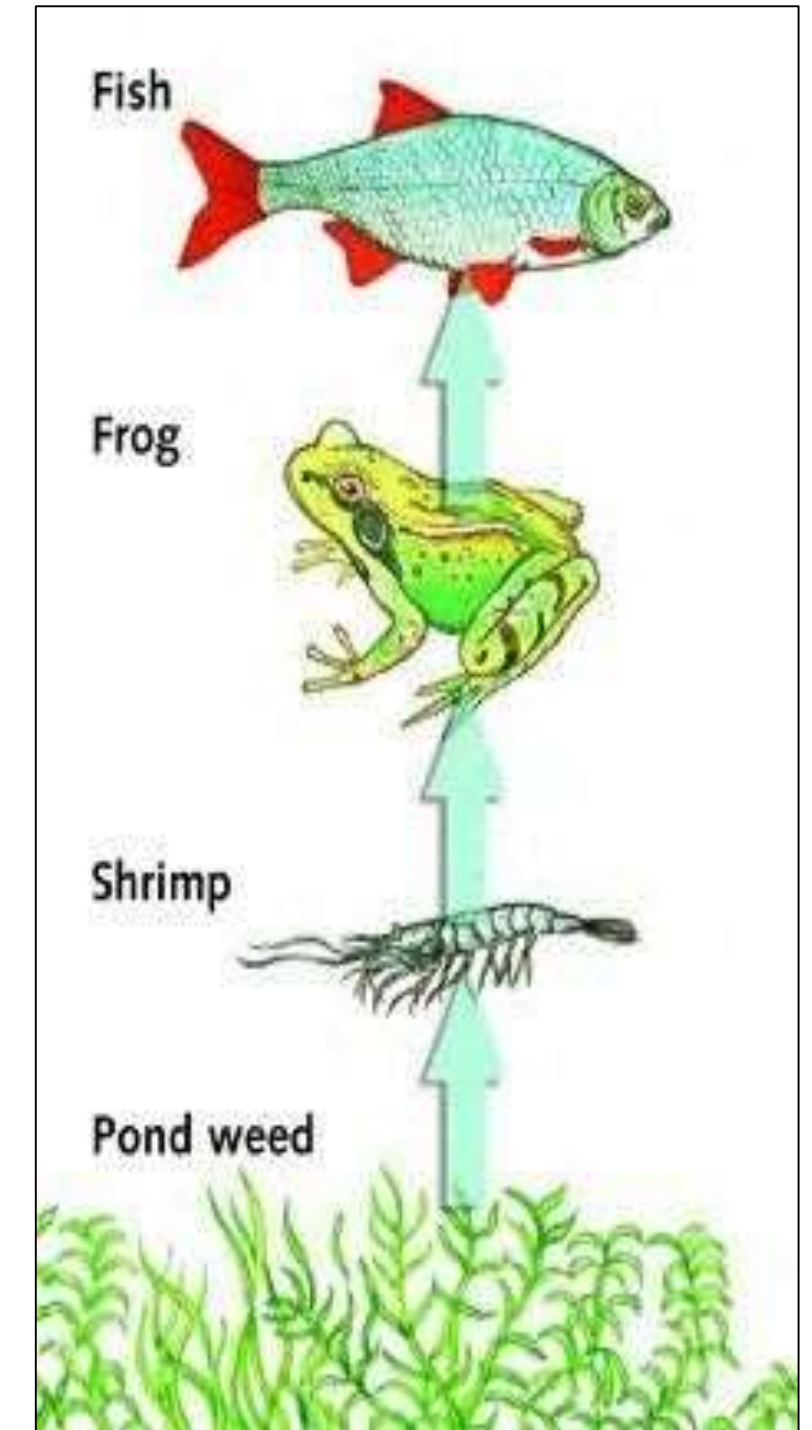
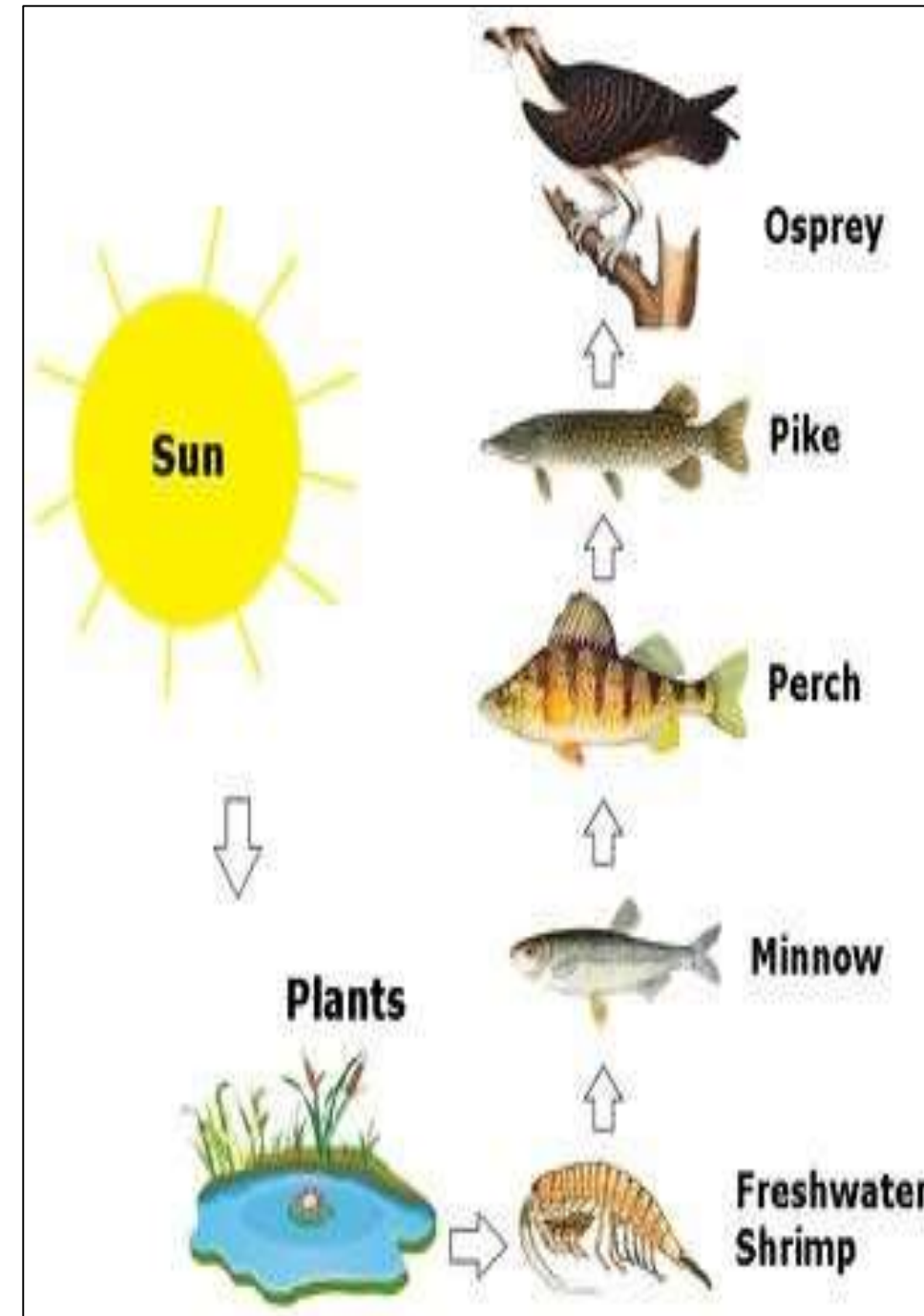
