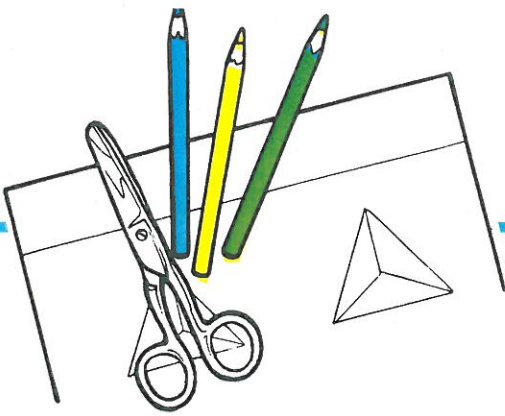


SMILE WORKCARDS

Probability Pack One

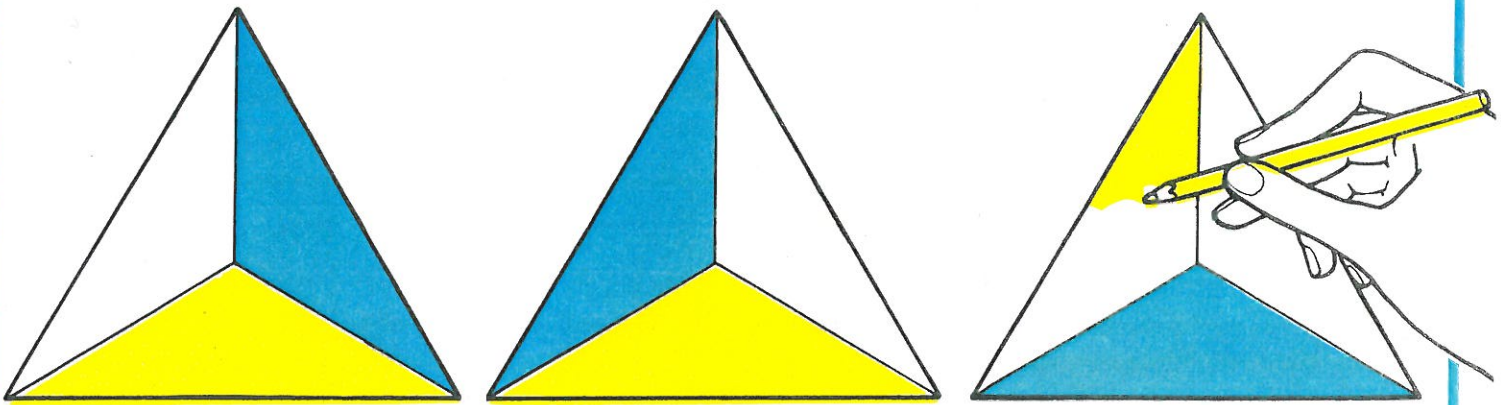
Contents

	Title	Card Number
1	Colouring Triangles	852
2	Likely or unlikely?	2034
3	Turning the Cards	2313
4	Logical Kitty	1690
5	Shading Strips	1845
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8	Strange Dice Game	2189
9	Pizza or Pasta?	2319
10	Lucky Dip	1643
11	Fair Play	2017
12	How Likely?	2152

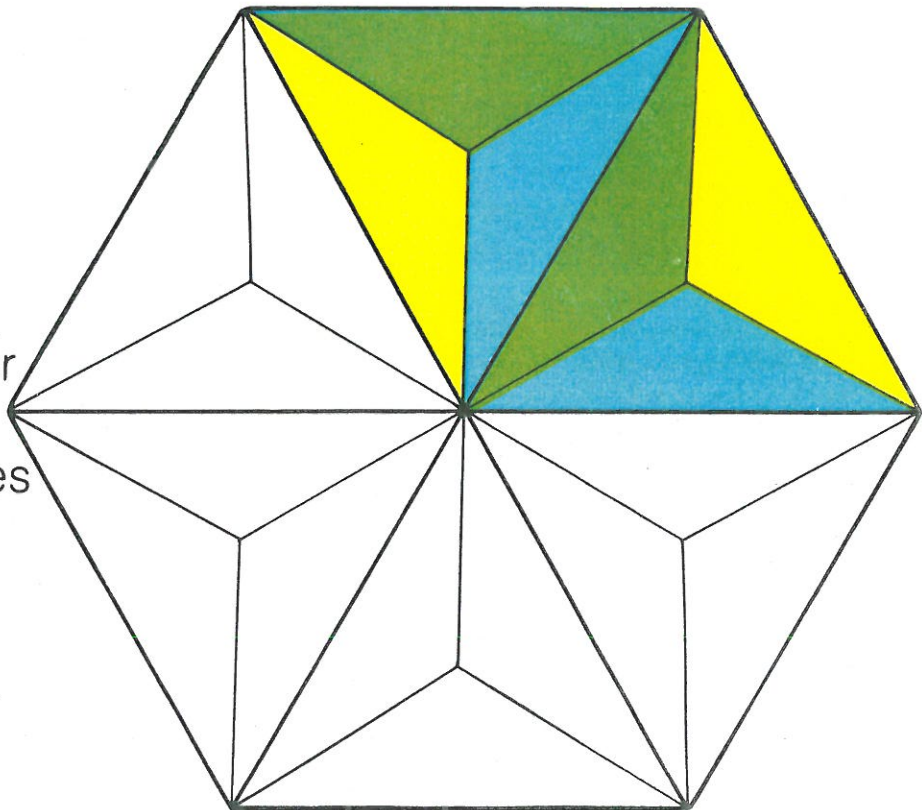


You will need SMILE worksheet 0852 A, scissors and colours.

Use the worksheet. Colour each large triangle so that they all look different. You must use the same 3 colours for each one.

