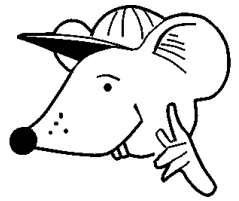


MATHEMATICS



N.S. Yr. 5 P.113

**Using language of probability
through experiment and theory.**

Equipment

Paper, pencil, ruler, squared paper, coin, 6 sided die,
coloured cubes/balls.

MathSphere

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Concepts

Children should be familiar with the following vocabulary:

perhaps, might, fair, unfair, likely, unlikely, equally likely, chance, certain, uncertain, probable, possible, impossible, good chance, poor chance, no chance, equal chance, even chance, evens, fifty-fifty chance, likelihood, probability, possibility.

Children should be able to say whether events are **impossible** (such as cows giving birth to hens), **unlikely** (such as tossing a die and getting a 4), **likely** (such as waking up tomorrow) or **certain** (such as throwing a normal die and getting a number from 1 to 6).

They should also be able to say which events have an **even chance** of happening (such as tossing a coin and getting a head), but they should be careful not to say that if there are two possibilities, they are equally likely. For example, there are two possibilities - I might buy a new BMW today or I might not. Unfortunately, these two events are not equally likely. Another example of this is I choose a number between 1 and 5. Is the number I choose a prime number? As there are three prime numbers between 1 and 5 (2, 3 and 5) and two numbers that are not, there is not an even chance that I will choose a prime number.

1. In the table write down some events that could happen to you. Then say whether they are *likely* or *not likely* to happen. The first two have been done for you.

Event	Likely or Not likely
I will sleep at home tonight.	Likely
I will still be awake at midnight tonight.	Unlikely

2. Put one of the following words in the table with the events:

Impossible

Unlikely

Likely

Certain

Event	Probability
I will see King Henry VIII tonight.	Impossible
The sun will shine at some time tomorrow.	Likely
It will snow tomorrow.	
If I choose a card from a pack, it will be a heart.	
I will see a rainbow tomorrow.	
The sun will rise tomorrow.	
If I put a tennis ball on water, it will float.	

1. In the table write down some events that could happen to your parents or guardians. Then say whether they are *likely* or *not likely* to happen. Two suggestions have been made for you.

Event	Likely or Not likely
My parent/guardian will use a computer tomorrow.	
My parent/guardian will eat chocolate tomorrow.	

2. Put one of the following words in the table with the events:

Impossible

Unlikely

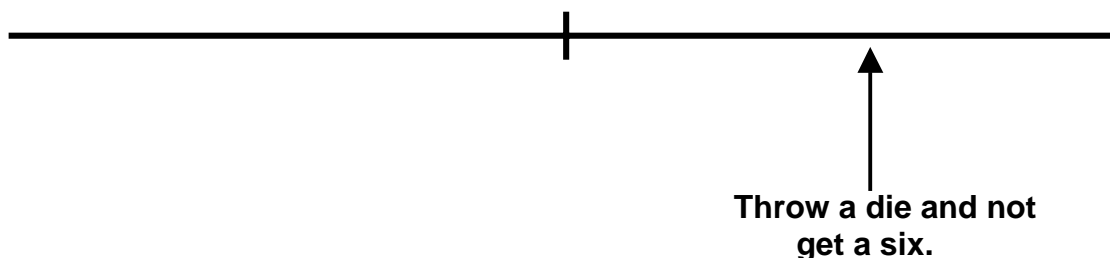
Likely

Certain

Event	Probability
I will eat carrots this evening.	
My teacher's birthday is on a Friday this year.	
It will rain for most of next Sunday.	
If I choose a card from a pack, it will be a heart, diamond, club or spade.	
If I type a sum into a calculator, it will give me the correct answer.	
If I put a football on the side of a hill, it will roll uphill.	
I shall know all my tables by the time I am fourteen years old.	