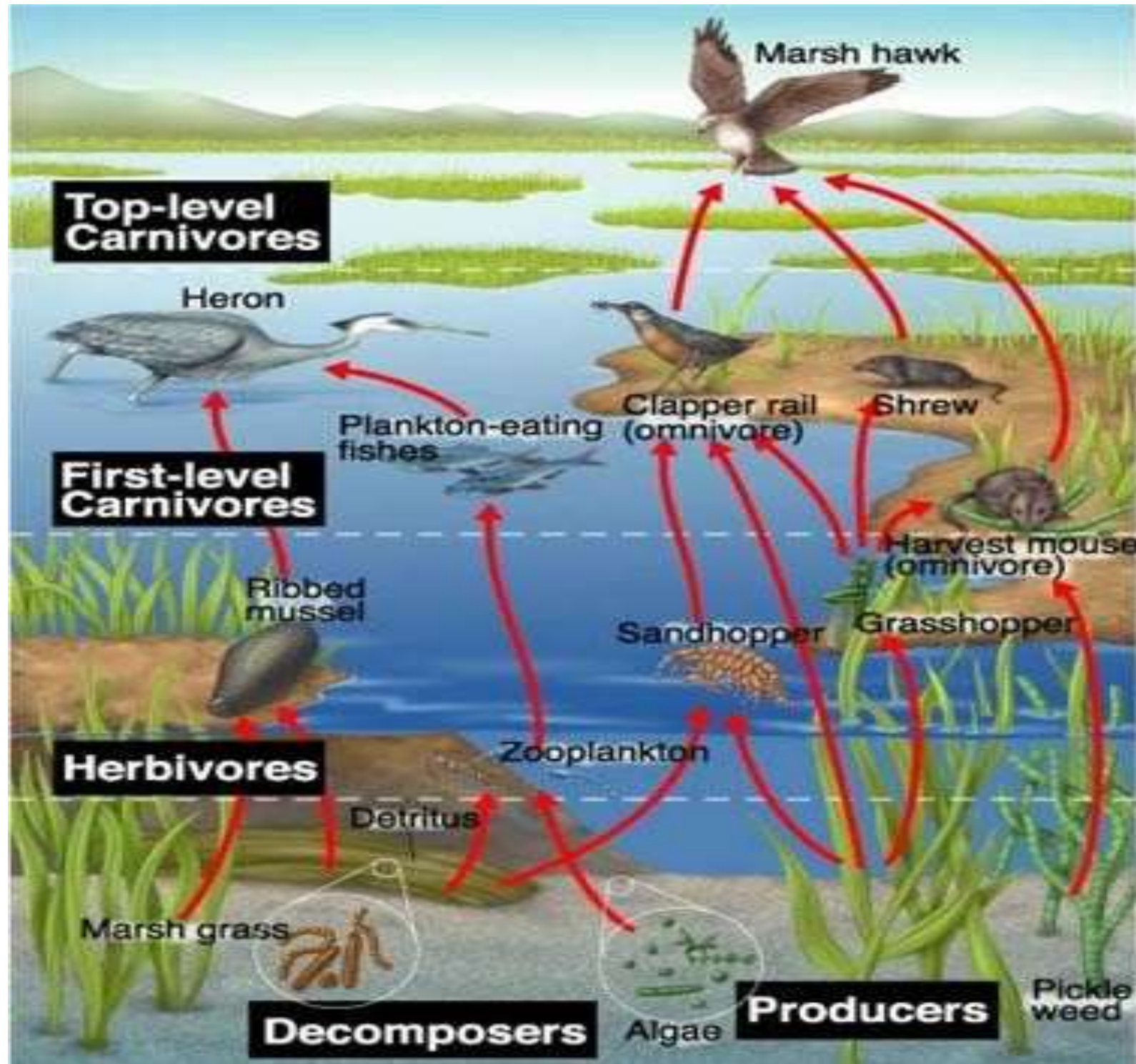
Archaeobacteria Prokaryote	Eubacteria Prokaryote	Protista Eukaryote
Fungi Eukaryote	Plantae Eukaryote	Animalia Eukaryote