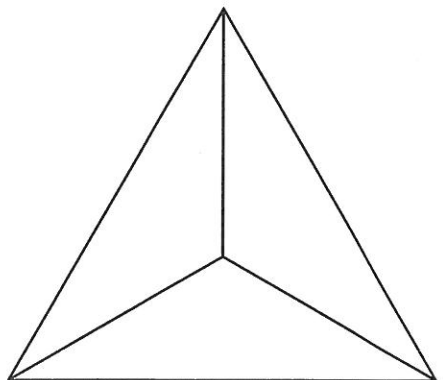
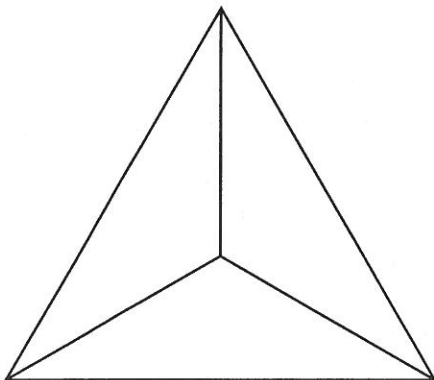
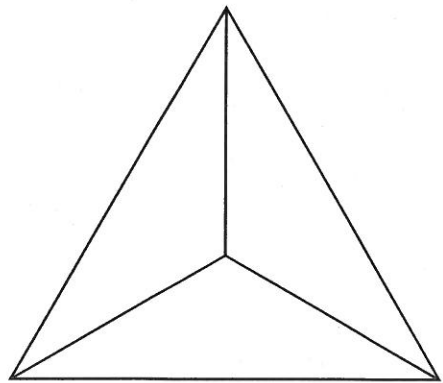
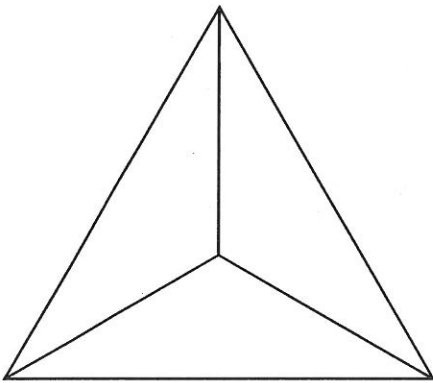
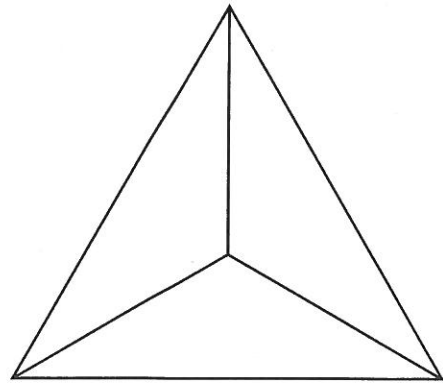
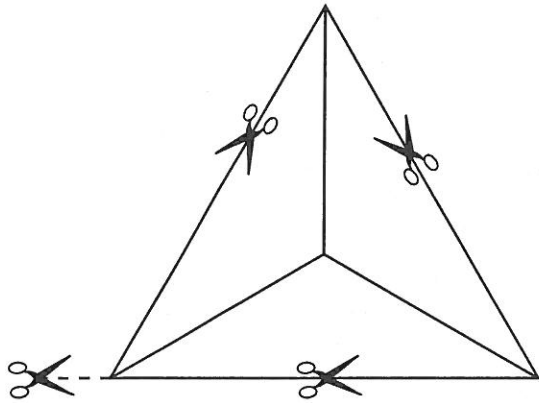


Cut out all 6 triangles. Fit them together so that each colour touches a different colour.



Colouring Triangles

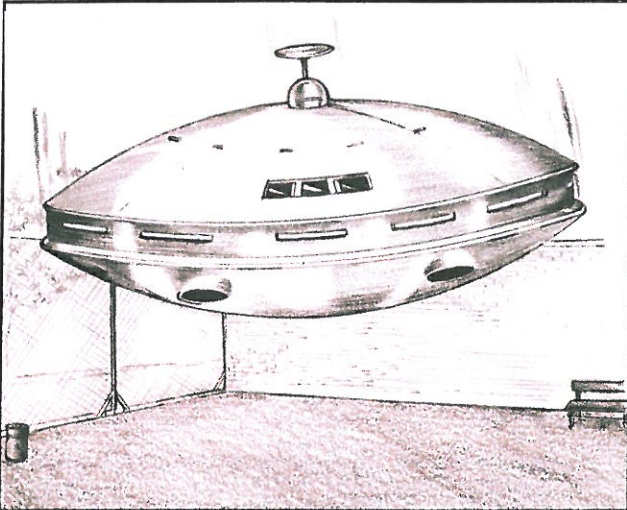
Cut-out Sheet



Likely or unlikely?

An activity for a group of 3 or more.

You will need a copy of Smile Worksheet 2034a.



