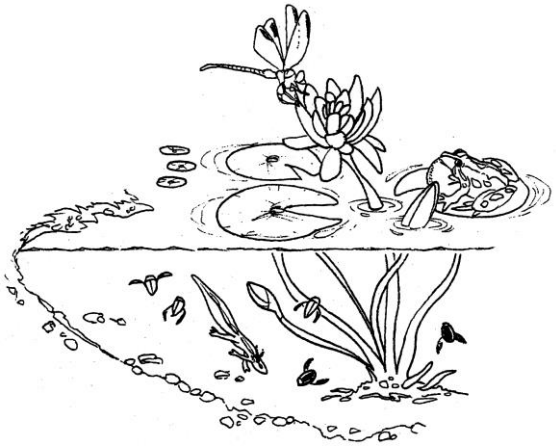
Module 1 ~ Silent Invaders (MS/HS)

Free-floating & Floating-leaved Plants

Name: _____ Class Period: _____ Date: _____

Directions: Read the passage and use the information you've learned to answer the questions below in <u>complete sentences</u>.



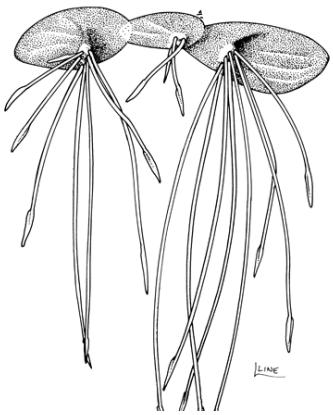
A floating-leaved plant. Notice the roots are attached to the bottom sediments.

Free-floating and floating-leaved plants are two types of plants that have leaves which float on the water's surface. **Floating-leaved** plants have roots planted in the sediment of the lake, pond, river, or other water body in which they grow. **Free-floating plants** do not have roots anchored in sediment - their roots obtain the nutrients they need to grow directly from the water.

Both free-floating and floating-leaved plants provide food and **habitat** (places to live, hide, and eat) for wildlife and fish. Fish and small aquatic insects feed on plant stems and leaves. Both types of floating plants can help reduce **shoreline erosion**. Floating-leaved plants hold the bottom sediment with their roots. Free-floating plants help disperse the energy in the motion of water to reduce the loss of shoreline and lake bottom sediments.

Floating-leaved plants grow in shallow or shoreline waters. Florida has many **native** floating-leaved plants. The fragrant waterlily, spatterdock, and the American lotus are examples of native floating-leaved plants. As you can see in the illustration (above), the waterlily has roots attached to the bottom with its leaves (lily pads) floating on the surface.

Florida has fewer types of **free-floating plants**. Duckweeds are one commonly found type of free-floating plant. They grow in huge numbers in slow-moving or still waters such as swamps, sloughs, lakes, and ponds. From a distance, a water body covered in duckweed may look a bit like one choked with **algae** blooms (masses of microscopic plants growing together). However, when you look closer you can see the tiny individual plants floating close together on top of the water, forming a large floating mat. Duckweed is the common name for several species of plants such as *Lemna valdiviana* (small duckweed), *Spirodela polyrhiza* (giant duckweed), and *Wolffia columbiana* (water meal). Water meal is less than 1/16 of an inch (or 1.5mm) and is the world's smallest flowering plant.



Giant Duckweed, a free-floating plant. It has no roots attached to the bottom. Individual leaves are only 3-4mm wide, (or about ¼ inch).

Other free-floating plants include the native bladderwort, frog-bit, and the non-native water hyacinth. Bladderworts are **carnivorous** plants. Tiny bladders attached to the leaves trap and digest very tiny animals. Bladderwort is the common name used to refer to about 200 different species that range in size from a few inches to several feet long.

Free-floating plants such as the **invasive** water hyacinth and water lettuce can choke slow-moving or still waters by growing into large floating mats. Thick, heavy mats are formed by these fast-growing invasive species. Water hyacinth also has the ability to reproduce itself by making "daughter" plants that grow from its **rhizomes**, or roots. Mats and tussocks formed from free-floating plants can disrupt the flow of water between different parts of a wetland. They can get in the way of activities such as boating and fishing and can block flood control structures.

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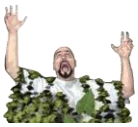

Free-Floating Plants and Floating-Leaved Plants Reading Activity (MS/HS) – answer in <u>complete sentences</u>.

1. How do free-floating plants and floating-leaved plants differ in regards to the way they receive their nutrients?

2. The State of Florida has more of which type of plant – free-floating or floating-leaved?

3. Cite two examples of native floating-leaved plants.

4. How do both free-floating and floating-leaved plants function in an aquatic environment?

5. What results when decaying material produced by both free-floating and floating-leaved plants accumulates?

<u>Sources:</u>

UF/IFAS Center for Aquatic and Invasive Plants: http://plants.ifas.ufl.edu/

Plant Management in Florida Waters: An Integrated Approach: http://plants.ifas.ufl.edu/manage/

Common Aquatic Plants of Lake Okeechobee: Identification, Value, and Management: http://edis.ifas.ufl.edu/ag371

Creating Wildlife Habitat with Native Florida Freshwater Wetland Plants: https://edis.ifas.ufl.edu/fa007