#AmoebaGIFs

#AmoebaSisters



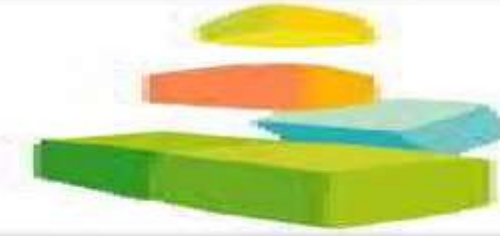
# POND FOOD CHAIN & WEB







# Activity



Insert  
the missing number.

$$\begin{array}{|c|c|c|} \hline & & \\ \hline & & \\ \hline & & \\ \hline \end{array} = 9$$

$$\begin{array}{|c|} \hline \\ \hline \\ \hline \\ \hline \end{array} = 1$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline & \\ \hline \end{array} = \textcircled{?}$$

4. The numbers indicate  
the number of crossed lines  
in each shape.

$$\begin{array}{|c|c|c|} \hline \bullet & \bullet & \bullet \\ \hline \bullet & \bullet & \bullet \\ \hline \bullet & \bullet & \bullet \\ \hline \end{array} = 9$$

$$\begin{array}{|c|} \hline \bullet \\ \hline \\ \hline \\ \hline \end{array} = 1$$

$$\begin{array}{|c|c|} \hline \bullet & \bullet \\ \hline \bullet & \bullet \\ \hline \end{array} = \textcircled{4}$$



# CHARACTERISTICS OF OCEAN ECOSYSTEM



- Covers  $>2/3$  of earth
- Salt & minerals
- Sea products/drug
- Rich in biodiversity
- transport





