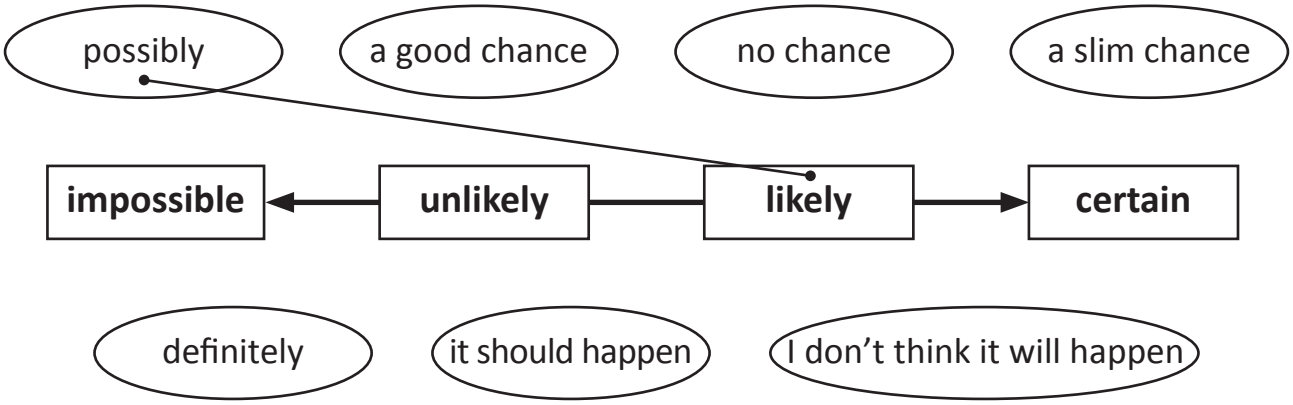
Chance – likelihood

Chance is the likelihood that something will happen.
If something will definitely happen, we say it is **certain**.
If something might happen, we say it is **likely**.
If something might not happen, we say it is **unlikely**.
If something will definitely not happen, we say it is **impossible**. We can show these chance words on a chance arrow like this, where certain and impossible are opposites.

1 **Often you will hear people using chance words in everyday conversation.**
For example, on the news you might hear that there is a **good chance** of rain tomorrow. Or a friend might say to you there is a **slim chance** that they will make it to your party.
What do these chance words actually mean? Where do they fit on the chance arrow? Look at the words in the ovals below and connect them to where you think they should go on the chance arrow. The first one has been done for you.

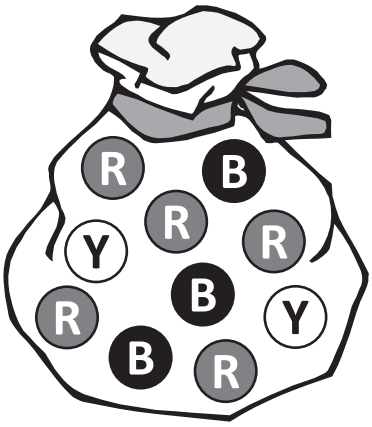


2 **Read each statement and circle the chance of it happening:**

Event	Chance
It will rain sometime this month.	impossible / unlikely / likely / certain
Thursday will come after Wednesday.	impossible / unlikely / likely / certain
A tiger will be serving at the canteen.	impossible / unlikely / likely / certain
Every student in our class likes broccoli.	impossible / unlikely / likely / certain

Chance – likelihood

3 **Look at this bag of different coloured counters. R stands for red, B is for blue, and Y is for yellow.**



a If you reached in and grabbed a counter without looking, which colour do you think you would most likely grab?

_____

b Which colour do you think would be the most surprising to get?

