Year 5
Independent Maths & English Work Booklet

1
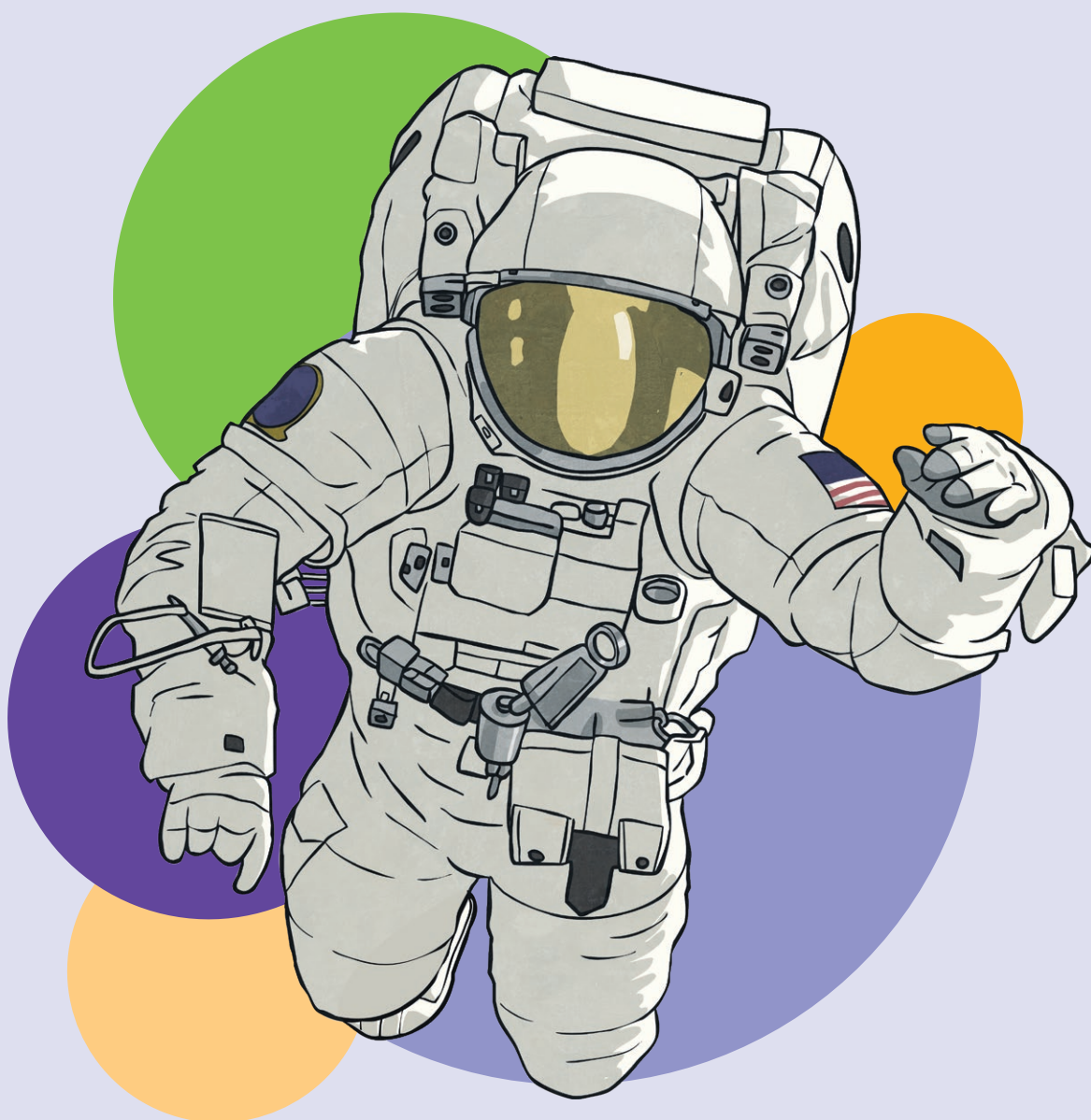
Football-Themed Code Breaker

Solve the calculations and use the code breaker to spell out football-themed words.

A	B	C	D	E	F	G	H	I	J	K	L	M
6	15	21	5	13	24	18	7	12	1	25	19	9

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
22	16	11	26	2	17	20	3	10	8	14	23	4

1.

	Answer	Letter
500 ÷ 100		
1300 ÷ 100		
2400 ÷ 100		
1.3 × 10		
220 ÷ 10		
5000 ÷ 1000		
13000 ÷ 1000		
0.02 × 100		

2.