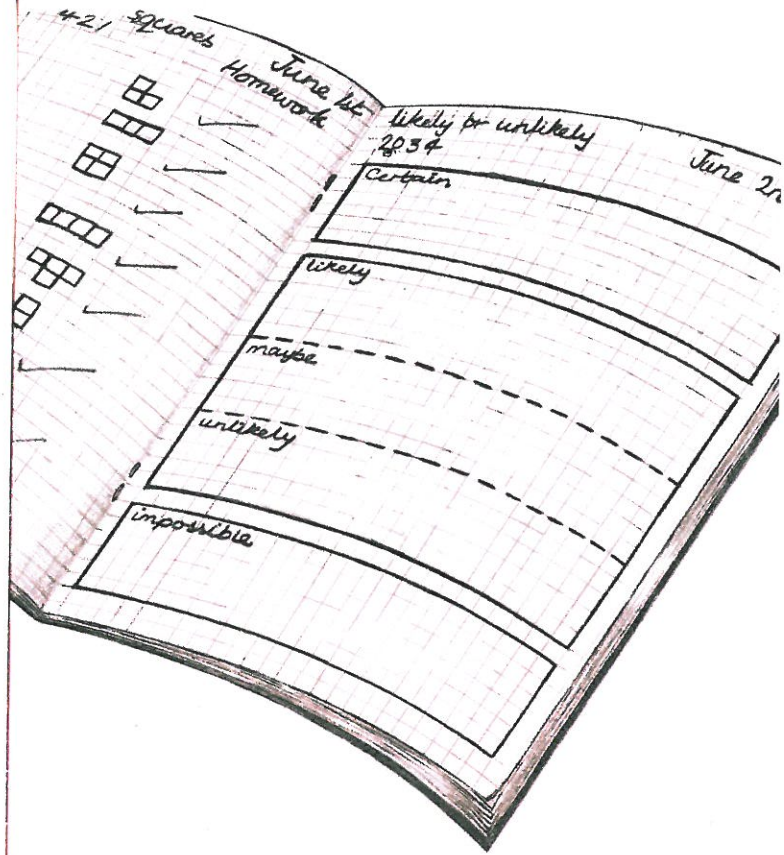
Is it likely that a spaceship will land in the playground tomorrow?



Is it likely that you will enjoy school today?

Cut out the statements from the worksheet.

Talk about the statements. Try to decide in which of the boxes below each statement should go.



Now stick or copy them into boxes in your book.

You may prefer to make a display for your classroom wall.

- Look at the statements in the LIKELY box. Which is the most likely? Which is the least likely? Can you put them in order?
- Which statement caused the most disagreement in your group?
- On which statement was it easiest to agree?

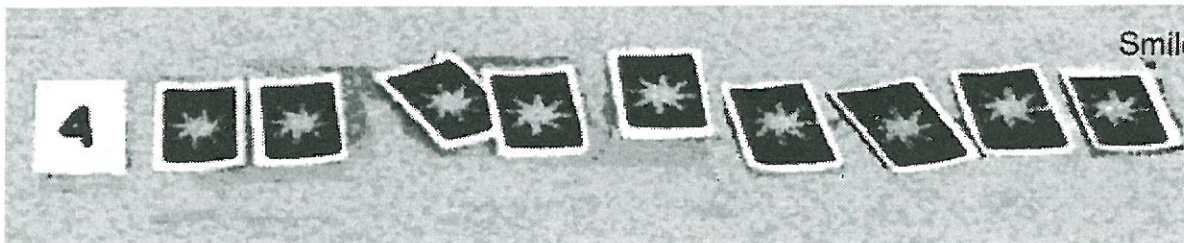
You may like to write your own statements.

Likely or unlikely?

Cut out the following statements.



You will grow a banana on an apple tree.	You will travel home by airplane from school.
You will see rain today.	You will eat chips today.
It will rain somewhere in Britain today.	You will eat fish and chips today.
You will look out of the window today.	It will rain in the Sahara desert tomorrow.
Everyone in the class will do their homework this week.	You will be older tomorrow than you are today.
You will look at a clock today.	You will wake up before 8.00 a.m. tomorrow.
You will drink a can of coke or lemonade this week.	You will watch TV at the weekend.
A spaceship will land in the playground tomorrow.	The head teacher will come into your classroom today.
You will enjoy school today.	You will get 'heads' when you toss a coin.

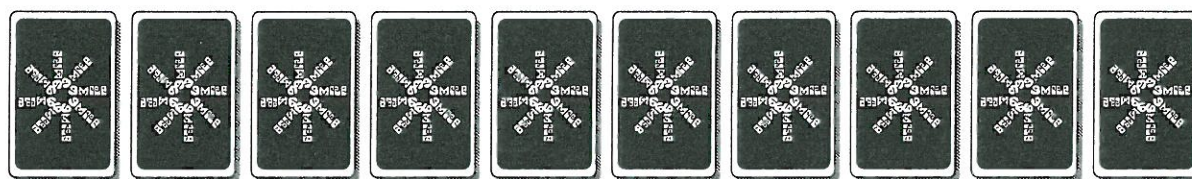


Turning the cards

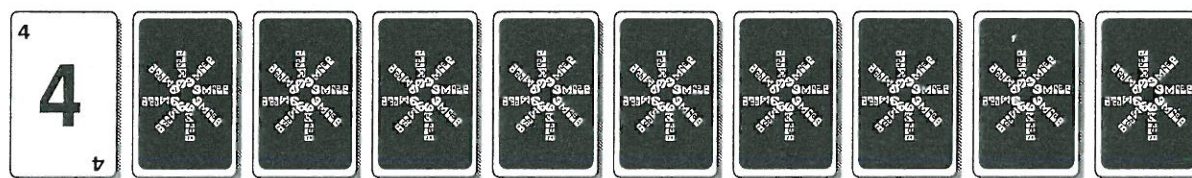
An activity for two.

You will need cards 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 from Smile **2226**, *Sum Number Cards*.

- Shuffle the cards, place them face down in a row.



- Turn over the first card.



- **Predict** whether the next card will be higher or lower.

Turn the card over to see if you were right.

- Continue to predict until you reach the end of the row.
- Record your predictions in a table.
- **Play the game three more times.**

Number on card	Higher or lower	
	Predict	Actual
4	Higher	



Game 1



Prediction:

Lower.

Explanation:

There are six cards remaining 0, 1, 4, 6, 7 and 9.

Only **one** is **higher** than 8.

Five are **lower** than 8.

So it is **more likely** that the next card will be **lower** than 8.