# STRUCTURE & FUNCTION



**1. Abiotic components:**  
Physical components light, water & salt  
**Example:** Climatic factors & minerals

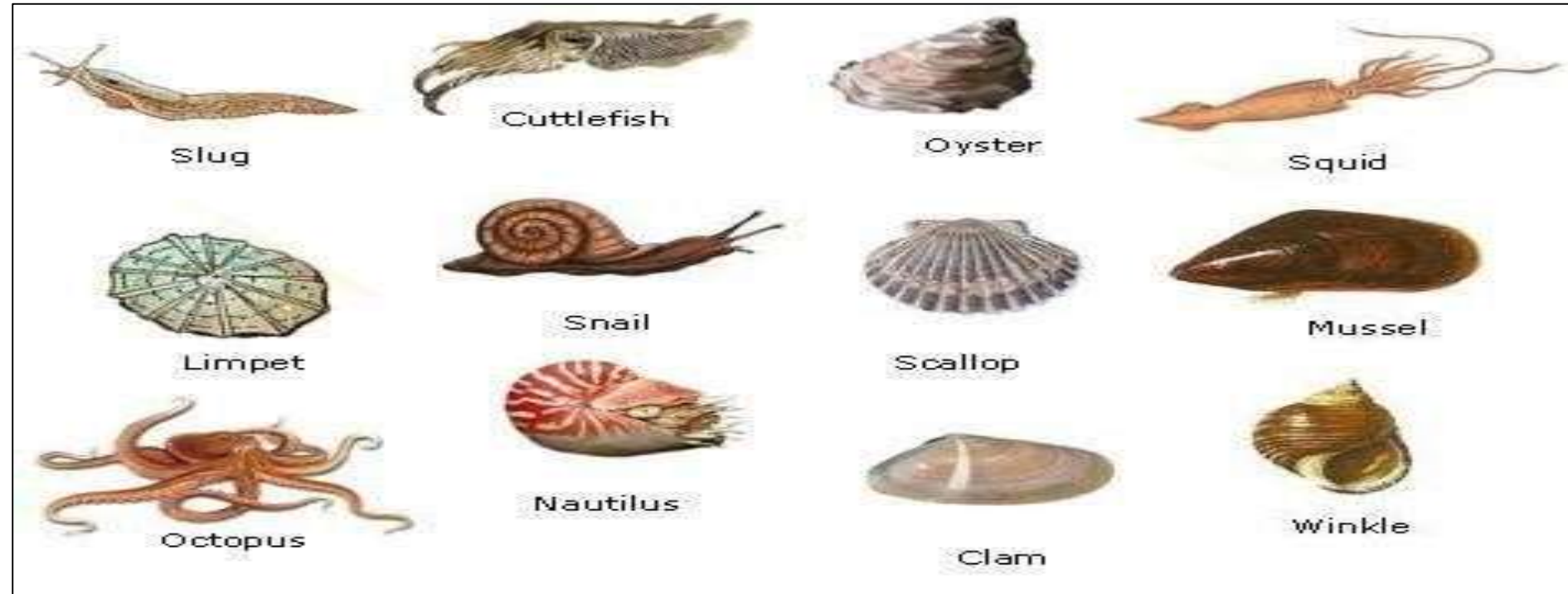


**2. Biotic components:**  
**1. Producers:** Photosynthesis process  
**Example:** Phytoplankton





# STRUCTURE & FUNCTION



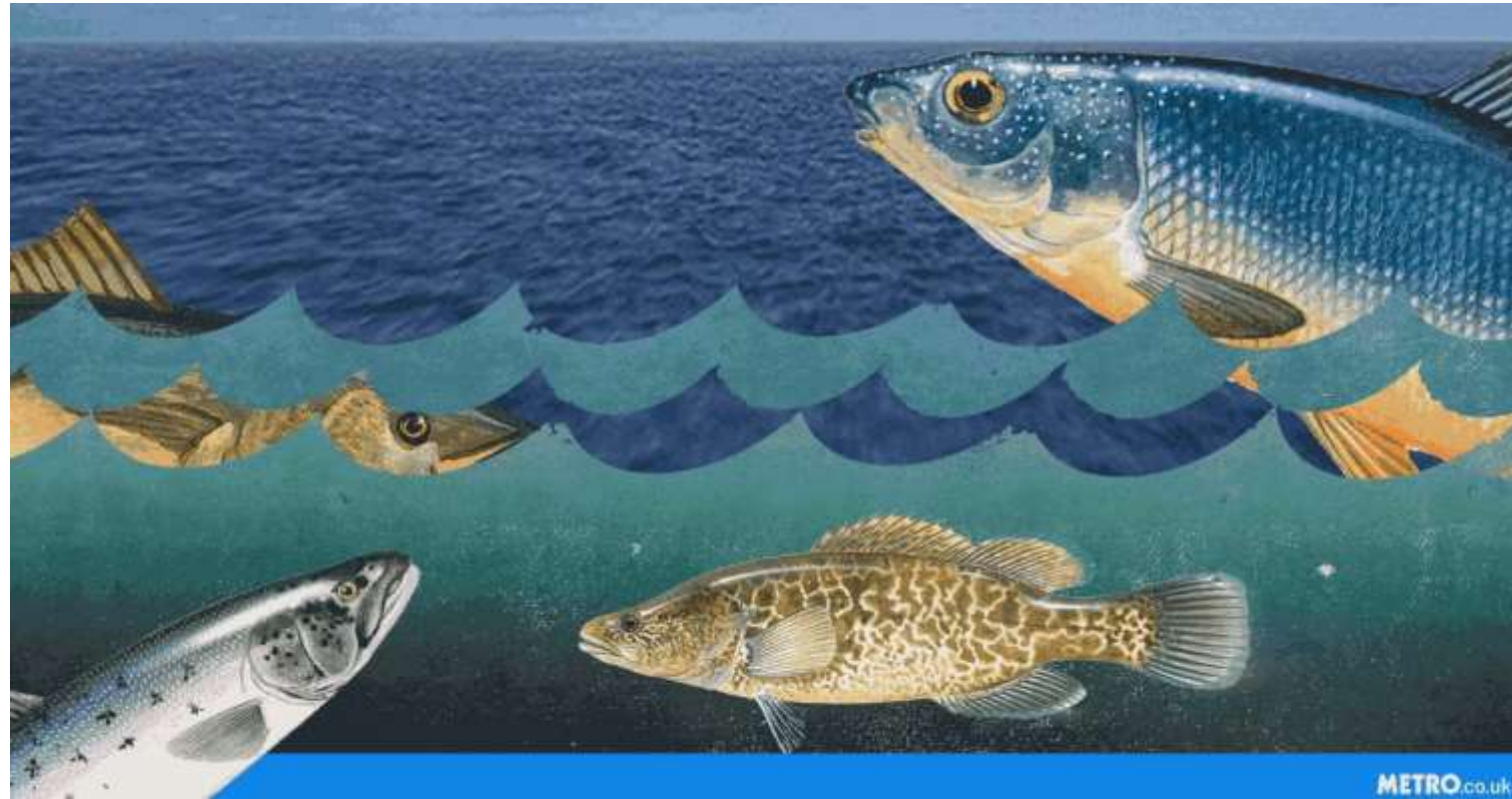
**2. Consumers**  
**a. Primary consumers(herbivore):**  
**Example:** molluscs, small fishes

