## Theoretical Probability

Wednesday, 14 February $2018 \quad$ 6:09 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.

We can use a "best guess" approach to finding the chance of something happening. We normally do this using fractions, decimals and percentages.
The questions will tell us what they want the answer to be written as.

## Questions to be done once the teaching has finished:

Year 7 Textbook
Exercise 8H
Questions: 1, 2, 3, 4, 5, 6, 8, 11

## Possible outcomes

Look at the following objects.


Event


The number on a dice


The suits from a pack of cards


The colours on the french flag

$$
H \quad 1,2,3,4,5,6
$$

$$
\text { Coin, } 6 \text { sided dre If } \mathrm{H} \text { H2 } \mathrm{H} 3 \mathrm{H} 4 \mathrm{HS} \mathrm{H}_{6} \&
$$

What is the sample space?

## sample space

noun STATISTICS
the range of values of a random variable.

(iheads) Tail(5)


(ibiearts, Spades, Clubs, Diamondss)

(这, $2,3,4,5$, , (1)

## Finding probabilities from outcomes



What is the probability (written as a fraction) of getting of Head? $\frac{1}{2}$ number of successes
What is the probability (written as a fraction) of getting a Tail?


What is the probability (written as a fraction) of getting a 1


What is the probability (written as a fraction) of getting 5


What is the probability (written as a fraction) of getting an odd number


What is the probability (written as a fraction) of getting an even number

$$
2,4,6
$$

What is the probability (written as a fraction) of getting a number greater than 4


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

## Pr(Tail)

## PrOd Number)

## $\operatorname{Pr}(E v e n$ Number)



There are LOTS of questions we can use.
Maths like to use WORDS too!!!

What is the $\operatorname{Pr}($ Vowel $)$


$$
\text { What is the } \underline{\underline{\operatorname{Pr}(A)}}=\frac{2}{11}
$$




Probability that something DOESN'T HAPPEN knowing the probability SOMETHING DOES HAPPEN


$$
\operatorname{Pr}(\sin \operatorname{sing})=\frac{1}{10}+1
$$

$$
\left.\begin{array}{l}
\operatorname{Pr}(\text { snowing })=\frac{1}{10} \\
\operatorname{Pr}(\overline{\text { snaring }})=\frac{9}{10}
\end{array}\right]+1
$$

