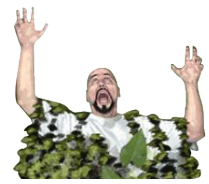


Module 1 ~ Silent Invaders (UE)

Guiding Questions



Directions: Use these guiding questions, along with the Keywords Chart, to follow along while viewing the *Silent Invaders* presentation: http://plants.ifas.ufl.edu/education/module1/web/silent_invaders.html.

NOTE: Questions & answers for online presentation are MS/HS level only. UE teachers refer to the print copy answer key.

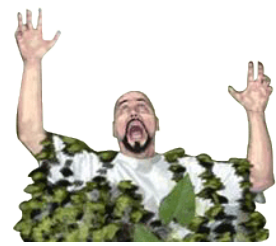
Name: _____ Class Period: _____ Date: _____

1. Terrestrial plants live on _____ land.
2. Aquatic plants live **in, on, under** or **near** the _____.
3. Native plants were here _____ Christopher Columbus arrived.
4. Plant species that arrived in Florida since the time of Christopher Columbus are considered to be _____ plants.
5. More than 100 types of non-native plants cause _____ problems in Florida.
6. Non-native plants can _____ or replace native plants that should be here.
7. When a non-native plant species is able to spread on its own, causing environmental or economic harm, the plant is considered to be _____.
8. Non-native plants can become invasive because they have no natural _____ in their new habitat.
9. An example of a Florida native aquatic plant is the _____ lotus.
10. An example of an aquatic invasive plant is the water _____.
11. Invasive plants should be disposed of in household _____, never in a compost pile.
12. Never landscape your yard or business with _____ plants.
13. _____ in your neighborhood or community to help remove invasive plants.



Module 1 ~ Silent Invaders (UE)

Guiding Questions – Answer Key



Directions: Use these guiding questions, along with the Keywords Chart, to follow along while viewing the *Silent Invaders* presentation: http://plants.ifas.ufl.edu/education/module1/web/silent_invaders.html.

NOTE: Questions & answers for online presentation are MS/HS level only. UE teachers refer to the print copy answer key.

Name: _____ Class Period: _____ Date: _____

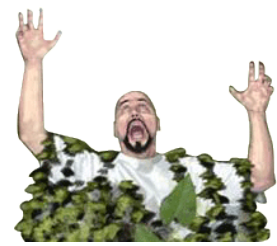
1. Terrestrial plants live on **dry** land.
2. Aquatic plants live in, on, under or near the **water**.
3. Native plants were here **before** Christopher Columbus arrived.
4. Plant species that arrived in Florida since the time of Christopher Columbus are considered to be **non-native** plants.
5. More than 100 types of non-native plants cause **serious** problems in Florida.
6. Non-native plants can **outgrow** or replace native plants that should be here.
7. When a non-native plant species is able to spread on its own, causing environmental or economic harm, the plant is considered to be **invasive**.
8. Non-native plants can become invasive because they have no natural **predators** in their new habitat.
9. An example of a Florida native aquatic plant is the **American** lotus.
10. An example of an aquatic invasive plant is the **water hyacinth (or water lettuce)**.
11. Invasive plants should be disposed of in household **garbage**, **never** in a compost pile.
12. Never landscape your yard or business with **invasive** plants.
13. **Volunteer** in your neighborhood or community to help remove invasive plants.



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Module 1 ~ Silent Invaders (UE)

Guiding Questions – Answer Key



Upper Elementary Sunshine State Standards

Science

Grade 4

Big Idea #1

SC.4.N.1.2: Compare the observations made by different groups using multiple tools and seek reasons to explain the difference across groups.

Big Idea #17

SC.4.I.17.4: Recognize ways plants and animals, including humans, can impact the environment.

Grade 5

Big Idea #1

SC.5.N.1.1: Define a problem, use appropriate reference material to support scientific understanding, plan, and carry out scientific investigations on various types such as: systematic observation, identification of variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.5.N.1.6: Recognize and explain the difference between personal opinion/interpretation and verified observation.

Big Idea #2

SC.5.N.2.1: Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.

Big Idea #14

SC.5.L.14.2: Compare and contrast the function of organs and other physical structures of plants and animals.