Look at these five games

- a) **Predict** whether the next card is more likely to be higher or lower.
- b) **Explain** your prediction.

Game 2



Game 3



Game 4



Game 5

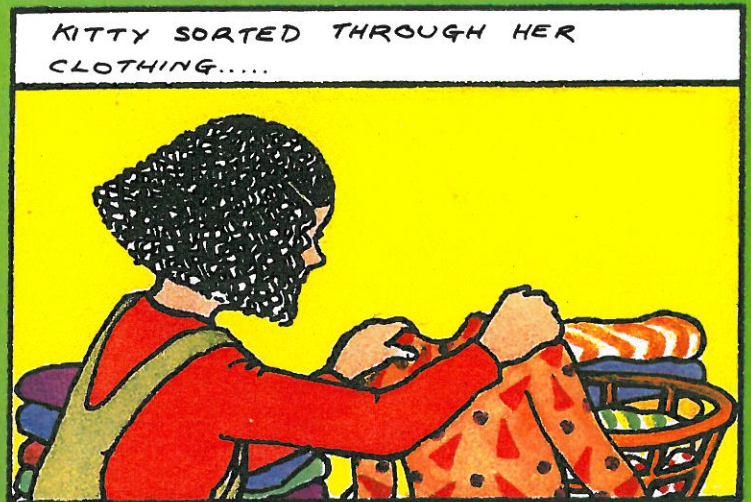


Game 6



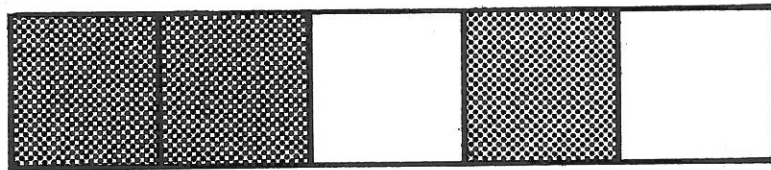
LOGICAL KITTY

Smile 1690



Smile 1845

Shading strips



$\frac{3}{5}$ of this strip has been shaded

How many different ways can
you shade $\frac{3}{5}$?

What about other fractions?

Experiments

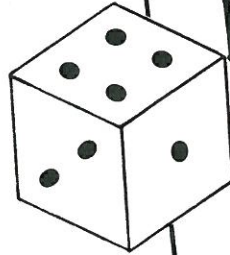
You will need a dice.

- 1) You are going to throw a dice 60 times.

About how many 4s are you likely to get?

Try it. Record each result in a tally chart as you go along.

Is the result what you expected?



1	
2	
3	
4	
5	
6	

Turn over

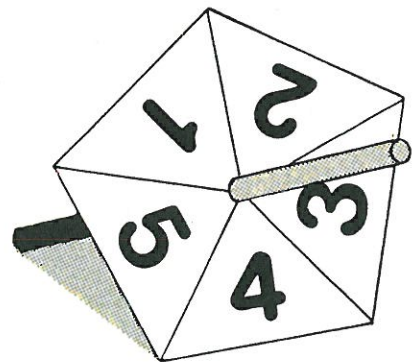
- 2) How many heads would you expect to get if you tossed a coin 50 times?

Can you explain why?

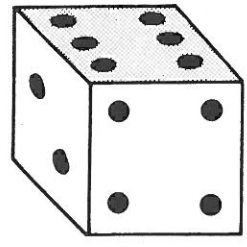
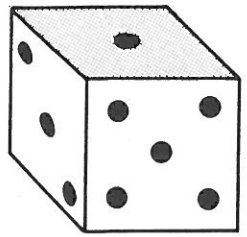


- 3) How many times would you expect to get 2 if you spun this 50 times?

Can you explain why?



ROLLING TWO DICE



In some games you have to roll 2 dice and add the scores.

The highest possible score is

The lowest possible score is

If you are playing a game like Monopoly it might be useful to know which totals often occur.

Do this experiment to find out:

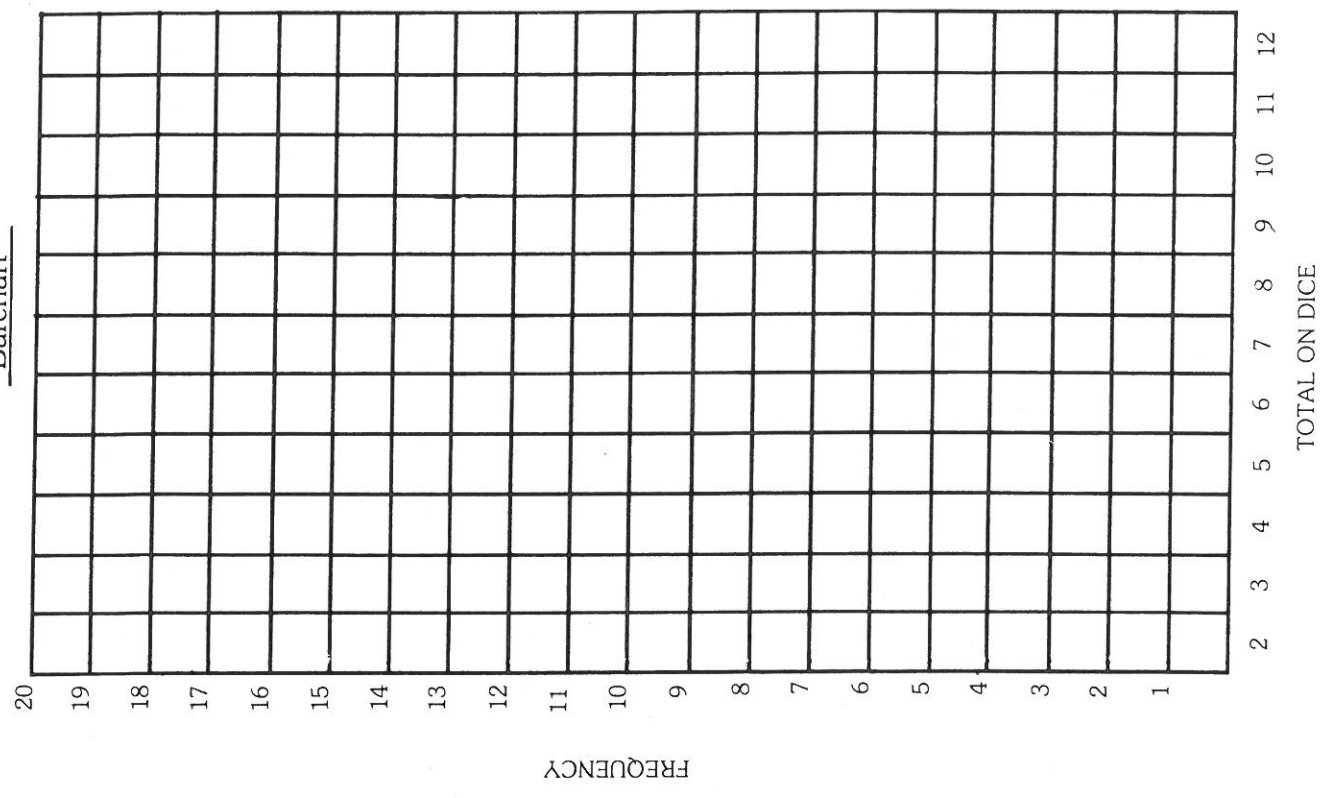
- 1) Roll the dice.
- 2) Add the scores.
- 3) Shade a square in the correct column.
- 4) Repeat until one column is full.

