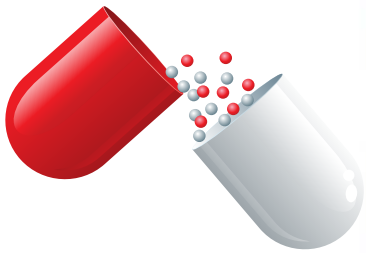
SCIENTIFIC METHOD IN ACTION – THE DISCOVERY OF PENICILLIN

Read the passage and answer the questions.
(Find the answers on the next page.)

The bacteriologist, Sir Alexander Fleming was engaged in the study of Staphylococcus, a kind of bacteria that was that was being grown in Petri dishes. That's when he noticed the penicillin mold that was also growing in some of the culture dishes. There was a clear area around the penicillin because the bacteria that had grown here had died. But there were no clear areas in the disheswithout penicillin.

Sir Alexander hypothesized that the penicillin mold could be producing a chemical that kills bacteria. He decided to test his hypothesis by isolating the chemical and testing it to see if it would really kill bacteria. He transferred it to a solution of nutrient broth that contained the elements necessary to its growth. Once the mold flourished, he removed it from the broth and transferred the broth to a culture of bacteria.The bacteria died as a result.

This discovery was used to develop several kinds of antibiotics that treated several deadly diseases.



Questions

1. What is the problem here?

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2. What was the hypothesis?

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3. How did Fleming test his hypothesis?

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4. Did the result of the experiment support or reject the hypothesis?

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Answers:

1. What is the problem here?

During his experiments with the Staphylococcus bacteria, Fleming noticed that culture dishes that contained the penicillin mold were free from bacteria.

2. What was the hypothesis?

Sir Alexander hypothesized that the penicillin mold could be producing a chemical that kills bacteria.

3. How did Fleming test his hypothesis?

He tested his hypothesis by isolating the chemical and transferring it to a solution of nutrient broth that contained the elements necessary to its growth.

4. Did the result of the experiment support or reject the hypothesis?

The result of the experiment clearly supported the hypothesis because the bacteria died when the broth containing the mold was transferred to it.