

# Activity 9 Assessment

## Conducting Experiments

### Comparing Theoretical and Experimental Probabilities

Conducts single-outcome experiment and calculates experimental probabilities.



“I tossed the coins 20 times and got 8H and 12T.  
The experimental probabilities are:  
H:  $\frac{2}{5}$ , T:  $\frac{3}{5}$ .”

Conducts experiment involving 2 events and calculates experimental probabilities.



“I tossed the coins 20 times and got 3HH, 6TT, 11HT.  
The experimental probabilities are:  
HH:  $\frac{3}{20}$ , TT:  $\frac{3}{10}$ , HT:  $\frac{11}{20}$ .”

Determines and compares the theoretical and experimental probabilities.

Outcome	Theoretical Probability	Experimental Probability
HH	$\frac{1}{4}$	$\frac{3}{20}$
HT	$\frac{1}{2}$	$\frac{11}{20}$
TT	$\frac{1}{4}$	$\frac{3}{10}$

“The actual result was different than the theoretical probability, but that is to be expected.”

Determines and compares probabilities after a greater number of trials.

Outcome	Theoretical Probability	Experimental Probability
HH	$\frac{1}{4}$	$\frac{6}{25}$
HT	$\frac{1}{2}$	$\frac{13}{50}$
TT	$\frac{1}{4}$	$\frac{2}{25}$

“I used the Pearson Probability Tool to toss the coins 500 times. The results got closer to the theoretical probabilities.”

### Observations/Documentation