

**DIRECTIONS:** Read the experimental scenario below. Then read each of the ten statements that follow. For each decide if the statement is an Observation (O), Inference (I), or Hypothesis (H).

**Experimental Scenario:**

A scientist is studying the impact of Reactive Oxidative Species on the development of fruit fly offspring. There are three sets of female fruit flies each having a different genetic profile (AOX, DJ-1, and Normal). The male fruit flies do not have either the AOX or the DJ-1 mutation. They conduct the research over a period of two weeks.

Observation (O), Inference (I), or a Hypothesis.

1. There are 300 total female fruit flies.
2. Ten fruit flies died on day five and you believe it is due to the broken thermostat.
3. One hundred fruit flies have the AOX gene.
4. There are fifty male offspring on day ten.
5. If the female fruit flies have the AOX gene mutation then they will have a greater number of offspring than either the normal or the DJ-1 female fruit flies.
6. Of one hundred female fruit flies with the normal gene profile about seventy-five died before the end of the experiment.
7. There were only twenty-five normal adult fruit flies (not counting offspring) at the end of the experiment because they were more than likely sick at the time of delivery.
8. The average number of offspring for the normal female fruit flies was 38.5.
9. If the fruit flies have a normal genetic profile, then they will have fewer offspring than AOX fruit flies but more than the DJ-1 fruit flies.
10. The average fruit fly has a body length of 3.4 millimeters.