	Answer	Letter
9000 ÷ 1000		
0.06 × 100		
200 ÷ 10		
0.21 × 100		
70 ÷ 10		

3.

	Answer	Letter
200 ÷ 100		
130 ÷ 10		
2.4 × 10		
0.13 × 100		
0.2 × 10		
1300 ÷ 100		
1.3 × 10		

4.

	Answer	Letter
150 ÷ 10		
0.06 × 100		
0.19 × 100		
190 ÷ 10		

5.

	Answer	Letter
25000 ÷ 1000		
120 ÷ 10		
2100 ÷ 100		
2.5 × 10		

6.

	Answer	Letter
0.018 × 1000		
1.6 × 10		
600 ÷ 100		
0.019 × 1000		
0.25 × 100		
0.013 × 1000		
13000 ÷ 1000		
0.11 × 100		
13 × 1		
0.02 × 100		

Maths Activity Mat

Section 1

Order these numbers from smallest to largest:
576 094, 567 094, 576 904, 567 904

Section 2

Round these numbers to the nearest 100 000:

367 562 $\longrightarrow$

453 378 $\longrightarrow$

Section 3

Use the < and > signs to compare the numbers.

48 701		48 710
81 010		80 999

Section 4

Convert these measurements from litres to millilitres:

12.43l =

6.8l =
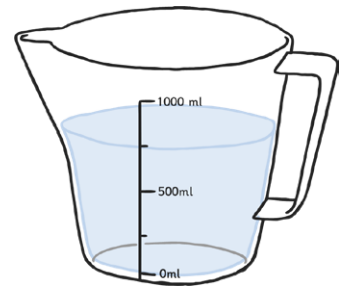
Section 5

Draw lines to show which fractions, decimals and percentages match.

$\frac{7}{10}$	40%	0.01
$\frac{2}{5}$	1%	0.7
$\frac{1}{100}$	70%	0.4

Section 6

Complete these calculations:

6396 ÷ 3 =

1333 x 2 =

Section 7

A shop assistant sold £845 worth of perfume. This was £258 more than yesterday. How much did she sell yesterday?

Section 8

Write these Roman numerals as digits:

CCLXVI	
CCCLXXIV	

Football-Themed Mental Subtraction Mosaic

Solve the calculations to reveal the hidden picture. Each answer has a special colour.

green =		white =		black =
0 to 2000		**2001 to 3000**		**3001 to 5000**

1380 – 870	8100 – 6900	1290 – 85	4440 – 560	6780 – 3300	4440 – 2000	3380 – 1480	7100 – 6200	3290 – 1300
6660 – 5100	8550 – 7300	9200 – 6100	9780 – 6000	4380 – 500	3030 – 900	4990 – 2500	7660 – 5670	7550 – 5560
5980 – 4440	3890 – 1500	9230 – 6500	8800 – 6500	9000 – 6600	3360 – 1000	3680 – 900	4000 – 750	4980 – 2990
3230 – 750	5500 – 3400	7300 – 5000	9300 – 6800	5470 – 1100	9600 – 6700	3480 – 1200	8950 – 5000	6950 – 3300
4940 – 2300	3850 – 1000	4390 – 2200	6780 – 1800	9780 – 5000	8380 – 4000	7490 – 5000	7840 – 5300	8800 – 5400
9890 – 5500	7120 - 4900	9340 - 6500	5580 – 900	6000 - 1220	5780 – 1800	9360 – 6530	4870 – 2400	5380 – 2600
7440 – 2900	7000 – 2290	5290 – 2300	6000 – 3480	9780 – 5200	5480 – 2600	7000 – 4100	2990 – 540	9000 – 6490
2380 – 870	6760 – 2000	9830 – 7500	3780 – 1100	5580 – 3100	3000 – 220	5500 – 2100	4000 – 1220	3290 – 1900
5660 – 5100	9100 – 7900	3670 – 1300	4990 – 2100	8300 – 4900	4500 – 1220	5700 – 2400	7100 – 6700	7550 – 5860
5980 – 4540	9550 – 7800	2290 – 300	4890 – 2230	3430 – 1100	5600 – 2110	3380 – 1980	7660 – 6170	4980 – 3590

Challenge: Write five different calculations involving subtracting a multiple of 10 which give an answer of 737.

