

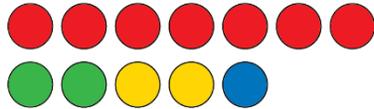
Activity 3 Assessment

Conducting Experiments

Investigating Relative Frequency through Experiments

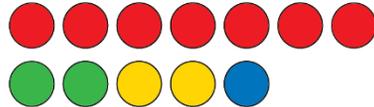
Lists all possible outcomes for an experiment with equally likely outcomes.

These counters are in a bag.



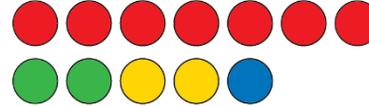
"I could get a red, green, yellow, or blue counter."

Determines expected likelihood of an event.



"Red: most likely, $\frac{7}{12}$, green: unlikely, $\frac{2}{12}$ or $\frac{1}{6}$, yellow: unlikely, $\frac{2}{12}$ or $\frac{1}{6}$, blue: least likely: $\frac{1}{12}$ "

Uses the possible outcomes of an experiment to predict the likelihood of an event.



"There are 12 counters and 7 are red. $12 \times 4 = 48$, which is close to 50. So, in 50 trials I think I will get a red counter about 7×4 , or 28 times."

Conducts experiment and organizes collected data.

"I conducted the experiment. In 50 trials, I got a red counter 35 times."

Observations/Documentation

Activity 3 Assessment

Conducting Experiments

Investigating Relative Frequency through Experiments (cont'd)

Uses outcomes of experiment to determine relative frequencies.

“I got a red counter 35 times in 50 trials. So, the relative frequency of getting red is $\frac{35}{50}$, or $\frac{70}{100}$, or 0.7, or 70%.”

Realizes that relative frequencies vary among sets of collected data.

“The relative frequency of getting red was different for other pairs of students. I got $\frac{35}{50}$, but others got $\frac{29}{50}$, $\frac{33}{50}$, and $\frac{37}{50}$.”

Understands that with more trials of an experiment, the closer the actual results may be to expected likelihoods.

“When I conducted more trials, I noticed that the results got closer to the expected likelihoods, but they still didn’t match exactly.”

Flexibly performs experiments, analyzes results, and compares and justifies predictions.



“The likelihood of drawing a 6 or a 7 is $\frac{5}{6}$. So, when I conduct the experiment 60 times, I would expect to get a 6 or 7 about 50 times. I got 6 or 7 forty-four times. I have to do more trials.”

Observations/Documentation