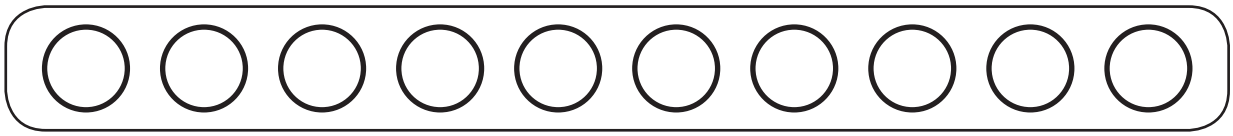
_____

4 **What's in the bag?**

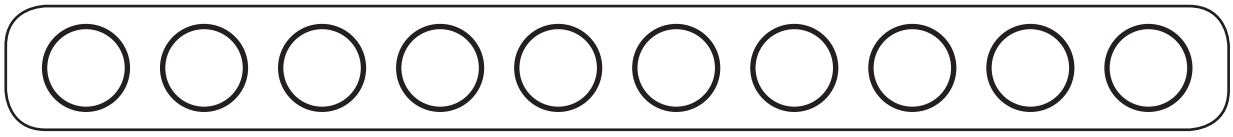
This is an investigation for two students where you are going to use chance and likelihood to guess what is in the bag. You will need a paper bag as well as 4 red, 4 blue and 4 yellow counters.

First, you need to decide who is Player 1 and who is Player 2. Player 1 guesses first so Player 2 puts 10 of the 12 counters in the paper bag in any combination they like. Player 1's job is to guess the combination of colours that are in the bag. They do this by taking one counter out, recording it and then replacing it. Record the colour by writing R, B, or Y in the space below. Do this 20 times until you think you can guess which 10 counters are in the bag.

a What I think is in the bag:



b What was actually in the bag:

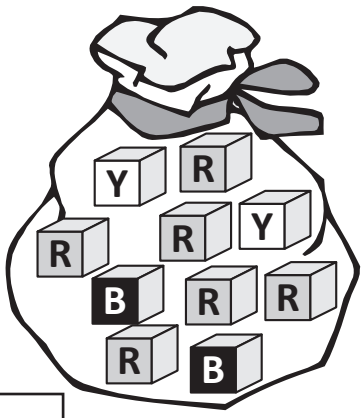


c How close was your guess?

d Swap turns so now Player 1 puts the counters in the bag and Player 2 guesses.

Chance – likelihood

5 **Look at this bag of counters. Connect each colour to the chance arrow that you think best describes the chance of pulling out each colour:**

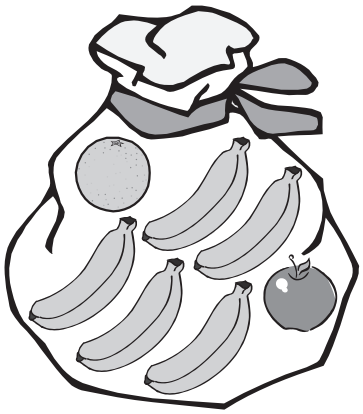


Yellow Blue Red

impossible ← **unlikely** — **likely** → **certain**

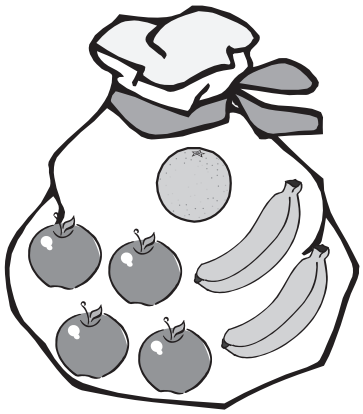
6 **Look at these shopping bags of fruit. Select the best chance word for each shopping bag:**

a The fruit I pick will be a banana.