Which column is full?

Which column has least squares shaded?

Can you think of reasons? _____

Barchart



STRANGE DICE GAME

A game for 2 players.

You will need
2 counters
and a dice.



Choose who is going to be **Player 1** and who is going to be **Player 2**.

Player 1

Moves 4 squares each time.

Player 2

Throws the dice and moves that number of spaces.

- Record whether **Player 1** or **Player 2** reaches the finish first.

- Is the game fair? Can you say why?

You will need to play the game *at least* ten times before you can decide.



PIZZA OR PASTA?

Jay and Matt are in PIZZA PARADISE for a treat.

Matt chooses the FUN MEAL.

He can choose one starter and one main course.

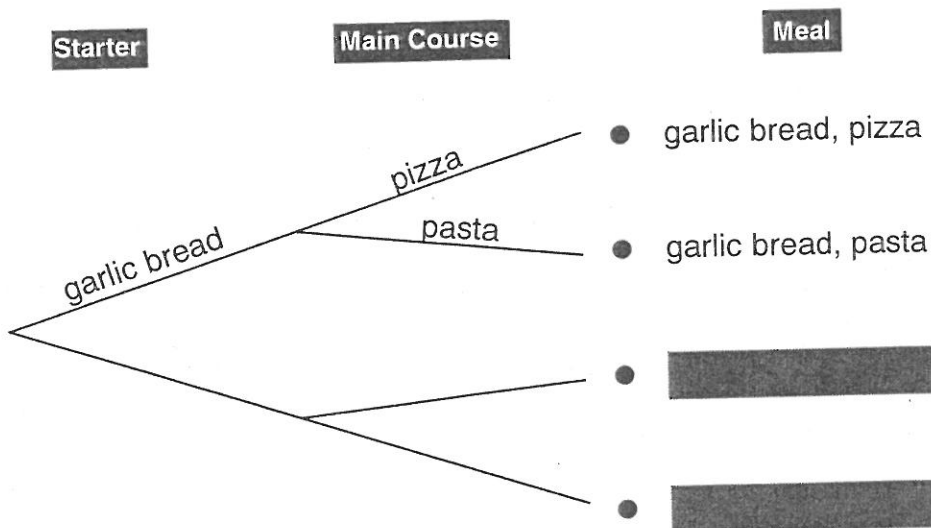


- Copy and complete this table to show the four different meals he can choose.

	Starter	Main Course
1	Garlic Bread	Pizza
2	Garlic Bread	
3		
4		

The different meals can be shown on a tree diagram.