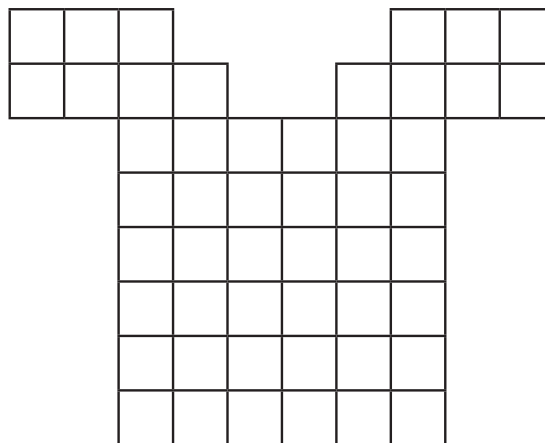# Football Shirt Stained-Glass Fractions

Colour the football shirt, stained-glass fraction windows to match the fractions listed.

1.
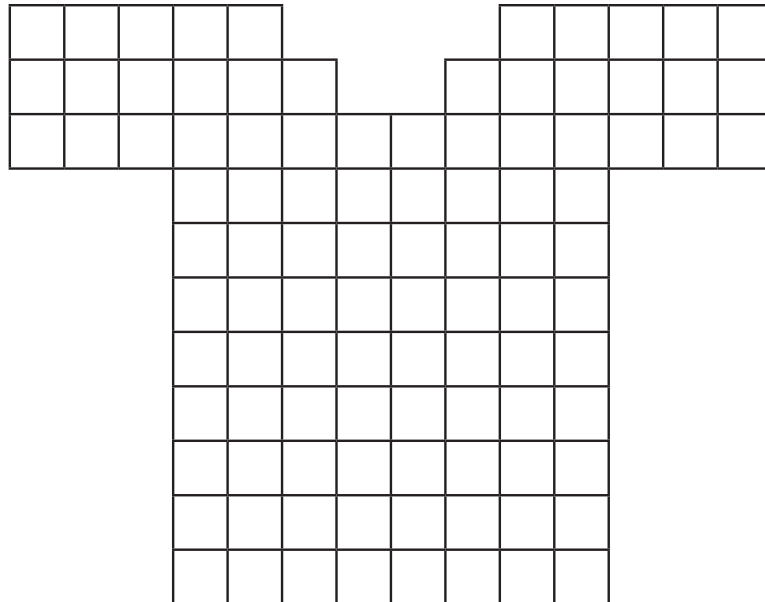
	Blue	Red	Green	Yellow	White
Fraction	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{10}$	$\frac{1}{20}$
Number of parts					

2.

	Blue	Red	Green	Yellow
Fraction	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{10}$	$\frac{3}{10}$
Number of parts				

Football Shirt Stained Glass Fractions

Create your own football shirt, stained-glass fraction windows. Write the number of parts you have used for each colour as a fraction.

3.
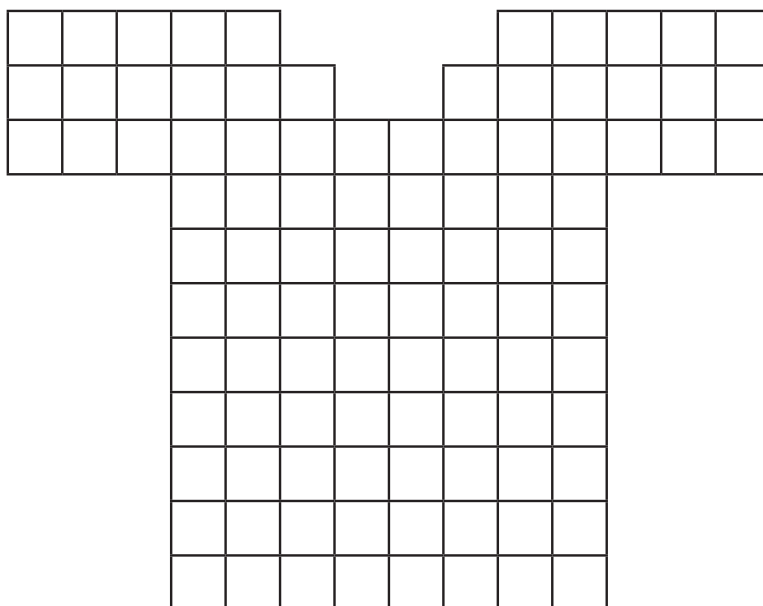
Colour					
Fraction					
Number of parts					

