

Question Q1.1

How many correct experiments do we need to disprove a theory? How many do we need to prove a theory? Explain.

Solution

It only takes one correct experiment to disprove a theory, and no amount of correct experiments can prove a theory. If one experiment disproves a theory, the theory has to be either discarded or modified to take into account the experimental findings. Even if there are a large number of experiments consistent with a theory, there may be other experiments in the future that are inconsistent with it. One example of this is the rise of quantum theory to explain what classical physics couldn't explain.