



FOURTH GRADE

PRE AND POST VISIT ACTIVITIES

GEORGIA STANDARDS OF EXCELLENCE

S4L1. Obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem.

a. Develop a model to describe the roles of producers, consumers, and decomposers in a community.

PRE-VISIT

GUIDING QUESTIONS

What are producers?

Where do producers get their energy?

What kinds of consumers might we see while visiting the Garden?

Describe a possible food chain you may see while visiting the Garden.

DISCOVER CARNIVOROUS PLANTS

- Watch the video [The Wild World of Carnivorous Plants](#).
- Are carnivorous plants producers or consumers?

SCHOOLYARD WALK producers, consumers & decomposers

- Walk around your schoolyard and observe, record and discuss transfers of energy. Can you find a bee drinking nectar from a flower? A squirrel or bird looking for or eating food? Can you find plants soaking up sunshine?
- Look under rocks for decomposers such as worms or bugs. Look for mushrooms and lichen growing on branches. What role do they play in the food chain?
- Return to the classroom and using your observations, create a possible schoolyard food chain that includes a producer, consumer and decomposer.

POST-VISIT

WRAP UP QUESTIONS

What kinds of transfer of energy did we observe while at the Atlanta Botanical Garden?

How is a garden an ideal place for producers, consumers and decomposers?

Why do you think it is important the Garden has diverse habitats for different plants and animals?

ACTIVITY Create Compost

- Compost is nutrient rich soil created with decomposed plant material. Try composting yourself at home or in the classroom. Watch this [video](#) and follow the [lesson plan](#) to create your own DIY mini compost system.
- How long does it take the plant matter to break down? What kinds of decomposers do you think are in the compost system breaking down the plants?

ACTIVITY create a food chain drama

- Break the class into small groups. Have each group brainstorm a possible garden-based food chain and then create a drama to act out the transfer of energy to the different organisms in their food chain
- Why is each link in the chain important?

SUGGESTED RESOURCES

[Secrets of the Garden: Food Chains and the Food Web in Our Backyard](#) by Kathleen Weidner Zoehfeld