4.
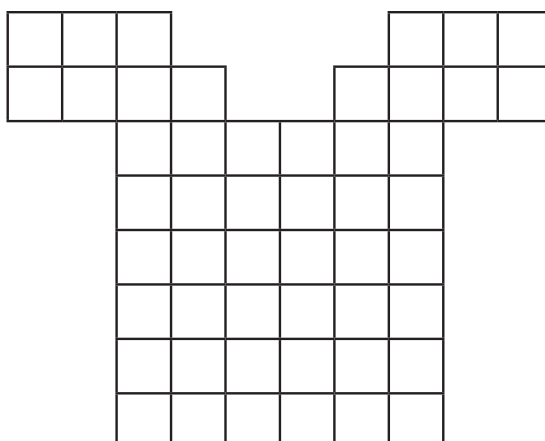
Colour					
Fraction					
Number of parts					

The Mystery of the Missing Tennis Kit Wimbledon Maths Mystery Game

At this year's prestigious world tennis championships, the players are all ready to challenge for the famous trophy. The crowds have gathered, the players have trained and the judges are prepared. However, as the players approach their changing rooms, they are met by something shocking – their kits have gone missing! Without their kits, the players cannot take part in the tournament. Hurriedly, all of the players begin searching the venue.

Can you solve the problems and reveal which player discovers the whereabouts of the missing kits?

Player	Gender	Continent	Age	Kit Colour	Tennis Skill
Anna Avraham	Female	Asia	24	Red	Serve
Bailey Brown	Male	Europe	22	Green	Volley
Chow Chu	Female	Asia	20	White	Slice
Daniel Diaz	Male	South America	21	Blue	Speed
Elif Earl	Female	Australasia	27	Purple	Backhand
Felix Falade	Male	Africa	31	Black	Slice
George Gonzales	Male	North America	35	White	Serve
Harnam Hafeez	Female	Australasia	25	Green	Volley
India Ings	Female	Europe	30	Purple	Serve
Joshua Jelani	Male	Africa	21	White	Slice
Kuljeet Kimura	Female	Asia	23	Green	Volley
Li Lopez	Male	South America	24	Black	Speed
Matt Martin	Male	Australasia	34	Blue	Backhand
Nikita Naylor	Female	North America	31	Black	Slice
Odetta Otto	Female	Europe	30	Green	Serve
Preet Patel	Male	Asia	20	Purple	Volley
Queenie Quarrie	Female	Australasia	19	Blue	Backhand
Rehan Romero	Male	South America	23	White	Serve
Sophie Selassie	Female	Africa	22	Black	Speed
Thierry Toussaint	Male	Europe	32	Purple	Volley
Violet Vera	Female	North America	27	Blue	Speed
Wen Wu	Female	Asia	24	Black	Slice

The player who is responsible for finding the missing kits is _____.

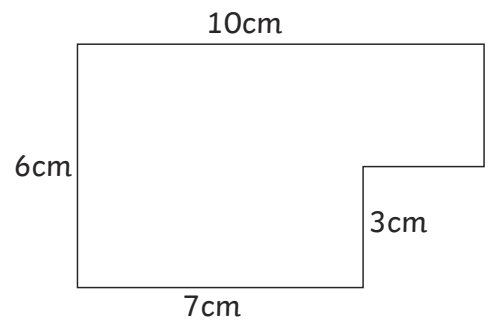Calculate the perimeter of each rectilinear shape.

