When scientists set out to test a hypothesis, it is often most practical to try to prove the hypothesis false rather than to prove it is true in all cases. Scientists place great confidence in cell theory, yet it has not been tested in every living thing on the planet. What piece of evidence would cause scientists to decide that cell theory would need to be revised?

1. An organism was found with tissues made of something other than cells.
2. A cell was found that could continue to divide and reproduce indefinitely.
3. An animal cell was found that could harness solar energy as plant cells do.
4. Cells were found that used something other than DNA as hereditary material.

|  |  |
| --- | --- |
| Key Term | Explanation |
|  |  |

|  |  |
| --- | --- |
| Steps/?s | Answers |
|  |  |

Answer the critical question **in your own words**…

1. An organism was found with tissues made of something other than cells.
2. A cell was found that could continue to divide and reproduce indefinitely.
3. An animal cell was found that could harness solar energy as plant cells do.
4. Cells were found that used something other than DNA as hereditary material.

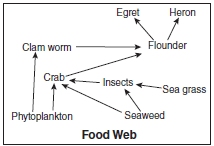
➀

➁

➂

➃

➄

The Indian River Lagoon is a 156-mile-long estuary on Florida’s eastern coast. It is a diverse estuary, supporting thousands of species of plants and animals. The food web shown is an example of the relationships that exist in the Indian River Lagoon ecosystem. Runoff from construction has caused a decrease in the insect population. Which of the following is most likely to occur?

1. An increase in the seaweed population due to an increase in predation
2. An decrease in the heron population due to an increase in predation
3. A decrease in the crab population due to an increase in predation
4. An increase in the sea grass population due to an decrease in predation

|  |  |
| --- | --- |
| **Key Term** | **Explanation** |
| food web  population  predation  relationship  decrease | picture of energy flow, shows what living things eat  number of individuals living in Indian River Lagoon ecosystem  a living thing eats another  in a food web, who eats who  number of individuals goes down |

|  |  |
| --- | --- |
| **Steps/?s** | **Answers** |
| What do the arrows in the food web show?  What do insects prey on?  What prey on insects?  Which living things are directly impacted by a change in the insect population? | Energy flow, arrows point to who is eating (predator)  Sea grass & seaweed  Crabs  Seagrass  Seaweed  Crabs |

Answer the critical question **in your own words**…

A decrease in the insect population would mean there are fewer insects for crabs to eat. This may decrease the crab population, but crabs also eat phytoplankton and seaweed. Another impact of a decrease in the insect population would be fewer insects eating sea grass and seaweed. This will cause an increase in the sea grass population since insects are the only things that eat sea grass. The impact on the seaweed population is uncertain because although fewer insects are eating seaweed, crabs may be eating more seaweed, this may cause a decrease in the seaweed population.

1. An increase in the seaweed population due to an increase in predation
2. An decrease in the heron population due to an increase in predation
3. A decrease in the crab population due to an increase in predation
4. An increase in the sea grass population due to an decrease in predation