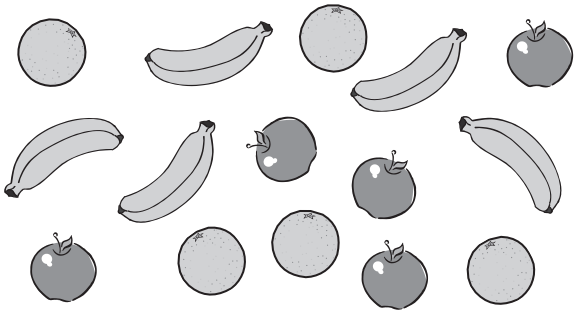
impossible / unlikely / likely

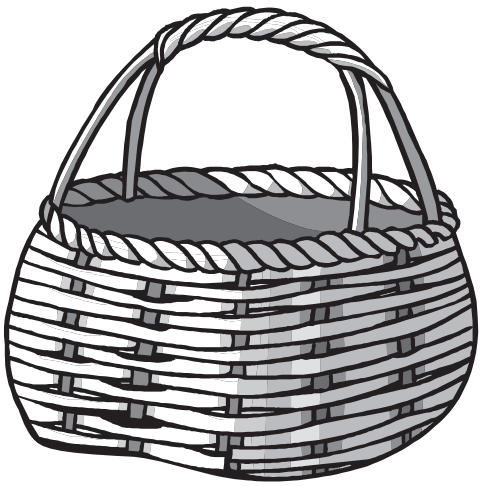
b The fruit I pick will be a strawberry.



impossible / unlikely / likely

7 **Ten pieces of fruit are placed into this basket. Inside the basket is a mixture of bananas, oranges and apples. Circle the fruit that is inside the basket if a banana is most likely to be chosen without looking.**





Chance – spinner investigation

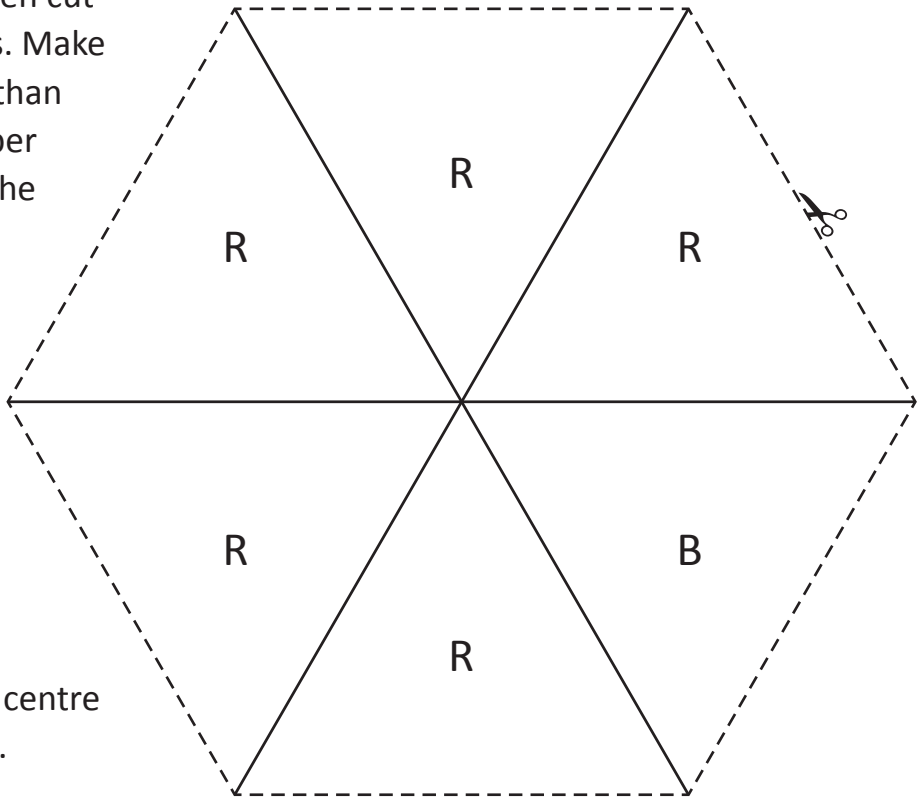
1 **Spin it! This is an investigation where you are going to make a spinner and look at the chance of it landing on certain colours.**

a For this activity you will need to copy this page and then cut out both the spinners. Make your spinners firmer than a regular piece of paper by pasting a copy of the spinner onto several sheets of scrap paper so it is firm.

