BLOOMSM4TH

Makes Maths Fun

Level 6

CHANCE & 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 6

Chance & Probability

Level 6 is designed for students in their sixth year at school often called Year 5. Students will order the likelihood of simple events on a number line from zero to one.

Knowledge: Students will order the likelihood of simple events on a number line from zero to one.

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 suggest events to plot on a class number line which uses definitely, likely, unlikely and never going to happen.

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 use surveys to collect statistical data for likely events such as having a dog, cat, sibling or being the eldest child.

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 convert data to fractions and plot their collected data on the original class number line and compare data accuracy between likely and unlikely.

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 choose one piece of data and complete a class or grade wide survey of that data.

Evaluation: Suggested questions provide a starting point for discussions related to Chance and 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: _____

Knowledge

Plot each event given below on a number line from 0 (impossible) to 1 (certain).

- The sun will rise tomorrow morning.

0	1	2	3	4	5	6	7	8	9	10

- It will rain this month.

0	1	2	3	4	5	6	7	8	9	10

- You will win a million dollars this week.

0	1	2	3	4	5	6	7	8	9	10

- A new student will start at the school this week.

0	1	2	3	4	5	6	7	8	9	10

- You could have a pet hippopotamus.

0	1	2	3	4	5	6	7	8	9	10

- You will go camping in the next school holidays.

0	1	2	3	4	5	6	7	8	9	10

- You will see your cousins this year.

0	1	2	3	4	5	6	7	8	9	10

- You will go on a plane.

0	1	2	3	4	5	6	7	8	9	10

- You will see a bird flying today.

0	1	2	3	4	5	6	7	8	9	10

- You will have answered all 10 questions on this page correctly.

0	1	2	3	4	5	6	7	8	9	10

Name: _____

Comprehension

Now suggest your own events for each chance event below and circle the correct number for each event.

Ie. • Certain: The sun will rise tomorrow morning.

0	1	2	3	4	5	6	7	8	9	10

• Impossible: _____

0	1	2	3	4	5	6	7	8	9	10

• 50% Chance: _____

0	1	2	3	4	5	6	7	8	9	10

• Likely: _____

0	1	2	3	4	5	6	7	8	9	10

• Unlikely: _____

0	1	2	3	4	5	6	7	8	9	10

• Absolutely: _____

0	1	2	3	4	5	6	7	8	9	10

• Never Going to Happen: _____

0	1	2	3	4	5	6	7	8	9	10

• Even Chance: _____

0	1	2	3	4	5	6	7	8	9	10

• Not Likely: _____

0	1	2	3	4	5	6	7	8	9	10

• Strong Posibility _____

0	1	2	3	4	5	6	7	8	9	10

• Equal Chance: _____

0	1	2	3	4	5	6	7	8	9	10

Let's Try This Again

Progress To Application

Name: _____

Application

Use the tables below to collect data from 10 other students on each event and then answer the questions for each.

Student's Pets					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
	Dog	Cat	Fish	Hamster	Bird

- What is the chance that a person you surveyed has a dog: _____

0	1	2	3	4	5	6	7	8	9	10

- What is the chance that a person you surveyed has a cat: _____

0	1	2	3	4	5	6	7	8	9	10

- What is the chance that a person you surveyed has a pet: _____

0	1	2	3	4	5	6	7	8	9	10

Siblings			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			
	Sister	Brother	No Sibling

- What is the chance that a person you surveyed has a sister: _____

0	1	2	3	4	5	6	7	8	9	10

- What is the chance that a person you surveyed has no siblings: _____

0	1	2	3	4	5	6	7	8	9	10

Let's Try This Again

Progress To Analysis

Name: _____

Application part 2

Favourite Colour					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
	Red	Blue	Green	Yellow	Pink

- What is the chance that a person you surveyed chose red as their favourite colour? _____

0	1	2	3	4	5	6	7	8	9	10

- What is the chance that a person you surveyed could not choose a colour from the list? _____

0	1	2	3	4	5	6	7	8	9	10

Name: _____

Analysis

Part 1: For each of the number lines in the Application section convert the score to a fraction.
Ie. if 4 people had dogs then 4/10 is the chance of someone having a dog which is less than half - so unlikely.

What is the chance that a person you surveyed has a dog: _____

What is the chance that a person you surveyed has a cat: _____

What is the chance that a person you surveyed has a pet: _____

What is the chance that a person you surveyed has a sister : _____

What is the chance that a person you surveyed has no siblings: _____

What is the chance that a person you surveyed chose red as their favourite colour?
_____

What is the chance that a person you surveyed could not choose a colour from the list? _____

Part 2: Suggest events represented by the chance of them occurring.

0/10 chance:

1/10 chance:

2/10 chance:

3/10 chance:

4/10 chance:

5/10 chance:

6/10 chance:

7/10 chance:

8/10 chance:

9/10 chance:

10/10 chance:

Name: _____

Synthesis

Choose 2 topics of your own for which you will collect data. Graph the results and then record the probability of at least 3 events occurring related to the data both as a line graph and a fraction.

Topic:					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					

- What is the chance _____?

0	1	2	3	4	5	6	7	8	9	10

This event is _____ to occur as it has a _____ out of 10 or _____/_____ chance of occurring.

Topic:					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					

- What is the chance _____?

0	1	2	3	4	5	6	7	8	9	10

This event is _____ to occur as it has a _____ out of 10 or _____/_____ chance of occurring.


Let's Try This Again


Progress To Evaluation

Evaluation

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

discuss how this reflects in the original number line and how data accuracy improves with survey numbers.

Discuss terms people use to represent chance such as "snowflakes chance in summer" or "not in this life time".

What other terms have students heard used?

What other questions could have been asked using the data collected during the Application activity?

Discuss with students the correlation between graphed data and chance in terms of most likely event, least likely event etc.

Discuss whether it is easier to understand chance and probability as a term ie. definitely, likely, impossible, on a number line or as a fraction.

Have students compare the answers they gave for chance events in the analysis task.