

Virtual Lab: Dependent and Independent Variables Worksheet

1. State the Problem

2. Formulate the hypothesis

3. What was the hypothesis?

4. How was the hypothesis tested?

5. Should the hypothesis be supported or rejected based on the experiment?

6. What should be the new hypothesis?

How Penicillin Was Discovered

In 1928, Sir Alexander Fleming was studying clear areas in the culture dishes without the mold, no clear areas were present. Fleming hypothesized that the mold must be producing a chemical that kills bacteria. He decided to isolate this substance and study its properties.

Staphylococcus bacteria growing in culture existed around the mold because all the bacteria that had grown in this area had died. He noticed that a mold called Penicillium was also growing in some of the dishes. A clear area in the culture dishes without the mold, no clear areas were present. Fleming hypothesized that the mold must be producing a chemical that kills bacteria. He decided to isolate this substance and study its properties.

When he added the mold to a nutrient broth solution, the solution contained all the materials the mold needed to grow. After the mold grew, he removed it from the nutrient broth. Fleming then added the mold to a nutrient broth in which the mold had grown to a culture of bacteria. He observed that the bacteria did not grow.