BLOOMSM4TH

Makes Maths Fun

Level 3

PROBABILITY

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

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BLOOMSM4TH Makes Maths Fun

Level 3

Probability

Level 3 is designed for students in their third year at school often called Year 2. The Probability strand allows students to recognise and describe the elements of chance in given events.

Knowledge: Students will identify whether given events will, might or won't occur and will suggest some events of their own which will, might and won't occur.

Students who demonstrate proficiency in this activity move on to Comprehension.

STOP

Students stop here as they require additional teacher support to master this activity.

Comprehension: Students will use a small packet of chocolate sweets to determine the chance of various colours being present in their given packet.

Students who demonstrate proficiency in this activity move on to Application.

STOP

Students stop here if time has run out or they require additional support with this activity.

Application: Students will compare their chocolate button results to those given and see how they differ and the advantage of graphing results rather than mereely calucating them.

Students who demonstrate proficiency in this activity move on to Analysis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Analysis: Students will record the chance of an item occuring within a given set of items and use this to identify items which are least, most and equally likely to occur.

Students who demonstrate proficiency in this activity move on to Synthesis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Synthesis: Students will make a fair and unfair spiner and graph the results of each.

Evaluation: Suggested questions provide a starting point for discussions related to Probability.

Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.

All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: _____

What's The Chance?

Match each event to its likelihood of occuring.

You will eat lunch today.

You will get a tiger as a pet.

You will find 5c today.

It will rain this afternoon.

You will eat ice cream this month.

You will brush your teeth tonight.

Will Happen	Might Happen	Won't Happen

You will be driven somewhere this year.

You will play soccer this week.

Your teacher will have blue hair tomorrow.

You will see a rainbow this week.

You will use a pencil today.

There will be cheese in your dinner this week.

Create some events of your own in each category below.

Will Happen	Might Happen	Won't Happen

Let's Try This Again

Progress To Comprehension

Name: _____

Sweet Chance

Note: You will need 1 small packet of chocolate buttons such as Smarties or M&Ms. Empty your packet of chocolate buttons onto the space below.

Place your chocolate buttons here

1. How many chocolate buttons were in the packet? _____

2. How many buttons were blue? _____

So the chance of a getting a blue button is? ___ / ___

3. How many buttons were green? _____

So the chance of a getting a green button is? ___ / ___

4. How many buttons were yellow? _____

So the chance of a getting a yellow button is? ___ / ___

5. How many buttons were red? _____

So the chance of a getting a red button is? ___ / ___

6. How many buttons were purple? _____

So the chance of a getting a purple button is? ___ / ___

7. How many buttons were orange? _____

So the chance of a getting an orange button is? ___ / ___

8. How many buttons were pink? _____

So the chance of a getting a pink button is? ___ / ___

9. How many buttons were left over? _____

10. Which colour are you most likely to pull out of your packet? _____

11. Which colour are you least likely to pull out of your packet? _____

12. Name 1 colour you could you not pull out of your packet? _____

Name: _____

Graphing Results

Use the results from the chocolate button activity to complete the graph below.

8							
7							
6							
5							
4							
3							
2							
1							
	blue	green	yellow	red	purple	orange	pink

1. Which colour are you most likely to pull out of your packet? _____
2. Which colour are you least likely to pull out of your packet? _____
3. Which colour you could you not pull out of your packet? _____

Compare your results to Marty's below.

6							
5							
4							
3							
2							
1							
	blue	green	yellow	red	purple	orange	pink

1. How many chocolate buttons were in Marty's packet? _____
2. How many buttons were blue? ____ So the probability of pulling a blue is? __ / __
3. How many buttons were red? ____ So the probability of pulling a red is? __ / __
4. How many buttons were pink? ____ So the probability of pulling a pink is? __ / __
5. Which colour is Marty most likely to pull out of his packet? _____
6. Which colour is Marty least likely to pull out of his packet? _____
7. Which colours did Marty not have in his packet? _____


