

# FCAT SCIENCE

## PLANNING CARDS Grade 8

<b>Item Type(s)</b>	MC, SR
<b>Benchmark Clarification</b>	The student identifies human actions that cause changes in ecosystems.
<b>Content Limits</b>	Items will relate human activity to ecosystem changes.  Items may address data interpretations of change in an ecosystem.
<b>Stimulus Attributes</b>	Items may describe real-world data or situations.
<b>Response Attributes</b>	None specified.

### BENCHMARK SC.G.2.3.4.

Sample SR Item

Nuclear power plants use water to absorb excess heat and the warm water is typically released into a nearby lake or stream, raising its temperature by as much as 2 degrees Celsius (°C). Some fish, like guppies, require warm water temperatures before they begin to lay eggs. Guppies reproduce best at 24°C. A lake near a nuclear power plant has a daily average temperature of 20°C. Explain how an increase in the water temperature of the lake would likely affect the guppy population.

Correct and Complete Response

Warm water temperatures are good for the reproduction of many organisms. The increase in the average temperature of the lake will cause the guppies to reproduce. As the guppies reproduce more frequently, their overall population will be limited by the amount of food they have to eat and by how the warm water affects the populations of their prey and predators.