Describing Chance

Wednesday, 7 February 2018 6:15 pm

This video aligns with the Australian Year 7 Essential Mathematics Series (VIC) from Cambridge. No infringement of copyright was intended with the use of any examples.

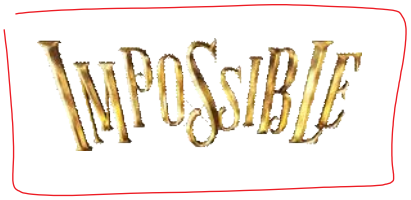
7 textbook
Chapter 8G
Questions: 1, 2, 3, 4, 6, 9a, 9b, 9c

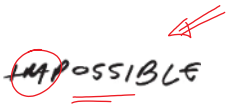
By the end of the lesson you should be able to:

- Understand what words like Certain, Unlikely, Impossible and Likely mean
- Use words to describe outcomes of chance events
- Understand where these words fit on a probability continuum
- Understand how these words might be used to describe probability events.

When we are in Year 5 and 6 we might use certain words to describe the **chance** of something happening.
We tend to try to not use them very often in Year 7 and onwards, as we have better ways of describing the chance of something happening.

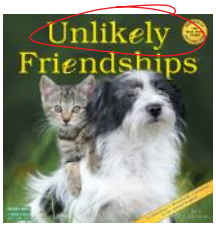






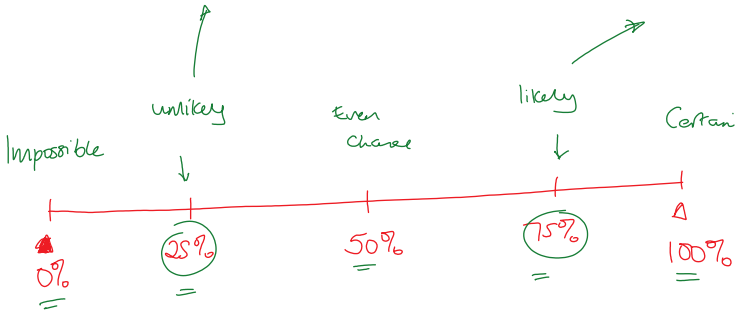








These words can be placed, in order, on a line.
We normally have the line start from impossible and end in possible.
We can also use percentages to describe chance.



We might be asked questions and have to decide if something is likely, even chance, impossible, certain, unlikely.

Classify each of the following statements as either true or false.

a It is likely that children will go to school next year. True

b It is an even chance for a fair coin to display tails. True

c Rolling a 3 on a 6-sided die and getting heads on a coin are equally likely. False

d It is certain that two randomly chosen odd numbers will add to an even number.

Questions taken from the Year 7 Cambridge Essential Mathematics Textbook (Victorian Curriculum)

FAIR } HEAD = 1/2, TAIL = 1/2

BIASED → HEAD 3/4, TAIL 1/4

$\frac{1}{6} \neq \frac{1}{2}$

We have to know about real-life things too.



1, 2, 3, 4, 5, 6
FAIR



1 + 3 = 4
5 + 9 = 14
11 + 27 = 38



Opposite add to 7



52

5+9 = 14

11+27 = 38

4 suits

13 Hearts
13 Diamonds } RED — 1/2

13 Spades
13 Clubs } BLACK — 1/2

2,3,4,5,6,7,8,9,10 — Number cards

Ace, Jack, Queen, King } Picture cards

If we consider a fair 6-sided dice with the numbers 1 to 6 on it, would the following be true or false?

- Rolling a 3 is unlikely. 1/6 1/2
- Rolling a 5 is likely 1/6
- Rolling a 4 and rolling a 5 are equally likely events.
- Rolling an even number is likely.
- There is an even chance of rolling an odd number.
- There is an even chance of rolling a multiple of 3

T U T F T F

1/2

0 50% 100

3,6,

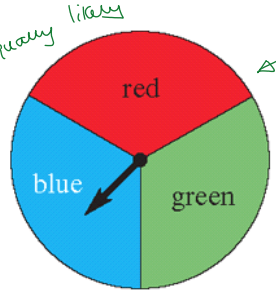
$\frac{1}{6} = \frac{1}{6}$ $\frac{3}{6} = \frac{1}{2}$

$\frac{2}{6} = \frac{1}{3} < \frac{1}{2}$ $\frac{3}{6} = \frac{1}{2}$

If we have a spinner, and the sections are the same size, we know that there is an equally likely chance of choosing any colour.

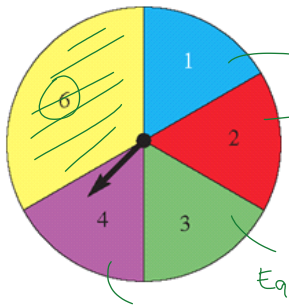
Equally likely

Same area



If one section is bigger than the others, then it is more likely to land on the bigger section than the smaller one.

Bigger



Equally likely

We always try and ask ourselves, is there an equal chance of getting something? Is it fair?