

Module 1 ~ Silent Invaders (UE)

Answer Key – Observation Chart

Freshwater Plants Jigsaw Puzzle Activity (Step 3)



Purpose: Develop observation and data recording skills.

Directions: Once the puzzle is assembled use your observation skills and magnifying lens to complete the following information in the table below.

- 1) Find two examples for each aquatic plant type category (emersed, free-floating, floating-leaved and submersed).
- 2) List the common name for each of your chosen plant examples in the spaces provided.
- 3) Write a brief description (Is it along the shoreline or in water? What is the shape of the leaf? Flower shape and color?)
- 4) Use **Freshwater Plants Jigsaw Puzzle – Plant List** to record if the plant is **native**, **non-native** or **invasive** in Florida.

emersed plant: plants rooted to the bottom; stems, leaves and flowers are above the water	Common Name	Brief Description	Native (N) Non-native (NN) Invasive (I)
	alligator weed	shoreline; narrow lance or diamond shaped leaves; flower -white rounded ball	(NN. I)
	arrow arum	shoreline; small arrowhead shaped leaves; white spiked flower	(N)
	bacopa	shoreline; shallow water; small oval leaves; small white flowers with rounded petals	(N)
	beakrush	shoreline; thin strap-shaped leaf; flower on tip of stem	(N)
	blue flag	shoreline; leaves long and sword like; large purplish showy flower	(N)
	bog buttons	shoreline; on land; cluster spikes; leaves grass-like, white button-like flower	(N)
	bulrush	shoreline; shallow water; thick stalks with branched flower on tip of stalk	(N)
	buttonbush	upper shoreline; leaves rounded at base; tips pointed; flower - white fuzzy ball	(N)
	cat-tails	shoreline; shallow water; large sword-shaped leaves; brown flower head	(N)
	coastal arrowhead	shallow water; teardrop shaped leaves; flower whitish in clusters of four	(N)
	common broadleaf arrowhead	shoreline; large arrow shaped leaves; white cluster flowers	(N)
	common reed	shoreline; long thick stems; leaves opposite; flower is fuzzy spikelet	(N)
	duck potato	shoreline; lance-shaped leaves; showy white flower with three petals	(N)
	fire flag	shoreline; shallow water; lance-shaped leaves; purplish flowers	(N)
	flat sedge	upper shoreline; grass blade-like leaves; flower is a green spiky cluster	(N)
	frog's-bit	shallow water; grows in clusters; green oval leaves; thick stems	(N)
giant cutgrass	shoreline; large grassy, drooping branched spikelet	(N)	

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<p>emersed plant: plants rooted to the bottom; stems, leaves and flowers are above the water</p> <p><i>(continued)</i></p>	golden canna	shallow water; shoreline; large oblong leaves; pointed tips; showy yellow flowers	(N)
	golden club	shallow water; large oblong leaves; tiny yellow flowers on tip of club-shaped stalk	(N)
	knotweed, smartweed	shallow water; leaves are small lance shaped; flowers terminal pinkish or white spikes	(N)
	lizard's-tail	shallow water; arrowhead shaped leaves on stalks; white fluffy flower covered spike	(N)
	maidencane	shallow water; flat long leaf; pointed at tip	(N)
	marsh beggar-tick	upper shoreline; teardrop-shaped leaves; slender tips; bright yellow flower	(N)
	napier grass (elephant grass)	shoreline; cylindrical flower head, leaves long strap-like	(NN, I)
	parrot feather	Shoreline; shallow water; feathery dark green leaves whorl around stem which sticks out of the water	(NN)
	pickerelweed	shoreline; shallow water; lance-shaped rounded leaves; purple spike flower	(N)
	red ludwigia	underwater; dark green to dark red teardrop shaped leaves; leaves are opposite	(N)
	redroot	shallow water; fan-like clump; sword-like leaves; white cluster flower	(N)
	road-grass	shallow water; thin spikes with brown spikelet on tip of stem	(N)
	rush fuirena	upper shoreline; spiky with three oval spikelet at the tip of stem	(N)
	saw-grass	shoreline; long narrow spiked leaves; flower on end of spike	(N)
	soft rush	shallow water; grows in clumps; spiky with yellow flower on tip of stem	(N)
	star-rush	shoreline; spiky blades; white star shaped flower on end of spiky blade	(N)
	swamp lily	upper shoreline; long grass-like shaped leaves; white showy flower on end of stalk	(N)
	water grass	shallow water; grassy floating mat; tiny white flowers	(N)
	(spotted) water hemlock	upper shoreline; leaflets are teardrop shaped and jagged on the edge; tiny white flowers in an umbrella shape	(N)
	water pennywort	shallow water; small circular leaves attached to stem like an umbrella	(N)
water primrose	shoreline; heart-shaped leaves; yellow flower with four petals; branched stem	(N)	
wild taro	shoreline; large arrowhead-shaped leaves	(NN, I)	
wild-rice	shoreline; shallow water; tall stalk with lower branches drooping	(N)	