Big Idea # 15

SC.5.L.15.1: Describe how, when the environment changes, difference between individuals allow some plants and animals to survive and reproduce while other die or move to new locations.

Big Idea #17

SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behavior, and physical characteristics.

Grade 6

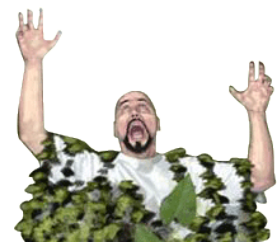
Big Idea #15

SC.6.L.15.1: Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.



Module 1 ~ Silent Invaders (UE)

Guiding Questions – Answer Key



Language Arts

Grade 4

LA.4.1.6.1: TSW use vocabulary that is introduced and taught directly.

LA.4.1.6.2: TSW listen to, read, and discuss familiar and conceptually challenging text.

LA.4.1.6.3: TSW use context clues to determine the meaning of unfamiliar words.

LA.4.4.2.2: Record information (e.g., observations, notes, lists, charts, map labels, legends) related to a topic, including visual aids as appropriate.

LA.4.5.2.5: Make formal and informal oral presentations

LA.4.6.2.1: Select a topic for inquiry, refine a predetermined search plan.

LA.4.6.2.3: Communicate information in a report that includes main idea, relevant details, with visual supports.

Grade 5

LA.5.1.6.1: TSW use vocabulary that is introduced and taught directly.

LA.5.1.6.2: TSW listen to, read, and discuss familiar and conceptually challenging text.

LA.5.1.6.3: TSW use context clues to determine the meaning of unfamiliar words.

LA. 5.2.2.3: Organize information to show understanding (e.g., representing main ideas within a text through charting, mapping paraphrasing, or summarizing).

LA.5.4.2.2: Record information (e.g., observations, notes, lists, charts, map labels, legends) related to a topic, including visual aids as appropriate.

Grade 6

LA.6.1.6.1: TSW use vocabulary that is introduced and taught directly.

LA.6.1.6.2: TSW listen to, read, and discuss familiar and conceptually challenging text.

LA.6.1.6.3: TSW use context clues to determine the meaning of unfamiliar words.

LA.6.2.2.3: Organize information to show understanding (e.g., representing main ideas within a text through charting, mapping paraphrasing, or summarizing).

LA. 6.4.2.2: Record information (e.g., observations, notes, lists, charts, map labels, legends) related to a topic, including visual aids as appropriate.



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Module 1 ~ Silent Invaders

Guiding Questions (MS/HS)



Directions: Use these guiding questions, along with the Keywords Chart, to follow along while viewing the **Silent Invaders** presentation: http://plants.ifas.ufl.edu/education/module1/web/silent_invaders.html.

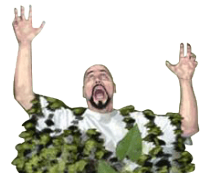
NOTE: Discussion questions on the website are MS/HS level only. UE teachers should refer to the print copy answer key.

Name: _____ Class Period: _____ Date: _____

1. Plants that live on dry land are known as _____ plants.
2. Plants that live in, on or underwater are called _____ plants.
3. List three categories of aquatic plants and a brief description of each one:
 - a.
 - b.
 - c.
4. Native plants are defined as plants that were present before the time of _____ . Florida has about _____ species of native plants.
5. Native plants provide _____ and _____ for animals.
6. Local _____ and the _____ keep native plants from becoming too abundant.
7. Plants that have come from another region or country are called _____ plants. In Florida about _____ non-native plants have arrived since the time of Christopher Columbus.
8. List three ways that non-native plants are introduced to a new area:
 - a.
 - b.
 - c.



Module 1 ~ Silent Invaders
Guiding Questions (MS/HS)

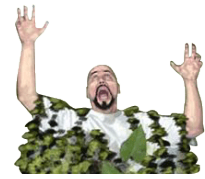


9. Three non-native plants that are causing problems in Florida are:
- a.
 - b.
 - c.
10. Non-native plants can _____ or _____ native plants causing nesting and feeding problems for native animals.
11. A non-native plant species that is able to spread on its own, causing environmental and economic damage is called an _____ plant.
12. Invasive plants can cause problems with:
- a.
 - b.
 - c.
13. How can YOU help solve the problems caused by the Silent Invaders? (List at least 3.)
- a.
 - b.
 - c.
 - d.
 - e.
 - f.
 - g.