[Sparrow Girl](#) by Sara Pennypacker

[Pass the Energy Please!](#) by Barbara Shaw McKinney and Chad Wallace



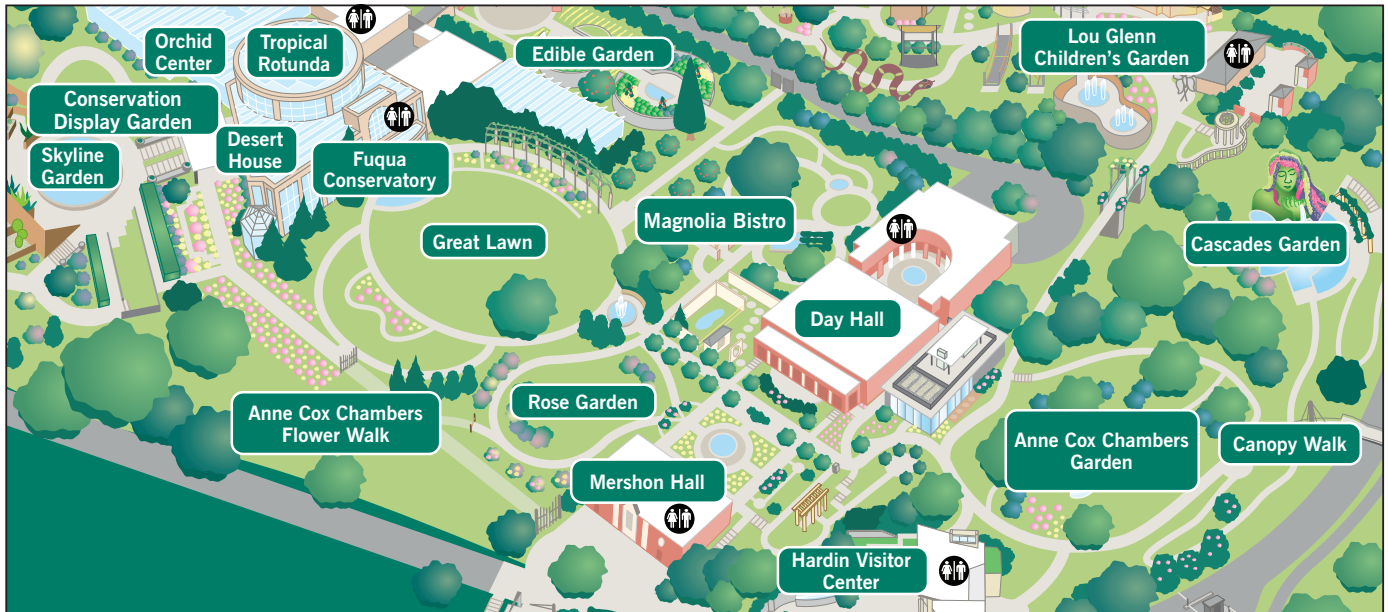
FOURTH GRADE

THEMES

- Energy flow in an ecosystem
- Producers and consumers

SUGGESTED DESTINATIONS

- Children's Garden (Observation Beehive)
- Fuqua Conservatory Lobby (Frog Tanks)
- Conservation Display Garden
- Edible Garden



PRIMARY CONSUMERS (HONEYBEES)

Location: Children's Garden Observation Beehive

Primary consumers get their energy from plants. Honeybees collect nectar and pollen from flowers and bring it back to their hive. To make honey, the bees pass the nectar mouth-to-mouth from bee to bee until its moisture content is reduced from about 70% to 20%. This changes the nectar into honey. Pollen is fed to the larvae providing them with protein and other nutrients. Can you see honey in the hive? Can you see pollen in the hive? Can you see honeybees with pollen still on their legs? What animal might eat a bee or its honey? Note: During the cooler months, the honeybee hive might not be on display.

SECONDARY CONSUMERS (FROGS)

Location: Fuqua Conservatory Lobby Frog Tanks

Secondary consumers get their energy from other consumers. For example, frogs eat bugs and many of those bugs ate plants. Can you see food (bugs) in the frog tanks? The poison dart frogs on display are poisonous in the wild because they eat insects that ate poisonous plants. The Poison Dart Frogs you observe here at the Garden haven't eaten those same insects and are no longer toxic.

CONSUMING PRODUCERS?

Location: Conservation Display Garden

Observe different kinds of carnivorous, meat eating, plants such as pitcher plants, sundews, butterworts and Venus flytraps. Can you see any trapped bugs in the pitchers or stuck to sticky leaves? Can you see any potential victims investigating the carnivorous plants? How do you think carnivorous plants attract their prey? Do you think carnivorous plants are consumers or producers?

DELICIOUS PRODUCERS

Location: Edible Garden

Producers, such as plants, get their energy by absorbing sunlight. Look for producers, like fruits, vegetables or herbs you would like to consume. Do you see any consumers looking for or eating the producers in this garden? Do you see any evidence of consumers eating these plants (nibbled fruits or leaves)? Feel free to smell and gently touch, but please do not pick or taste!

SCAVENGER HUNT Georgia's Native Trees

Location: Everywhere

During your visit, lead the students in drawing or listing out examples of producers, primary consumers (bugs, squirrels, chipmunks, birds) and secondary consumers (frogs, spiders, birds, lizards).



NAME _____

List or draw interesting producers and consumers you see during your visit to the Atlanta Botanical Garden.

PRODUCERS (PLANTS)

PRODUCER 1

PRODUCER 2

PRODUCER 3

PRIMARY CONSUMERS (EAT PLANTS)

PRIMARY CONSUMER 1

PRIMARY CONSUMER 2

PRIMARY CONSUMER 3

SECONDARY CONSUMERS (EAT ANIMALS)

SECONDARY CONSUMER 1

SECONDARY CONSUMER 2



NAME _____

BONUS Draw or describe a possible transfer of energy (food chain) using the animals you observed in the Garden today. For example: Sunflower → Bee → Bird

BONUS Which was the most difficult to find: producers, primary consumers or secondary consumers? Why do you think that is the case?