Let's Try This Again


Progress To Analysis

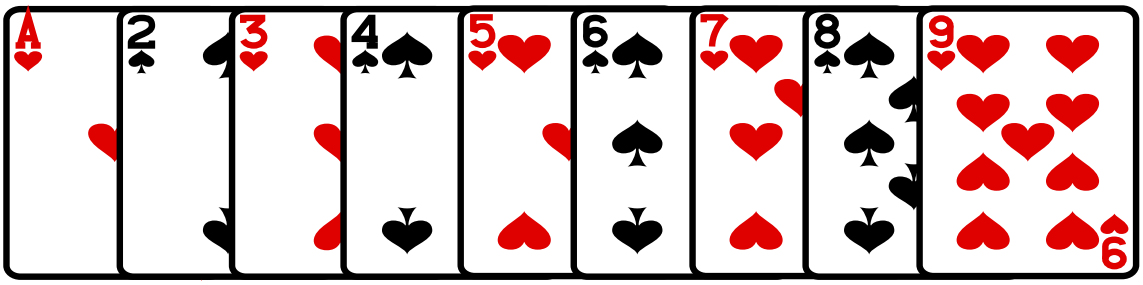
Name: _____

Most, Least Or Equally Likely

The chance of something happening depends on how often it occurs.

How many cubes are there? ___
How many cubes are yellow? ___
What is the chance of choosing a yellow cube? ___/___
How many cubes are green? ___
What is the chance of choosing a green cube? ___/___
Which colour cube are you most likely to choose?
Which colour cube are you least likely to choose?

How many discs are there? ___
How many discs are blue? ___
What is the chance of choosing a blue disc? ___/___
How many discs are red? ___
What is the chance of choosing a red disc? ___/___
Which coloured disc are you most likely to choose?
Which coloured disc are you least likely to choose?
Which coloured discs are you equally likely to choose?



Use the cards above to answer the questions below.

How many cards are there?

What is the chance of selecting a heart? ___/___

What is the chance of selecting a club? ___/___

Which suit are you most likely to select? _____

What is the chance of selecting a 5 of hearts? ___/___

What is the chance of selecting the 7 of clubs? ___/___

What is the chance of selecting a card that is less than 5 (not including 5)? __/__

What is the chance of selecting a card that is more than 2 (not including 2)? __/__

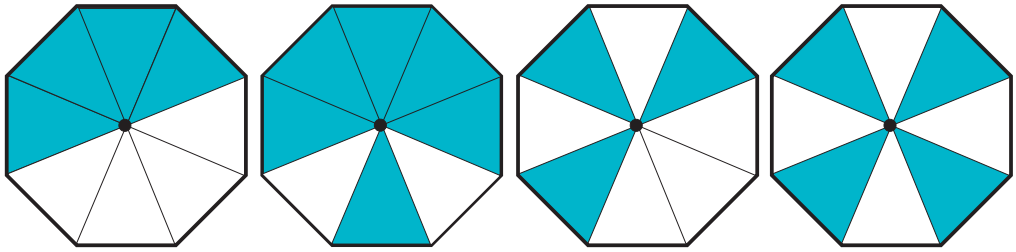
Let's Try This Again

Progress To Synthesis

Name: _____

Fair and Unfair Spinners Page 1

Look at the spinners below. Match each to its correct classification.



Fair Spinner Unfair Spinner

Print the fair spinner on page 2 and see if the arrow really does land on the blue and white an equal number of times. Answer the questions which follow.

Spin	Result	Spin	Result	Spin	Result
1	Blue or White	11	Blue or White	21	Blue or White
2	Blue or White	12	Blue or White	22	Blue or White
3	Blue or White	13	Blue or White	23	Blue or White
4	Blue or White	14	Blue or White	24	Blue or White
5	Blue or White	15	Blue or White	25	Blue or White
6	Blue or White	16	Blue or White	26	Blue or White
7	Blue or White	17	Blue or White	27	Blue or White
8	Blue or White	18	Blue or White	28	Blue or White
9	Blue or White	19	Blue or White	29	Blue or White
10	Blue or White	20	Blue or White	30	Blue or White

1. How many time was white spun? ____/ 30
2. How many times was blue spun? ____/ 30
3. Did one colour get spun more often than the other?
4. Why do you think this might have been?
5. List 3 ways in which you could be sure the blue colour would be spun more often.