Module 1 ~ Silent Invaders (MS/HS)

Guiding Questions – Answer Key



Directions: Use these guiding questions, along with the Keywords Chart, to follow along while viewing the *Silent Invaders* presentation: http://plants.ifas.ufl.edu/education/module1/web/silent_invaders.html.

NOTE: Questions & answers for online presentation are MS/HS level only. UE teachers refer to the print copy answer key.

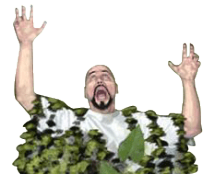
Name: _____ Class Period: _____ Date: _____

1. Plants that live on dry land are known as **terrestrial** plants.
2. Plants that live in, on or underwater are called **aquatic** plants.
3. List three categories of aquatic plants and a brief description of each one:
 - a. **submersed – plants grow with roots, stem and leaves completely underwater;**
 - b. **floating-leaved – plants with leaves that float on the surface; roots aren't always anchored to the bottom;**
 - c. **emersed – plants have roots underwater with part of the plant sticking above the water.**
4. Native plants are defined as plants that were present before the time of **Christopher Columbus**. Florida has about **3000** species of native plants.
5. Native plants provide **food** and **habitat (shelter)** for animals.
6. Local **animals** and the **climate** keep native plants from becoming too abundant.
7. Plants that have come from another region or country are called **non-native** plants. In Florida about **1000** non-native plants have arrived since the time of Christopher Columbus.
8. List three ways that non-native plants are introduced to a new area:
 - a. **plants are sometimes accidentally mixed with leaf litter or farm crops;**
 - b. **plants hitch rides in ship ballast water, on boat propellers and trailers, in our luggage via airplanes, and even on tires;**
 - c. **some plants are brought here on purpose for use in agriculture and horticulture or research.**



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Module 1 ~ Silent Invaders (MS/HS)
Guiding Questions – Answer Key

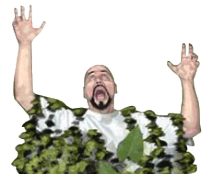


9. Three non-native plants that are causing problems in Florida are:
- a. kudzu;
 - b. water hyacinth;
 - c. hydrilla.
10. Non-native plants can outgrow or replace native plants causing nesting and feeding problems for native animals.
11. A non-native plant species that is able to spread on its own, causing environmental and economic damage is called an invasive plant.
12. Invasive plants can cause problems with:
- a. recreational activities such as boating, swimming and fishing;
 - b. flood control structures;
 - c. blocking canals and bridges.
13. How can YOU help solve the problems caused by the Silent Invaders?
(List at least 3.)
- a. Learn to identify invasive plants.
 - b. Never empty aquarium plants into lakes/ponds/rivers.
 - c. Tell others about the invasive plant problems.
 - d. Check your yard for invasive plants.
 - e. Dispose of invasive plants correctly (by putting them in household garbage).
 - f. Landscape with native plants.
 - g. Volunteer to help remove invasive plants.



Module 1 ~ Silent Invaders (MS/HS)

Guiding Questions – Answer Key



Middle School Sunshine State Standards

Science

Grade 6

Big Idea #15

SC.6.L.15.1: Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.

Grade 7

Big idea #15

SC.7.L.15.2 Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.

SC.7.I.15.3 Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.

Big Idea #17

SC.7.L.17.3 Describe and investigate various limiting factors in a local ecosystem and their impact on native populations including food, shelter, water, space, disease, parasitism, and nesting sites.

Grade 8

Big Idea #4

SC.8.N.4.1 Explain that science is one of the processes that can be used to inform decision making at the community, state, national and international levels.

SC.8.N.4.2 Explain how political, social and economic concerns can affect science and vice versa.

Language Arts

Grade 6

LA.6.2.2.3: Organize information to show understanding (e.g., representing main ideas within a text through charting, mapping paraphrasing, or summarizing).

LA. 6.4.2.2: Record information (e.g., observations, notes, lists, charts, map labels, legends) related to a topic, including visual aids as appropriate.



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