

An experimenter has 10 fruit flies at the start of an experiment. For each situation described, (a) write an equation for the population of fruit flies as a function of the number of days since the beginning of the experiment and (b) use your equation to determine how many fruit flies there will be after 21 days.

1. In 15 days the fruit fly population has increased to 640.
2. The experimenter observes that the number of flies doubles every 2.5 days.
3. The experimenter observes that the number of flies triples every 3.962 days.
4. The experimenter checks the population of fruit flies each morning and determines that the population increases by 31.95% each day.
5. The experimenter expects the relative growth rate of the fruit fly population to be 27.73% if time is measured in days.