

HANDLING DATA

Pupils should be taught to:

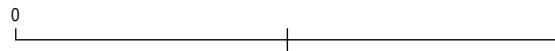
Use the probability scale; find and justify theoretical probabilities

As outcomes, Year 7 pupils should, for example:

Understand and use the probability scale from 0 to 1; find and justify probabilities based on equally likely outcomes in simple contexts.

Recognise that, for a finite number of possible outcomes, **probability** is a way of measuring the chance or likelihood of a particular outcome on a scale from 0 to 1, with the lowest probability at zero (impossible) and the highest probability at 1 (certain). For example:

- What fractions would you use to describe:
 - a. the chance of picking a red card at random from a pack of 52 cards?
 - b. the chance of picking a club card?Position the fractions on this probability scale.



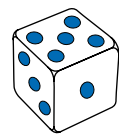
Know that probability is related to proportion and can be represented as a fraction, decimal or percentage, e.g. discuss what is meant by a weather forecast of a 20% chance of rain.

Know that if several equally likely outcomes are possible, the probability of a particular outcome chosen at random can be measured by:

$$\frac{\text{number of events favourable to the outcome}}{\text{total number of possible events}}$$

For example:

- The letters in the word **RABBIT** are placed in a tub, and a letter taken at random. What is the probability of taking out:
 - a. a letter **T**? (*one in six, or $\frac{1}{6}$*)
 - b. a letter **B**? (*$\frac{2}{6}$ or $\frac{1}{3}$*)
- The probability of rolling a 2 on a fair 1 to 6 dice is $\frac{1}{6}$, because 2 occurs once out of a total of 6 different possibilities.



What is the probability of rolling:

- 5?
- an odd number?
- zero?
- a number greater than 2?
- a prime number?
- a number lying between 0 and 7?

Mark these probabilities on a probability scale.

- A newsagent delivers these papers, one to each house.

<i>Sun</i>	250	<i>Times</i>	120
<i>Mirror</i>	300	<i>Mail</i>	100
<i>Telegraph</i>	200	<i>Express</i>	80

What is the probability that a house picked at random has:

- the *Times*?
- the *Mail* or the *Express*?
- neither the *Sun* nor the *Mirror*?

[Link to problems involving probability \(pages 22–3\).](#)