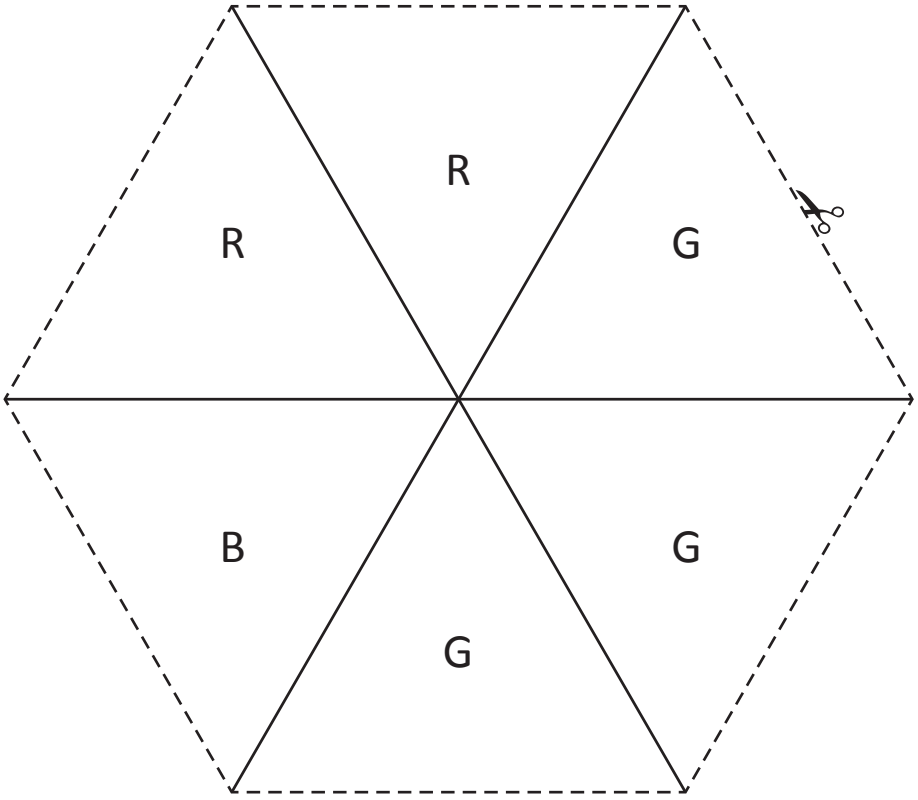
Now you need to colour in each section: R for red, B for blue and G for green.

Next, push a pencil carefully through the centre and practise spinning.

Spinner 1



Spinner 2



Continued on page 5.

Chance – spinner investigation

Continued from page 4.

b Now you can begin the investigation. First, write your prediction at the top of the table. Spin each spinner 20 times and tick where it lands each time.

My prediction:

I think that the spinner will be most likely to land on _____.

I think that the spinner will be least likely to land on _____.

Spinner 1: Number of times the spinner lands on each colour.	
Red	**Blue**

My prediction:

I think that the spinner will be most likely to land on _____.

I think that the spinner will be least likely to land on _____.

Spinner 2: Number of times the spinner lands on each colour.		
Red	**Blue**	**Green**

c Were your results as you would expect? Why or why not?

Chance – coin investigation

When you toss a coin, you call out heads or tails. There are two sides and two different possible results. That means there is an equal chance of landing on heads as there is on tails.