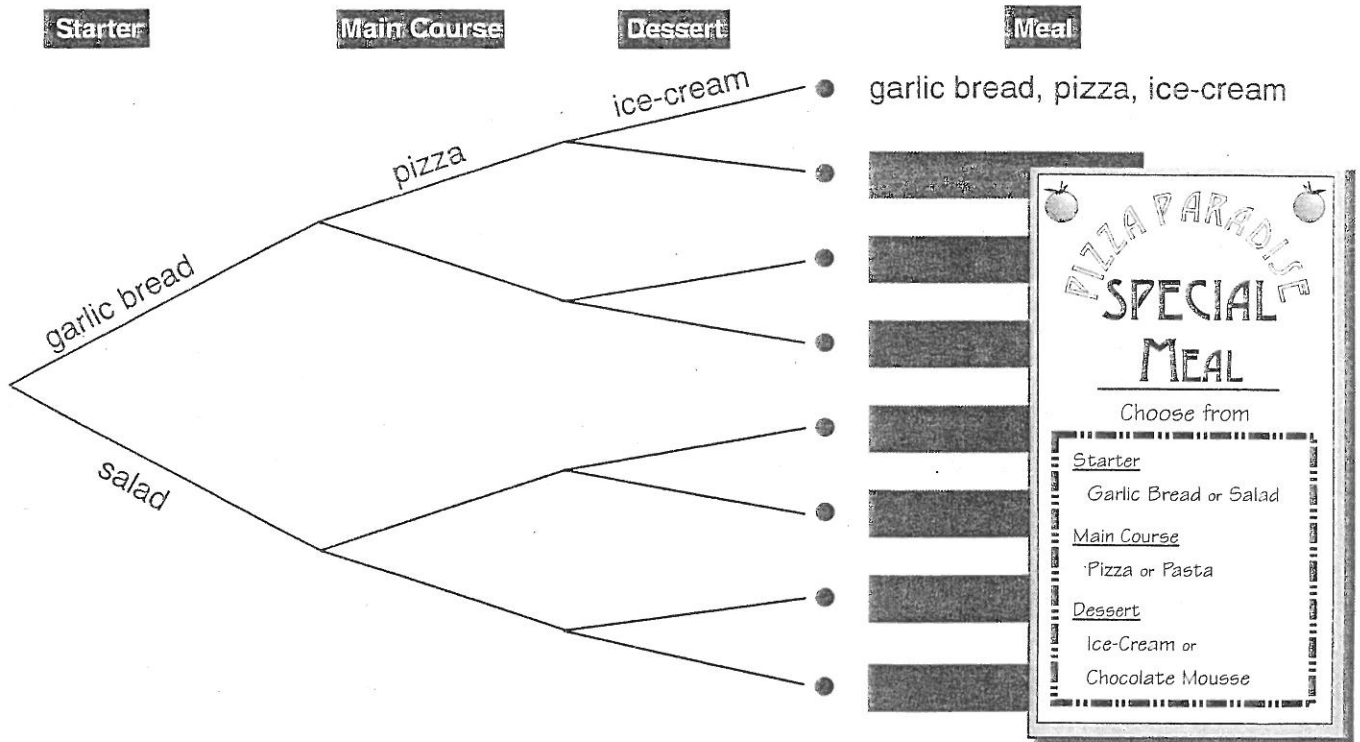
- Copy and complete this tree diagram.



This diagram shows the four different meals that Matt can choose from.

Jay decides he would like the **SPECIAL MEAL**.

3. Copy and complete this tree diagram.



4. How many different meals can Jay choose from?



5. a) Draw a tree diagram for these choices.



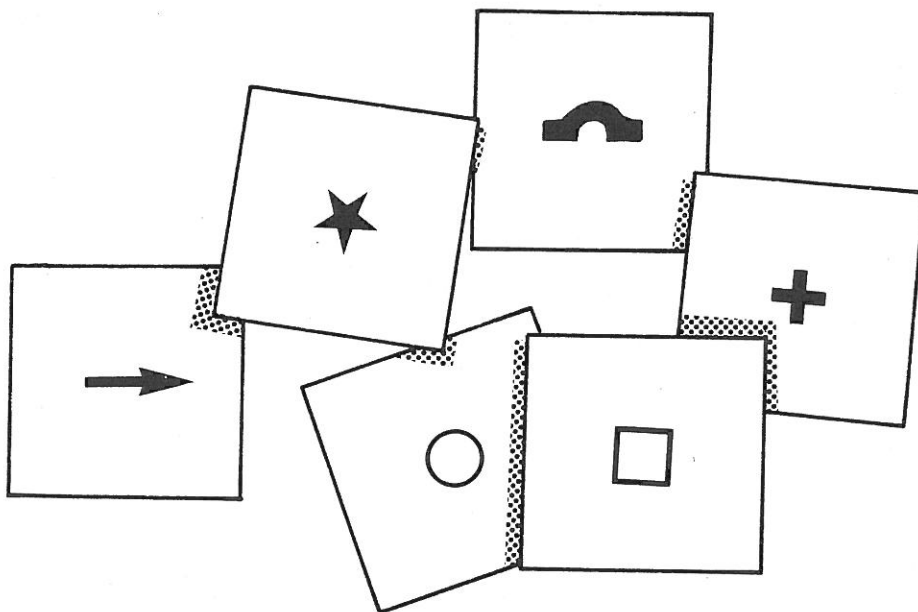
b) How many different meals are there?

Lucky Dip

Smile **1643**

You will need to cut out the cards from 1643A and have a copy of the scoresheet 1643B.

This is an activity for two.



Cut out the 6 tiles from 1643A. Turn them up-side down and mix them up.

Experiment 1

Guess which tile will be picked first. Then pick a tile and put it on the board.

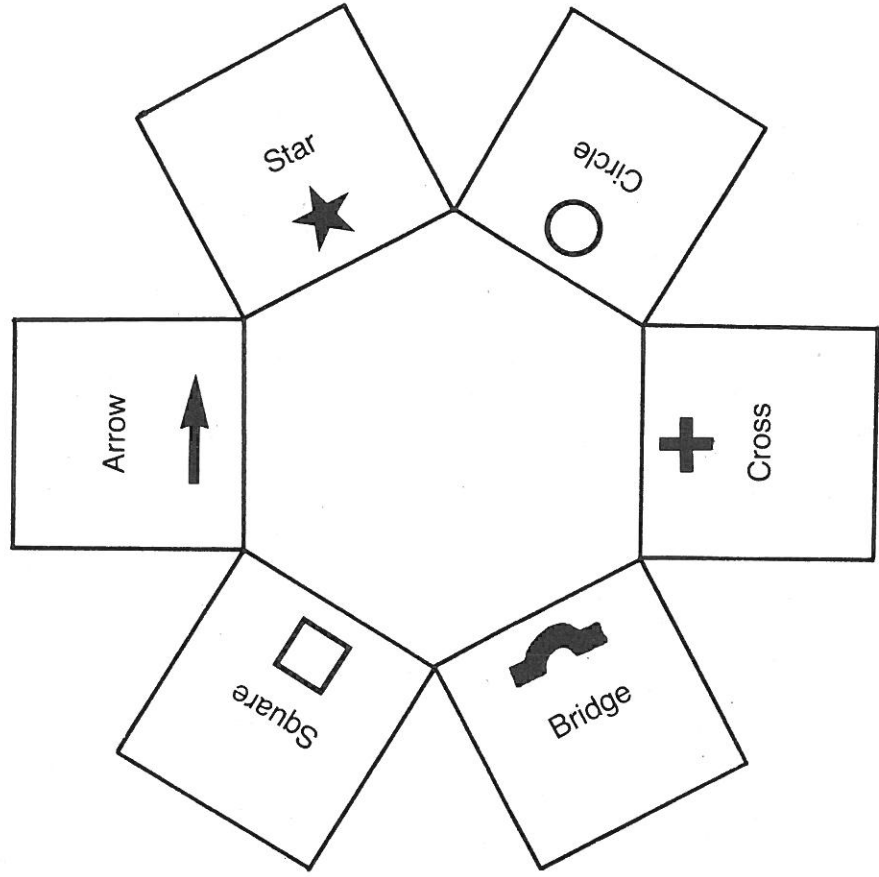
If your guess was right put a tick in the first column of the score sheet. If it was wrong put a cross.

