

PROBLEM 26: SIMPLE CHANCE EXPERIMENTS

Find a partner. Examine the descriptions and events below and match them up if they fit. Sometimes multiple events might fit one description and sometimes no events might fit a description. Be prepared to prove you are right to another pair of students at the end.

Match up the events to the right description.

Event

Tomorrow I will sleep in late

Tomorrow I will be a frog

Tomorrow I will go to school

Tomorrow I will love pizza

Tomorrow I will have a hair cut

Tomorrow I will eat bread

Tomorrow I will visit my friend

Tomorrow I will be sick

Tomorrow the sun will rise in the morning

Description

Certain to happen

Likely to happen

Could happen

Unlikely to happen

Impossible



Sharing time: Which ones were hard to work out? Why were they hard?

Understanding: Choose a statement that you and your partner disagree about. Explain how you know that you are right.

Questions:

1. Which event do you think is the most likely to happen? Why?

2. Which event do you think is the least likely to happen? Why?

3. Brainstorm some other words that we use to describe how likely something is to happen. Write any that you can think of here and give an example of an event that would be this likely:

Manipulation problem:

Two friends were trying to decide who should roll the die for their team. Charlie argued that she should roll because last time she rolled a six and therefore she is clearly a good roller. Liam argued that he should roll because Charlie couldn't roll another six when she had just rolled one. What do you think?

Teacher initials:

Date:

Problem solving / T&R:

- Problem solved with minimal or non-mathematical prompting
- Some leading questions were used to prompt thinking
- Solved after explanation
- Did not work out solution
- N/A- not a novel problem

Reasoning / Comm.:

(verbal, written, working and equations, or visual representations)

- Clearly and logically reasoned
- Easily understood
- Understood with some interpretation needed
- Some gaps but on topic
- Minimal or off topic

Understanding / Reflect:

- Well reasoned manipulation problem, saw problems with both arguments
- Some help with manipulation problem, but then saw problems with both arguments
- Answered manipulation problem by relying on previous experience not on reasoning, or saw problems with only one argument
- Did not answer appropriately
- Student not observed

Making ten card game

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Appendix 5: Chance worksheet (Addition to Problem 28)

Every student will win a race.	Most students will wear their house colours.	All houses will end with the same score.	The teachers will all go home early
The year 7 students will run faster than the year 1 students.	A year 3 student will break the school high jump record.	No students will come to school.	Parents will come to school to watch.
The blue house will win every race.	A frog will win the long jump competition.	There will be a trophy for the winning house.	The Sports Day will be cancelled.

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Problem 28: Chance

School Sports Day is tomorrow and all classes are getting ready. Read the stories that are about things that:

might happen

are impossible or will never happen

Work with a partner to sort the cards into 2 groups – things that might happen and things that will never happen. Make sure you both agree.

Things that might happen can be sorted into two groups.
Things that are:

likely to happen

unlikely to happen

Work with your partner to sort the cards in your 'might happen' group.
Make 2 groups – things that are likely to happen and things that are unlikely to happen. Make sure you both agree.



Choose one story from each group to glue in these boxes.

Something that is
likely to happen.

Something that is
unlikely to happen.

Problem solving:

Teacher initials:

Date:

Student solved the problem with:

- Minimal help
- Some prompting
- Solved after explanation
- Did not work out a solution by themselves
- N/A – not a novel problem

Why did you put them in these groups?

Tell a friend why these things are likely or unlikely to happen.

Peer Assessment

Name:



Application questions

Alice's family is going on a holiday to the beach for the summer holidays.