Tails

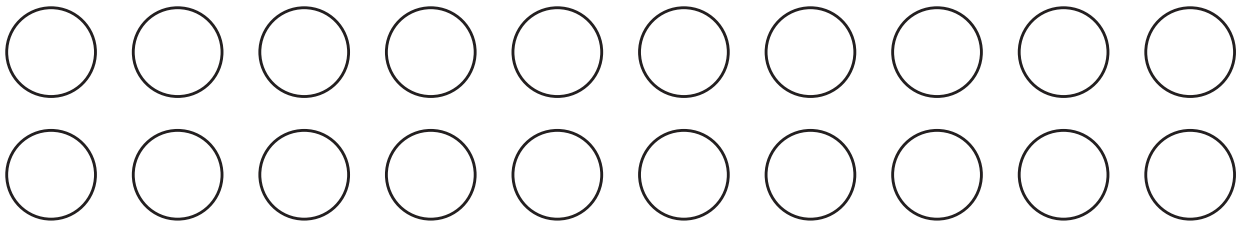

Heads

1 **For this experiment, you will toss a coin 20 times and record your results. First, predict your results:**

a How many times do you think the coin will land on heads? _____

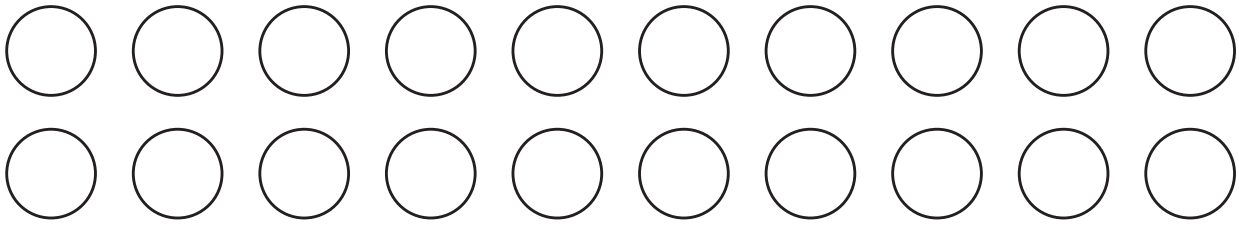
b How many times do you think the coin will land on tails? _____

c Now toss a coin 20 times and record your results below. Write H for heads and T for tails.



2 **Repeat the above experiment.**

a Toss a coin 20 times and record your results:



b What happened? Fill in this table to show the results.

Number of times the coin landed on heads and tails		
	H	**T**
Experiment 1		
Experiment 2		

c If your results changed, why do you think this is?

Chance – die investigation

We usually roll a die when we are playing a board game. Do you have a lucky number? Often 6 is the luckiest number in board games, but does it come up any more or less often than the other numbers? Let's investigate.

1 **Complete this sentence:**

If there are _____ different ways that a die could land and _____ different numbers, that means there is an even / uneven (circle one) chance of rolling each number.

