Functional Skills
Maths

Level 1
Use data to assess the likelihood of an outcome
v1.0

Functional Skills Maths:
Level 1

Skill Standard:
14

Coverage and Range:

Use data to assess the likelihood of an outcome.

- Understand that some events are impossible, some events are certain, some events are likely to occur.
- Understand the concept of possible outcomes, for example gender of a baby.
- Understand that some events can happen in more than one way, for example getting an odd number on the throw of a dice.
- Expressing a probability as a fraction, decimal or percentage is **not required**. [1]

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1 QCA Functional Skills guidance: amplification of the standards June 2008 QCA/08/3700

Explain the Skill

Describing Probability

Probability is the likelihood of something happening.

The probability of an event that is definitely going to happen is said to be **certain**.

Events that are **certain**:

If you roll a regular die you will get a number between 1 and 6.

If it is Sunday, tomorrow will be Monday.

The probability of an event that is definitely **not** going to happen is said to be **impossible**.

Events that are **impossible**:

You will get a 7 when you roll a regular die.

There will be 32 days in a month.

If an event has a good chance of happening it can be described as **likely**.

Events that are **likely**:

It will rain somewhere in England next week.

The temperature will be 25 °C in Sydney Australia in December.

If an event has a poor chance of happening it can be described as **unlikely**.

Events that are **unlikely**:

You will go to the moon.

You will meet someone with the same birthday as you.

Practise the Skill

1)   Choose a term to describe the probability of each of these events.

Circle your answer.

a) There will be 1 Friday in this week.

Impossible   Certain   Likely   Unlikely

b) If you are 9, you will be 18 on your next birthday.

Impossible   Certain   Likely   Unlikely

c) It will snow somewhere in England in January.

Impossible   Certain   Likely   Unlikely

d) You will get hit by a meteorite.

Impossible   Certain   Likely   Unlikely

e) An apple will naturally fall from a tree.

Impossible   Certain   Likely   Unlikely

f) You will be struck by lightning.

Impossible   Certain   Likely   Unlikely

Explain the Skill

Probability Scale

Probability is measured on a scale of 0 to 1.

If an event is certain **not** to happen, then it is said to have a probability of **0**.

If an event is certain to happen, then it is said to have a probability of **1**.

If an event may or may not happen, then it will have a probability somewhere between **0 – 1**.
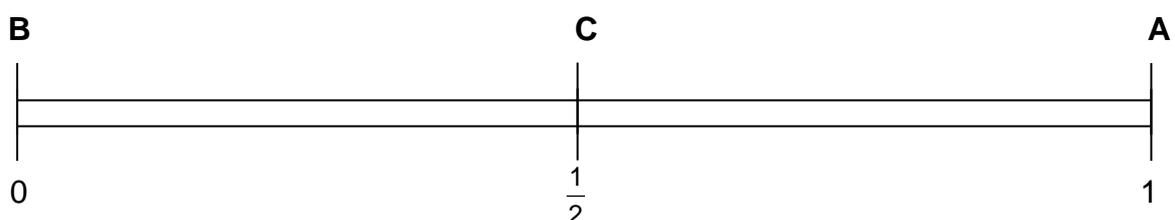
Outcomes that have an **equal** chance of happening or of not happening have a probability of ½.

A number line can be used to show probabilities.
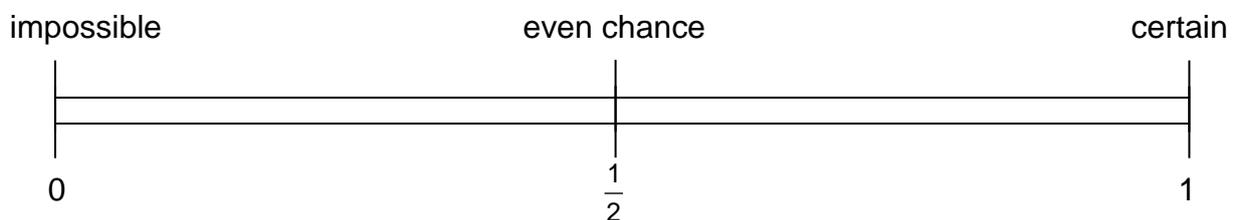
Place these events on the probability line.

- A. It will get dark tonight.
- B. You have a bowl containing only apples. What is the chance of picking an orange?
- C. You toss a coin and get heads.

Practise the Skill

1)   An event that is certain to happen has a probability of zero.

Circle your answer.