**b. secondary consumers (primary carnivore):** depends herbivore  
**Example:** mackerel, fishes





# STRUCTURE & FUNCTION



**c. Tertiary consumers (primary carnivore):** depends primary carnivore  
**Example:** large fish, cod haddock

**4. Decomposers:** decompose dead plant & animals  
**Example:** Bacteria & fungi



## The 6 Kingdoms

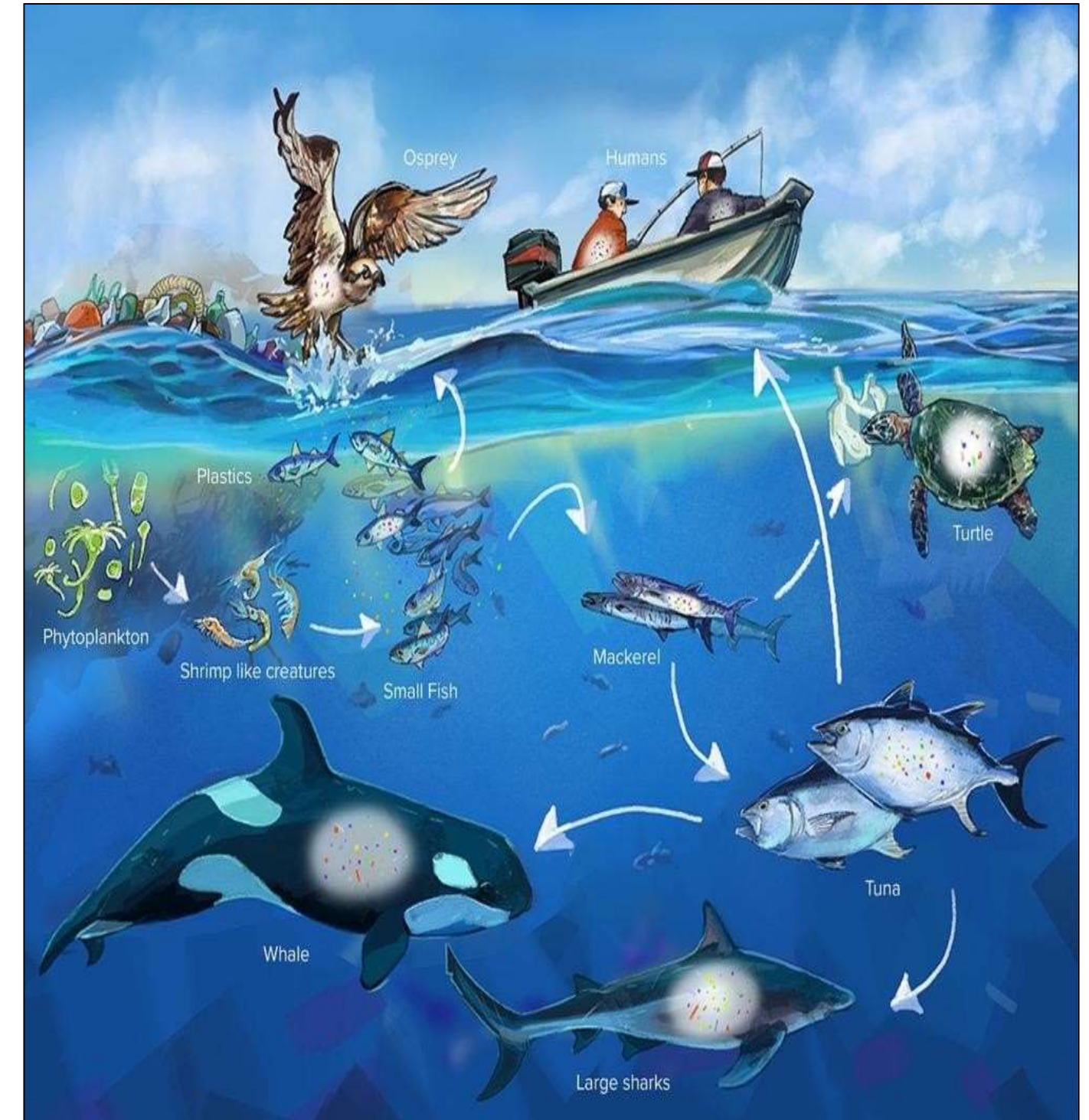