2 **Roll a die 18 times. Write down the number you roll each time:**

Roll	Number on die
1	
2	
3	
4	
5	
6	
7	
8	
9	

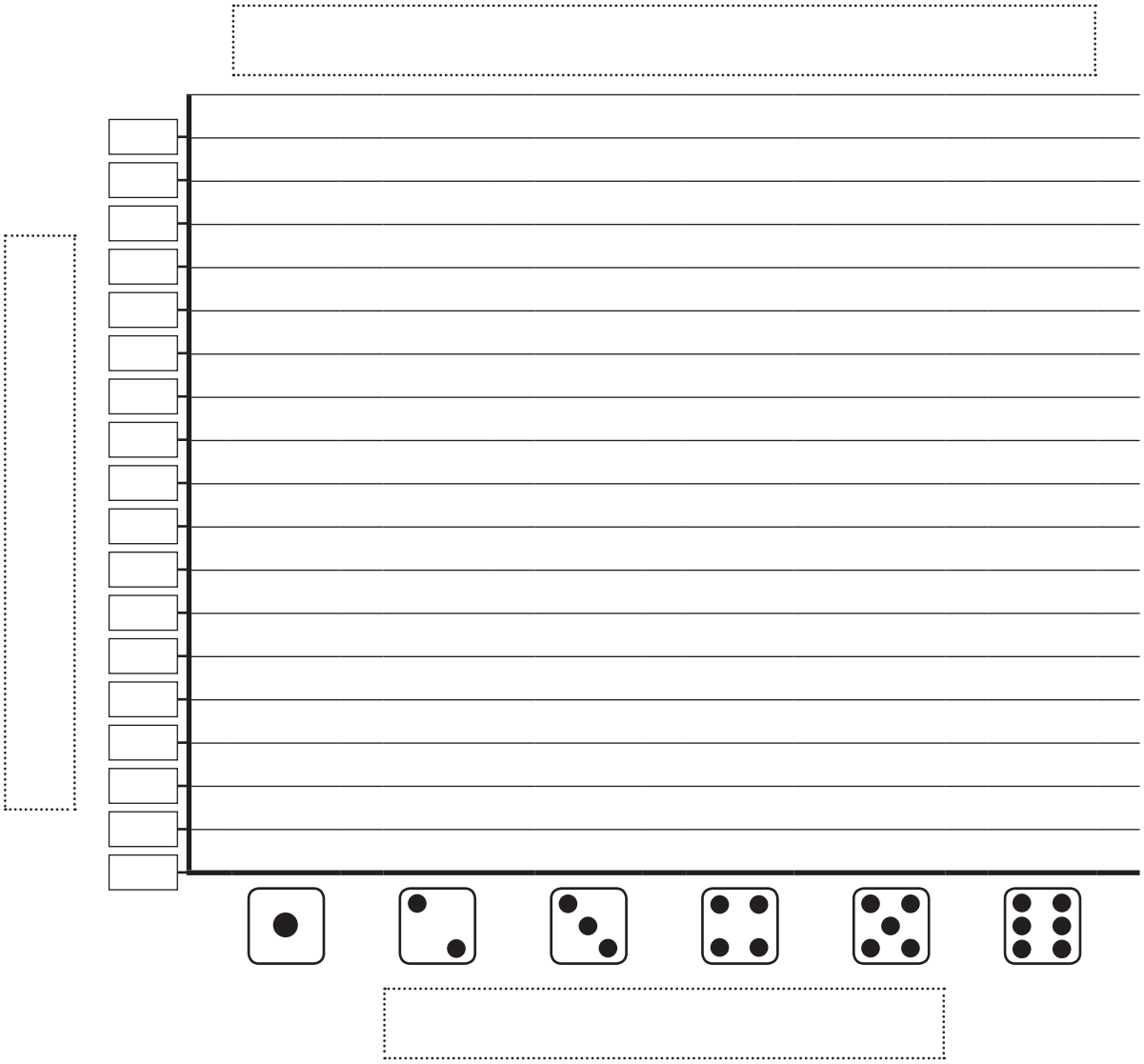
Roll	Number on die
10	
11	
12	
13	
14	
15	
16	
17	
18	

3 **Complete this tally table for the number you rolled:**

Number	Tally	Total
		
		
		
		
		
		

Chance – die investigation

4 **Graph the data that you collected. Make sure you include a heading and the labels.**



a Which number was rolled the most? ☐

b Which number was rolled the least? ☐

c How many times was the number 6 rolled? ☐

d List each number in order of the most to least times it was rolled:

_____

e If you repeated this investigation, would you have the same results?

Race to 6 apply

Getting ready

This is a game for two players. You will need a copy of this page to share and two dice. Each player will need their own coloured pencil. Make sure they are different colours.

What to do

The aim of this game is to be the first player to colour 6 spaces in a column.

Player 1 rolls both dice, adds the numbers and then shades a space in that column. Player 2 repeats these steps. The players take turns rolling and recording the totals in their own colour. The winner is the player who has 6 spaces coloured. The colours do not have to be in a row.

2	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

Total of dice

What to do next

Which column got filled in the fastest? Why do you think this is?