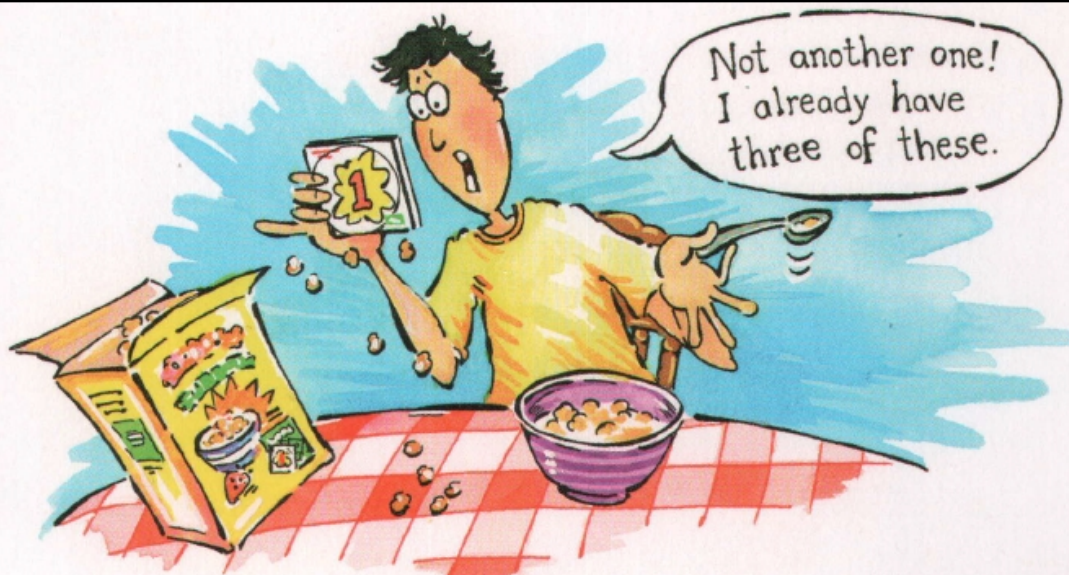


Simulations

simulation

- a probability experiment used to model a real situation

Nov 20-18:34

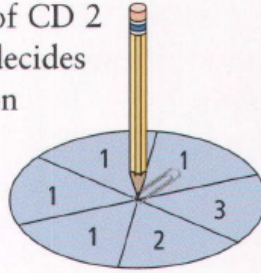


Yo Sep's favourite cereal company is including a free music CD in its box. There are three different CDs. Do you think this type of promotion will increase sales for the company?

Jan 15-10:33

Example: Simulate With a Spinner

Yo Sep found out that, for every one of CD 2 or CD 3, there are four of CD 1. He decides to run a **simulation** using a six-section spinner. Yo Sep spun the spinner and recorded his results in a tally chart. He continued to spin until he had spun all three numbers.



CD	Tally
1	
2	
3	

- a) How many boxes of cereal did Yo Sep have to "buy"?
 b) Which number appears to have been last? Explain your reasoning.

a) Had to buy 8 boxes.

b) CD 3 was the last one he got because he only has one of them.

5
 1
 ———
 8

Jan 15-10:34

OK, you can now try this simulation using a number cube.

CD 1 is #s 1-4

CD 2 is #5

CD 3 is #6

CD	Tally
1	
2	
3	

Roll the cube until you "have each of the CDs"

How many rolls did it take?

Repeat this simulation for the next 5 minutes.

Make a note of how many rolls it took each time. We will collate our answers.

Jan 19-12:05 PM

Our Results:

$$\text{Table 1} \rightarrow \frac{152}{21} = 7.23$$

$$\text{Table 2} \rightarrow \frac{111}{13} = 8.54$$

$$\text{Table 3} \rightarrow \frac{152}{21} = 7.23$$

$$\text{Table 4} \rightarrow \frac{29}{4} = 7.25$$

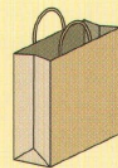
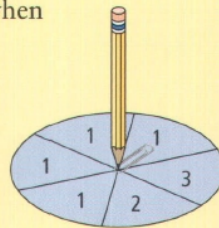
$$\text{Table 5} \rightarrow \frac{202}{18} = 11.\bar{2}$$

$$\text{Total} \rightarrow \frac{646}{77} = 8.39$$

Jan 19-1:04 PM

Key Ideas

- A simulation models a real-life situation when you cannot easily predict the outcomes.
- A real-life situation can be simulated in many different ways. Ensure that the number of possible outcomes of the simulation matches the number of outcomes of the real situation.



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Jan 15-10:34