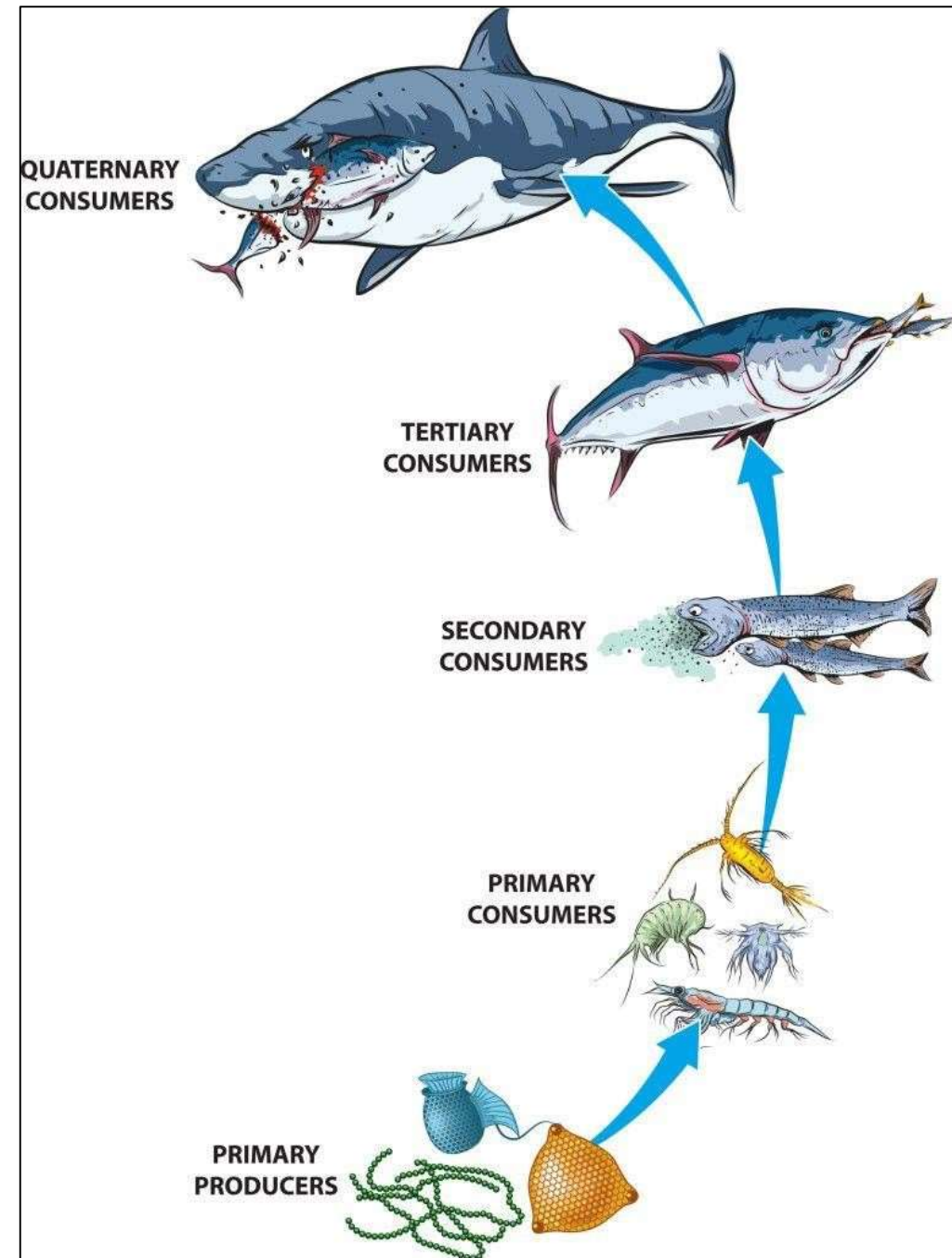
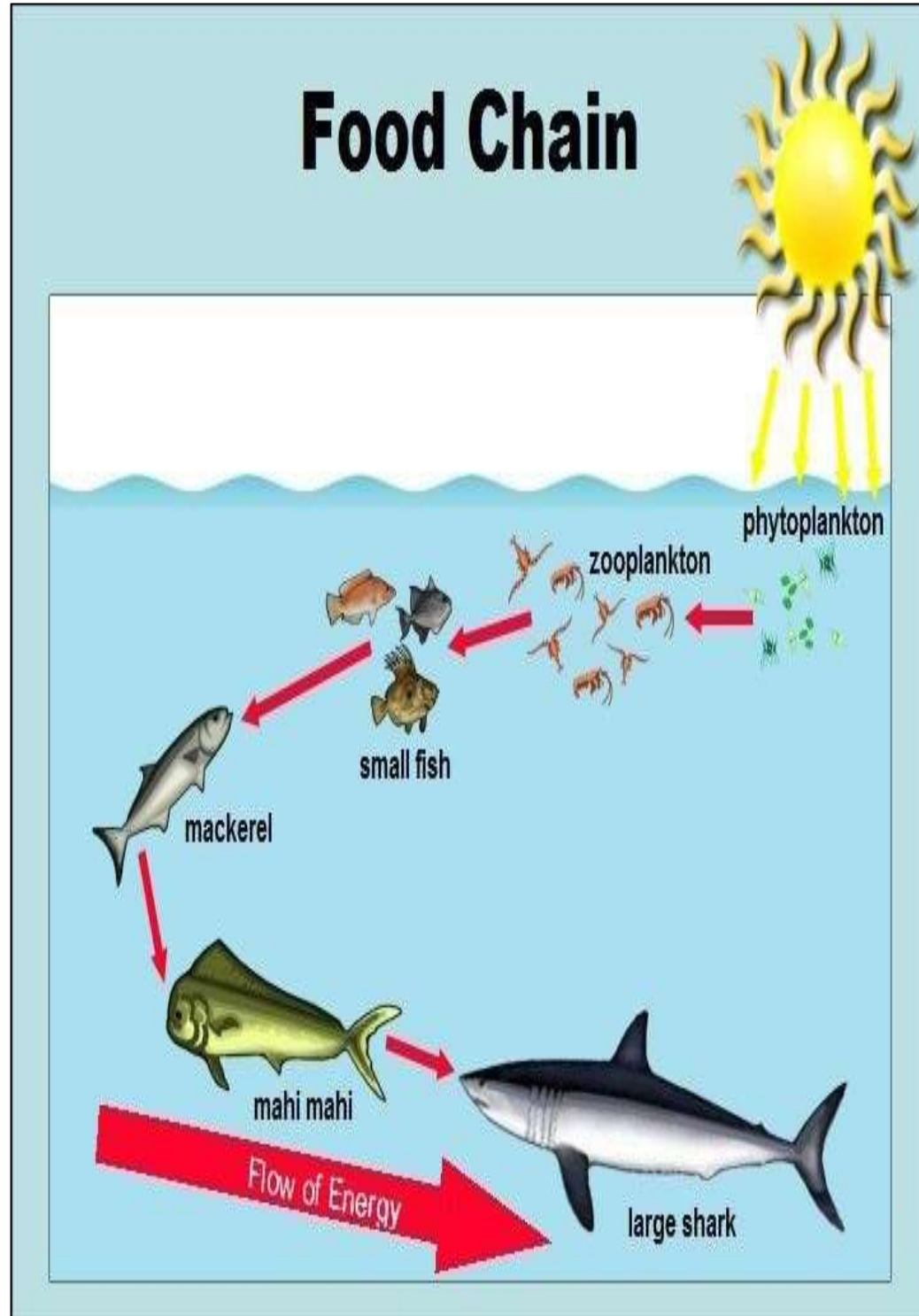
<b>Archaeobacteria</b> Prokaryote	<b>Eubacteria</b> Prokaryote	<b>Protista</b> Eukaryote
<b>Fungi</b> Eukaryote	<b>Plantae</b> Eukaryote	<b>Animalia</b> Eukaryote

#AmoebaGifs

#AmoebaSisters



# OCEAN FOOD CHAIN & WEB





# ASSESSMENT



**1. Draw the flow chart for aquatic ecosystem**



# SUMMARY





# REFERENCES



1. Dr. A.Ravikrishnan, Environmental science & Engineering” Srikrishna hitech Pub. Co. Ltd,2013.
2. G.Tayer Miller :Environmental Science”, Cenage Learning India Pvt Ltd, 2011.
3. Benny joseph, “Environmental science & engineering” Tata McGraw-Hill.Pub.Co.Ltd. New Delhi.2009.