1.1.3 Exploratory Quiz: Parameters and Variables

Bookmark this page

Question 1

1/1 point (graded)

In the coral bleaching example, we're thinking about how things change over time, so we consider time as **the independent variable**. What is the key **dependent variable** (the variable that changes with time) in the scenario Wes described?

- ocean temperature
- ocean salinity (saltiness)
- amount of coral
- amount of zooxanthellae ✔
- none of the above

Explanation

As Wes mentioned, we're thinking about the amount of zooxanthellae as the dependent variable, the quantity we're trying to track.

Submit

Answers are displayed within the problem

Question 2

1/1 point (graded)

In a real coral reef there are many conditions or parameters which might affect the dependent variable Which of the conditions below is the most important parameter in the scenario Wes described?

- ocean temperature ✔
- ocean salinity (saltiness)
- amount of coral
- amount of zooxanthellae
- none of the above

Explanation
The parameter in this scenario is ocean temperature, since it has been observed to have a dramatic effect on the amount of zooxanthellae, which is the dependent variable.
We can fix a particular ocean temperature, say 30 degrees celsius, and consider what happens to the population of zooxanthellae over time. We then compare that to what happens with a different parameter values, for example, 33 degrees celsius.
Note: Ocean temperature may also change with time, which would add another complication to this model. In the examples of this section, however, we'll always consider the parameters fixed for each situation and consider time the independent variable.

Submit

Answers are displayed within the problem

Question 3: Think About It...

1/1 point (graded)
It would be possible to consider other options as dependent variables or parameters. Describe a different choice of variables and parameters that might of interest to an ecologist.

Whiteness of the coral reefs
Quantity of calcium deposit

✔
Thank you for your response.

Explanation

Note: it would be possible to consider other options as dependent variables or parameters. For example, we might wonder how the salinity changes with time, with amount of coral as parameter. Or we might wonder how the amount of coral changes with time with salinity as the parameter. There are numerous other possibilities.

Submit

Answers are displayed within the problem

Learn About Verified Certificates

English