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free-floating plant: plants are not attached to bottom; they get nutrients directly from the water	giant duckweed	water surface; dense floating mat; small rounded green leaves	(N)
	salvinia (or water fern)	water surface; floating small circular leaves; clusters	(NN)
	small duckweed	water surface; tiny greenish floating plant	(N)
	water hyacinth	shoreline and shallow water; rounded thick leaves attached to stalks; purple showy flower	(NN, I)
	water lettuce	water surface; looks like an open head of lettuce; ridged leaves	(NN, I)
floating-leaved plant: plants may or may not be attached to bottom; leaves float on water surface	American lotus	shallow water; floating circle shaped leaves; large yellow flower on stalk; large brown seed pod	(N)
	banana lily	water surface; floating rounded leaves with notch at base	(N)
	spatterdock, cow lily	water surface; large heart-shaped leaves with wavy edges; yellow globe-shaped flowers supported by thick stem; flowers only half-open	(N)
	fragrant water lily	water surface; floating circular leaves with one notch; white showy flower with yellow center (on end of thin stem)	(N)
	frog's bit	shallow water; grows in clusters; green oval leaves floating on water and also sticking out of the water; thick stems	(N)
	water pennywort	shoreline and shallow water; small circular leaves attached to stem like an umbrella	(N)
	water shield	water surface; floating mat of oval shield shaped leaves	(N)
	yellow water lily	water surface; floating circular shaped leaves with cut on side to center; showy yellow flower on end of thin stem	(N)

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<p>submersed plant: plants grow primarily below the water surface</p>	baby's-tears	underwater; tiny, round, light-green leaves	(N)
	bladderwort	open water; greenish floating mat with tiny leaves and tiny white or yellow flowers	(N)
	bog moss	open water; long thin stem with short thread-like leaves	(N)
	coontail	open water; feathery fan-shaped leaves circle around the stem (in a whorl); stem and leaves resemble a raccoon tail	(N)
	Eurasian water milfoil	open water; emersed; feathery branched leaves	(NN, I)
	fanwort	underwater; submersed fan-shaped leaves; stems and leaves resemble an evergreen tree branch	(N)
	hydrilla	underwater; pointed leaflets that spiral around long stems (in a whorl)	(NN, I)
	Illinois pondweed	open water; leaves on surface; oblong yellow-green pointed leaf; spike shaped flower sticking out of water	(N)
	muskgrass	shallow water or open water; an algae with feathery "branches" that appear on surface and underwater	(N)
	parrot feather	shoreline; shallow water; feathery dark green leaves whorl around stem which sticks out of the water	(NN)
	red ludwigia	underwater; round, oval or teardrop shaped leaves; dark green to dark red in color; leaves are opposite	(N)
	sago pondweed	underwater; grass-like leaves float on surface in greenish mat; multiple long, slender and flexible stems; stems have many branches	(N)
	southern naiad	underwater; slender long branched-stem; small narrow leaves	(N)
tape grass	underwater; long ribbon-like leaves in clusters; leaves have rounded tips	(N)	
<p>Extra Credit: List 3 animals you would find living in this ecosystem?</p>	alligator, blue heron, raccoon, freshwater fish, wading birds, water birds		

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Common Core State Standards

4^h Grade

Common Core Code	FL Common Core Code	Common Core Standard
RI.4.1	LAFS.4.RI.1.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.4.4	LAFS.4.RI.2.4	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
RI.4.10	LAFS.4.RI.4.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as necessary at the high end of the range.
RF.4.3	LAFS.4.RF.3.3	Know and apply grade-level phonics and word analysis skills in decoding words.
RF.4.3a	LAFS.4.RF.3.3a	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
RF.4.4	LAFS.4.RF.4.4	Read with sufficient accuracy and fluency to support comprehension.
RF.4.4a	LAFS.4.RF.4.4a	Read grade-level text with purpose and understanding.
RF.4.4c	LAFS.4.RF.4.4c	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.4.2d	LAFS.4.W.1.2d	Use precise language and domain-specific vocabulary to inform about or explain the topic.
W.4.4	LAFS.4.W.2.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
W.4.9	LAFS.4.W.3.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
SL.4.1	LAFS.4.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
SL.4.1c	LAFS.4.SL.1.1c	Pose and respond to specific questions to clarify or follow up on information, make comments that contribute to discussion and link to remarks of others.
SL.4.1d	LAFS.4.SL.1.1d	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
SL.4.2	LAFS.4.SL.1.2	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
L.4.1	LAFS.4.L.1.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
L.4.2	LAFS.4.L.1.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
L.4.3	LAFS.4.L.2.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
L.4.3a	LAFS.4.L.2.3a	Choose words and phrases to convey ideas precisely.
L.4.4	LAFS.4.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
L.4.4a	LAFS.4.L.3.4a	Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
L.4.4b	LAFS.4.L.3.4b	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph).
L.4.6	LAFS.4.L.3.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).

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5th Grade

RI.5.1	LAFS.5.RI.1.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.5.4	LAFS.5.RI.2.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
RI.5.10	LAFS.5.RI.4.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.
RF.5.3	LAFS.5.RF.3.3	Know and apply grade-level phonics and word analysis skills in decoding words.
RF.5.3a	LAFS.5.RF.3.3a	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
RF.5.4	LAFS.5.RF.4.4	Read with sufficient accuracy and fluency to support comprehension.
RF.5.4a	LAFS.5.RF.4.4a	Read grade-level text with purpose and understanding.
RF.5.4c	LAFS.5.RF.4.4c	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.5.2d	LAFS.5.W.1.2d	Use precise language and domain-specific vocabulary to inform about or explain the topic.
W.5.4	LAFS.5.W.2.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
W.5.9	LAFS.5.W.3.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
SL.5.1	LAFS.5.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
SL.5.1c	LAFS.5.SL.1.1c	Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
SL.5.1d	LAFS.5.SL.1.1d	Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
SL.5.2	LAFS.5.SL.1.2	Summarize written a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
L.5.1	LAFS.5.L.1.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
L.5.2	LAFS.5.L.1.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
L.5.3	LAFS.5.L.2.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
L.5.3a	LAFS.5.L.2.3a	Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
L.5.4	LAFS.5.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
L.5.4a	LAFS.5.L.3.4a	Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
L.5.4b	LAFS.5.L.3.4b	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., photograph, photosynthesis).
L.5.6	LAFS.5.L.3.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).