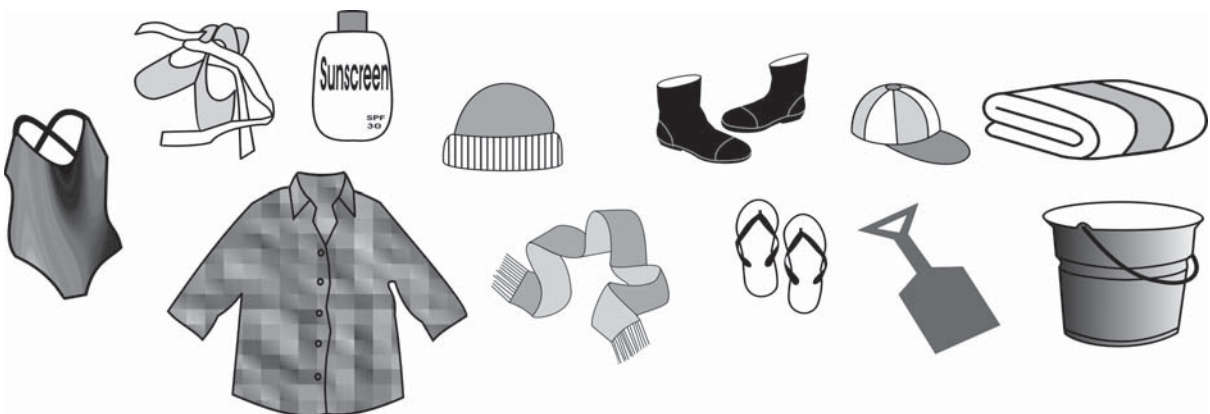
 or  Draw or write about something that might happen at the beach.

 or  Draw or write about something that will not happen at the beach.

Alice is packing her bag ready to go.
Which of the following things is she likely to need while she is away?

 Draw a circle around the things Alice is likely to need.

 Draw a cross through the things that Alice is unlikely to need.

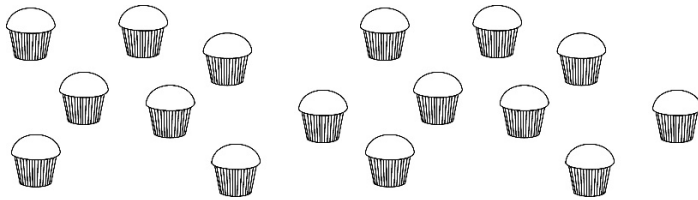


Interleaved practice

Number:

1. Draw 20 counters arranged as an array or rectangle.

2. How many cupcakes are shown? How many is half the cupcakes? How many is a quarter of the cupcakes?



3. How many hundreds, tens and how many ones are there in 438?

Measurement/Geometry:

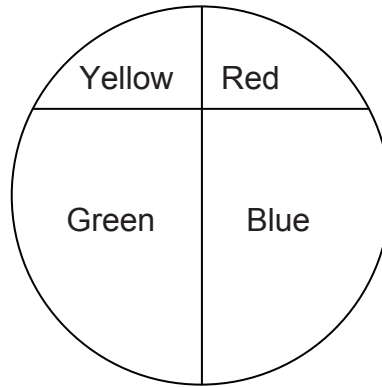
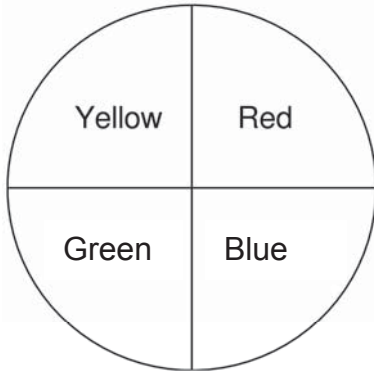
4. What is the day and date today? What will be the date in one week from today?
5. Draw at least 5 coins to make \$2. Do not use a \$1 coin.
6. Draw a ball rolling down a ramp. Use 3D objects in your drawing (e.g. rectangular prism for a box to rest the top of the ramp on) and name them.

Chance/Data:

7. Write something that is impossible, something that is likely, and something that is certain.


Manipulation problem

There are four colours on a spinner. Each person chooses one colour. When a spinner lands on the person's colour, they score a point. Here are the spinners:



 Would it matter which colour you chose? Explain:

Backwards question

 Design a spinner where Red is the most likely to win, and Yellow is the least likely to win.