Now guess the 2nd tile. Then turn it over and put it on the board. Put a tick or a cross in the 2nd column.

Carry on until all the tiles have been picked.

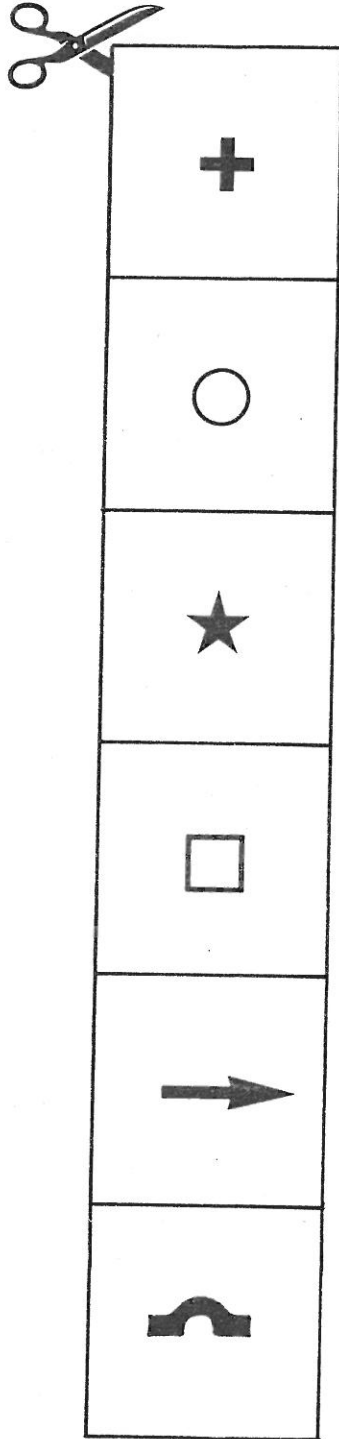
Do the experiment 24 times.

Answer the questions on the back when your score sheet is full.



1. There should not be any crosses in the 6th column. Explain why the 6th guess should always be correct.
2. How many ticks are there in the other columns? Write your results at the bottom of the score sheet.
3. There are probably more ticks in the 5th column than there are in the 1st column. Can you explain why?
4. Discuss your results with someone else.
5. How many ticks would you expect to get in the 5th column if you did the experiment 100 times? Try to explain your answer.

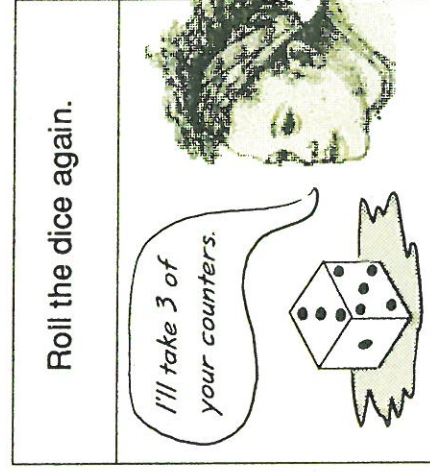
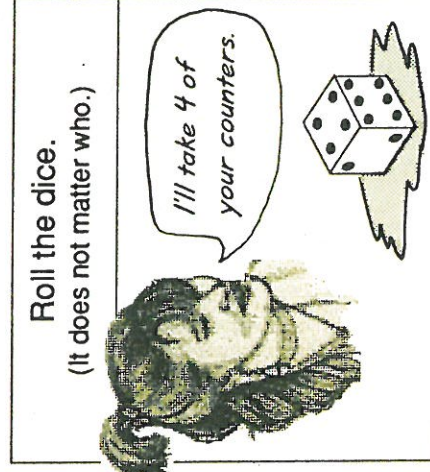
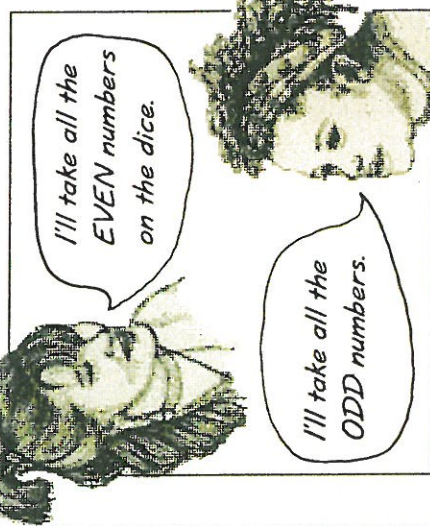
Smile **1643A**



Fair Play

This is a game for 2 players.

You will need a dice and counters.



