

Unit15.4a Online activity

Name: _____ Class: _____

15.4 Experimental (EP) and theoretical probabilities (TP)

Pls refer to Coursebook page 154 for this online activity

1. One way to find probabilities is to use _____.
Another way is to _____ from a _____ or an _____.

2. To find the probability that a seed will germinate, you _____
use _____. We need to plant seeds and count how many
germinate.

5 2 5 1 2 6 2 5 3 1 3 3 5 1 1 1 1 3 3 3

Score	1	2	3	4	5	6
Frequency	6	3	6	0	4	1
Relative frequency	0.3	0.15	0.3	0	0.2	0.05

Above are the results of 20 throws of a dice simulated on a computer and the results in a frequency table.

The relative frequencies (RF) give an _____ for each number.

RF or TP = _____ ÷ _____

The _____ for each number, based on equally likely outcomes, is $1/6 =$ _____.

The experimental and theoretical probabilities are _____. This is because 20 is a _____ of throws.

This table shows the results after 20, 50, 100 and 200 throws.

Score	20 throws		50 throws		100 throws		200 throws	
	Frequency	RF	Frequency	RF	Frequency	RF	Frequency	RF
1	6	0.3	11	0.22	19	0.19	36	0.18
2	3	0.15	11	0.22	19	0.19	36	0.18
3	6	0.3	8	0.16	19	0.19	35	0.175
4	0	0	5	0.1	15	0.15	31	0.155
5	4	0.2	7	0.14	13	0.13	29	0.145
6	1	0.05	8	0.16	15	0.15	33	0.165
Total	20	1	50	1	100	1	200	1

As the number of throws _____, the experimental probabilities _____ to the theoretical probabilities. These results show two important FACTS.

1. If you repeat an experiment you get _____.
2. If you _____ the number of times an experiment is repeated you generally get better _____ of probabilities. 200 throws give _____ results than 20 throws.

This means we can have more _____ in the estimates if the experiment is repeated _____.