True / False

2)   An event that has an equal chance of happening has a probability of:

Circle your answer.
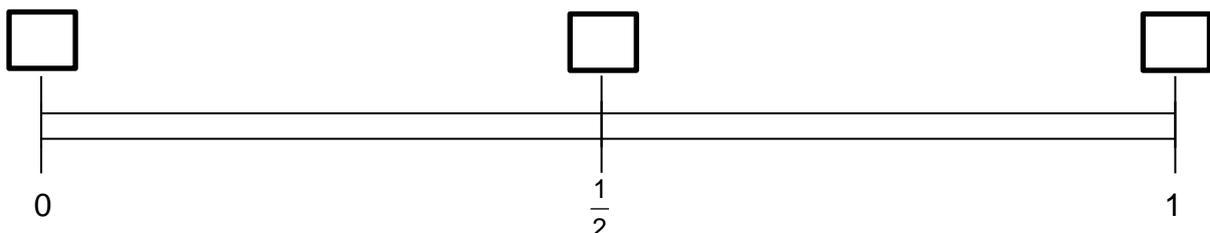1/3   1/4   1/2   1/6

3)   Put these events on the probability line below.

A. The month after September will be October.
B. There will be 2 Mondays in a week.
C. Your age on your next birthday will be an even number.
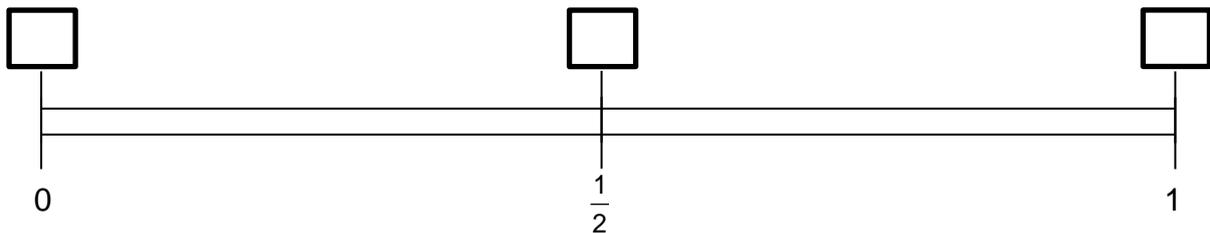
4)   Put these events onto the probability line between.

A. Your birthday is in the next 12 months.
B. A new born baby will be a boy.
C. The sun will set in the east.

Explain the Skill

Probability Outcomes

Throwing a coin can have 2 possible outcomes, either heads or tails. Therefore, both are equally likely. In other words, heads or tails both have an even chance.

Another way of putting this is **1 outcome out of a 2 possible outcomes.**

The probability of something happening   =   number of successful outcomes
                                                                              total number of all possible outcomes

So when you throw a coin the chance of getting heads or tails is ½.

If you throw a regular die, what is the probability of getting a 3?

The probability of getting a 3 =   number of successful outcomes   =   1
                                                    total number of all possible outcomes   6

If you throw a regular die, what is the probability of getting an even number?

The even numbers on a die are 2, 4 and 6.

The probability of getting 2, 4 and 6 =   number of successful outcomes   = 3   =   1
                                                         total number of all possible outcomes   6   2

Practise the Skill

1) How many possible outcomes are there when you throw a die?
   Circle your answer.

   1 or 6

2) When you throw a regular die what is the probability of getting a 6?
   Answer in the form of a fraction.

   _____

3) What is the probability of getting a 5?
   Answer in the form of a fraction.

   _____

4) What is the probability of getting an odd number?
   Answer in the form of a fraction.

   _____

5) A 6 sided spinner has 6 equal sections. Each section is a different colour – red, blue, green, yellow, orange and black.

   What are the chances of the spinner landing on green?
   Answer in the form of a fraction.

   _____

Apply the Skill

1) On your way to work what is the probability that you will pass another person?
Circle your answer.

Impossible   Certain   Likely   Unlikely

2) At lunchtime you buy a sandwich. You can choose white bread or brown bread.
What is the probability that you choose brown bread?
Circle your answer.

$$0 \quad \frac{1}{2} \quad 1$$

3) You decide to buy a muffin as well. There is 1 chocolate, 2 blueberry and 3 lemon muffins.
If you pick one a random what are the chances of picking a chocolate muffin?
Answer in the form of a fraction.

_____

4) When paying for your lunch you drop a pound coin. What are the chances the coin will land on tails?
Answer in the form of a fraction.

_____

5) When you sit down to eat your sandwich, what is the probability that you sit next to a Martian?
Circle your answer.

Impossible   Certain   Likely   Unlikely