_____

_____

_____

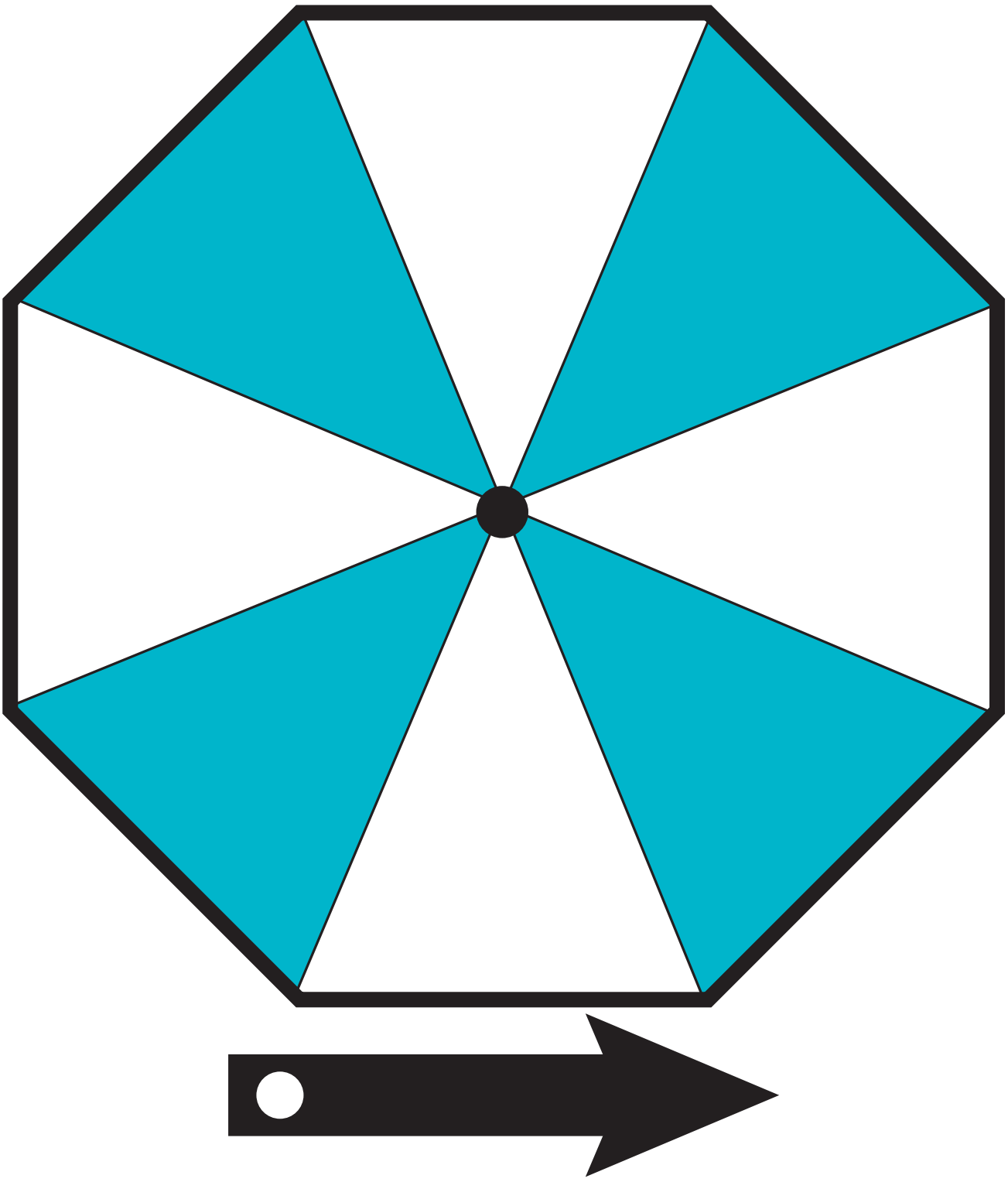
Let's Try This Again

Progress To Evaluation

Name: _____

Fair and Unfair Spinners Page 2

Print the spinner below onto cardboard and attach the spinner hand using a split pin through the centre of the octagon.



Let's Try This Again

Progress To Evaluation

Probability Discussion

The following questions and activities are provided as a starting point for fun discussions related to Probability. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Probability activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.

Discuss events that are likely and unlikely to occur and how these change depending on the time of year, location, age etc.

Have students compare their chocolate button results and discuss why each box will have differing numbers of each colour in them. Discuss whether they can predict the outcome of a particular colour being chosen.

Discuss the advantages to viewing results in a table format rather than merely written data especially for viewng the most and least likely events to occur.

Order a number of events into their likelihood of occuring from impossible, to guarenteed using language such as likely, will not, can, might, greater then even, improbable, probable and no chance.

Discuss cheating and playing fairly and what people can do to improve their chances of winning without cheating such as practicing versus using a calculator in a maths test.