Carry on until one player has all the counters.

Is the game fair?

You may need to play about 20 games to find out.

Record your results.

Describe and explain what happens.

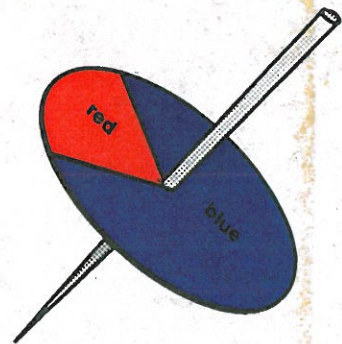
HOW LIKELY?

An activity for 2 or more.

This activity is about the probability of a spinner landing on one of three colours: red, blue and green.

This spinner is :

- most likely* to land on a blue
- less likely* to land on a red
- impossible* to land on a green.



Match the **Spinner Cards** to the **Probability Lines**.

You must agree your answers.

This pack contains
10 Spinner cards and
10 Probability lines.

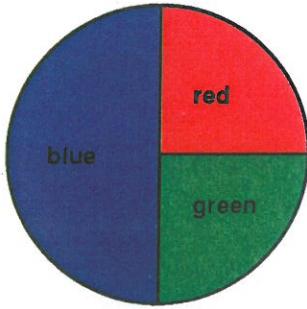
Spinner Cards

HOW LIKELY?

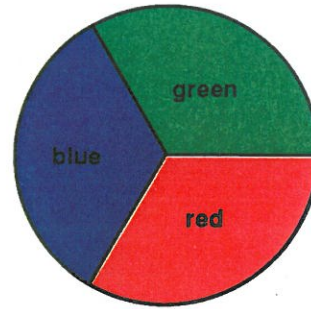
These cards and those from Smile 2152b should be cut out and kept in the envelope Smile 2152.



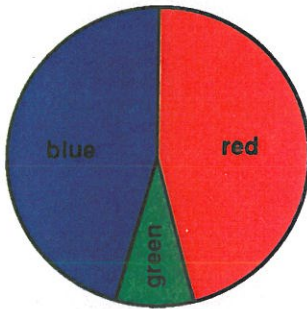
A



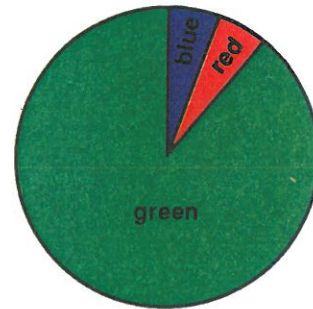
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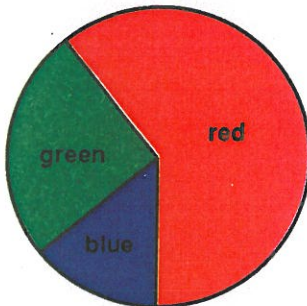
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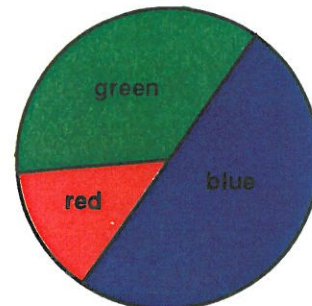
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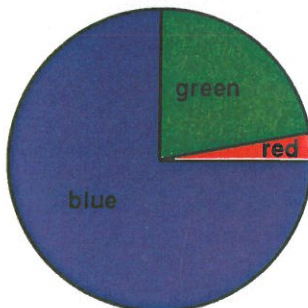
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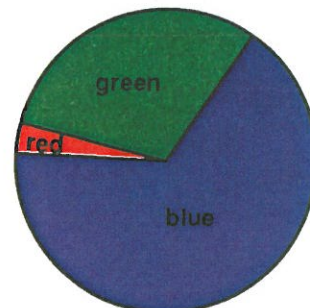
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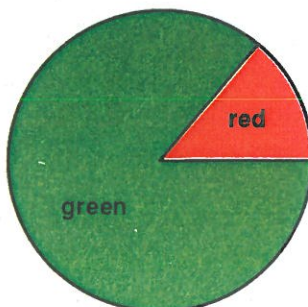
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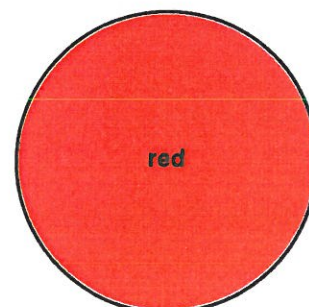
H



I



J



HOW LIKELY?



These cards and those from Smile 2152a should be cut out and kept in the envelope Smile 2152.

<p>1</p> <p>Certain</p> <p>red</p> <p>Impossible</p> <p>green, blue</p>	<p>2</p> <p>Certain</p> <p>green</p> <p>Impossible</p> <p>blue</p> <p>red</p>
<p>3</p> <p>Certain</p> <p>red</p> <p>Impossible</p> <p>green</p> <p>blue</p>	<p>4</p> <p>Certain</p> <p>red</p> <p>Impossible</p> <p>green</p> <p>blue</p>
<p>5</p> <p>Certain</p> <p>red</p> <p>Impossible</p> <p>green</p> <p>blue</p>	<p>6</p> <p>Certain</p> <p>green, red</p> <p>Impossible</p> <p>blue</p>
<p>7</p> <p>Certain</p> <p>red</p> <p>Impossible</p> <p>green</p> <p>blue</p>	<p>8</p> <p>Certain</p> <p>blue, red</p> <p>Impossible</p> <p>green</p>
<p>9</p> <p>Certain</p> <p>green</p> <p>Impossible</p> <p>blue, red</p>	<p>10</p> <p>Certain</p> <p>blue</p> <p>green</p> <p>red</p> <p>Impossible</p>