1. Draw out this probability scale and put the following events on it in the right places. One has been done for you.

No chance Poor chance Even chance Good chance Certain



- a) Throw a die and not get a six.
- b) Toss a coin and get a head.
- c) Toss a coin and get a 4.
- d) You being on television tonight.
- e) Choose a card from a pack and it is not the ace of clubs.
- f) Put your hand in your pocket now and pull out a £10 note.

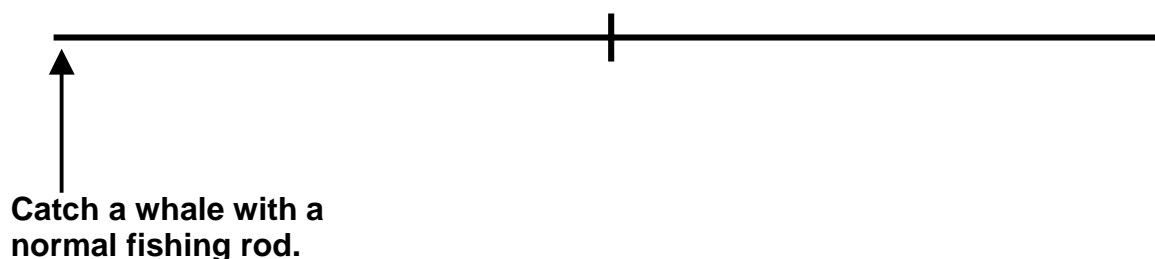
2. Can you write down some events that only have two outcomes? Here are some to start you off:

- a) Toss a coin and get a head or a tail.
- b) Pass or fail a swimming test.
- c) Throw a die and obtain an even number or an odd number.
- d)
- e)
- f)
- g)
- h)

Are all these events in the centre of the probability scale?

1. Draw out this probability scale and put the following events on it in the right places. One has been done for you.

No chance Poor chance Even chance Good chance Certain



- a) Catch a whale with a normal fishing rod.
- b) A giraffe giving birth to a lion.
- c) Choosing a letter of the alphabet at random and it being a consonant.
- d) Choose a Maths Rat at random and it being Divvy or Multi.
- e) Choose a number from **one** to **ten** at random. The probability of it being seven or greater.
- f) A person in your class being more than **140**cm tall.

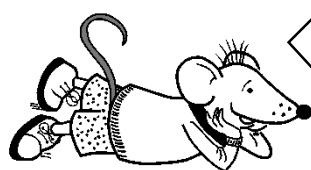
2. Can you write down some events that only have two outcomes? Choose one of the outcomes and put this on the probability scale.

Eg. Choose a factor of **16** at random. What is the probability of this factor being **even**?

The factors of **16** are **1, 2, 4, 8** and **16**, so the probability of one of these chosen at random being **even** is high (near the 'certain' on the probability scale)

Now write down some of your own.

Are all these events in the centre of the probability scale?



What's the probability of me falling asleep in the next five minutes?

Pretty high, I'd say.



Answers

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1. Answers will vary according to events children choose.
2. Snow: unlikely (depends on time of year)
Heart: unlikely
Rainbow: unlikely
Sunrise: likely (almost certain)
Tennis ball: Likely (almost certain)

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1. Answers will vary according to events children choose.
2. Carrots: likely or unlikely according to diet of children
Teacher's birthday: unlikely
Rain on Sunday: unlikely
Card: Certain
Calculator: Likely (almost certain)
Football: impossible
Tables: Likely

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1. **a)** Good chance **b)** Even chance **c)** No chance **d)** Nearly no chance
 e) Very good chance **f)** (Probably) very poor chance
2. All these events are not necessarily in the centre of the probability scale. Eg passing or failing a swimming test depends on the difficulty of the test and the ability of the swimmer.

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1. **a)** Almost no chance
 b) No chance
 c) Good chance
 d) Even chance (There are four Maths Rats - Addy, Subby, Multy and Divvy)
 e) Poor chance
 f) Depends on class.
2. These events are unlikely all to be in the centre of the probability scale. Children should realise that just because there are two possible outcomes to an event, they are not necessarily equally likely.