The solution that occurs the most will reveal a clue about who finds the tennis kits.
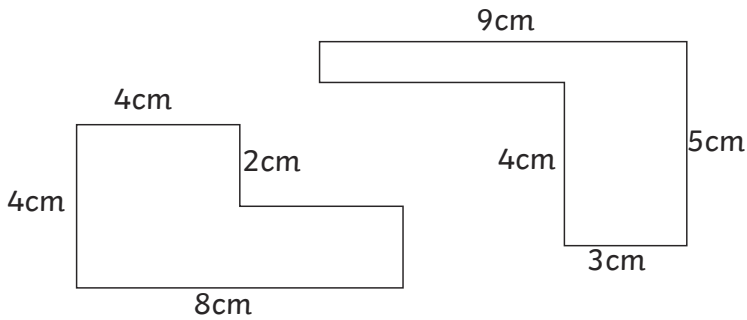
perimeter =_____   perimeter = _____   perimeter =_____
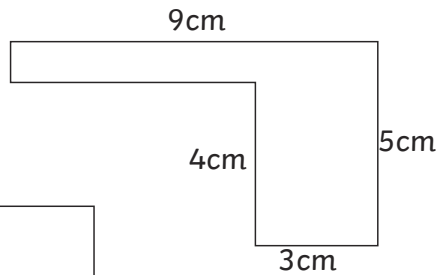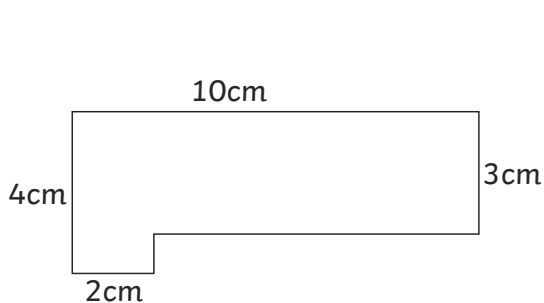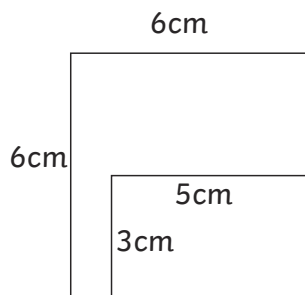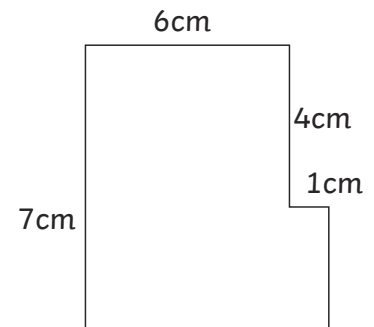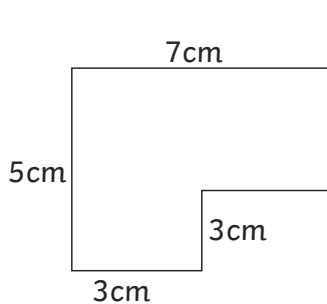
perimeter = _____   perimeter =_____   perimeter = _____
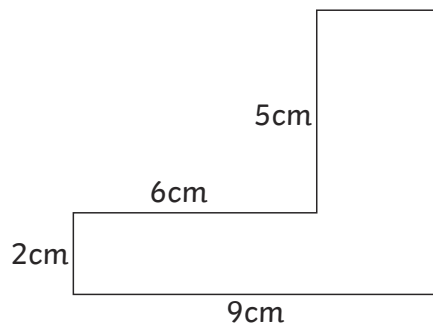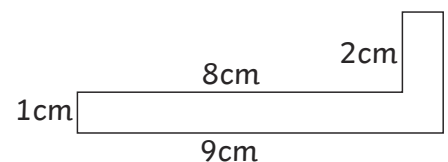
perimeter = _____   perimeter = _____   perimeter = _____

24cm	28cm	32cm
The player doesn't come from South America.	The player doesn't come from North America.	The player doesn't come from Africa.

**Clue:** The player who finds the kits doesn't come from _____.

Colour in the correct equivalent measures and then find a path through the maze. You can only move horizontally or vertically through the maze.

The path will reveal a clue about the special skill of the player who finds the kits.

| Start	1.09l = 1090ml	6.37km = 6370m	56g = 0.056kg	12mm = 0.12cm
4.7kg = 4700g	6mm = 0.6cm	334ml = 3.34l	509cm = 5.09m	578m = 0.578km
2.09km = 2090m	12.6m = 126cm	670mm = 0.67m	0.7kg = 70g	5.06l = 5060ml
2.34m = 234mm	45ml = 0.045l	930g = 0.93kg	1600m = 1.6km	45m = 4500cm
25kg = 25 000g	34cm = 340mm	6.32km = 632m	0.03m = 3cm	6ml = 0.06l
250ml = $\frac{1}{4}$l	39cm = 0.39mm	$\frac{3}{4}$m = 75cm	1.75kg = 175g	890m = 0.89km
The player's special skill is not a serve or volley.	The player's special skill is not a backhand or slice.	The player's special skill is not speed or a slice.	The player's special skill is not a volley or backhand.	The player's special skill is not speed or a serve.

Clue: The special skill of the player who finds the kits is not a _____.
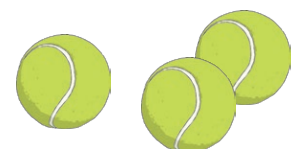
Measure each angle and match them to the correct answers.

The one remaining answer box will tell you a clue about the player who finds the kits.
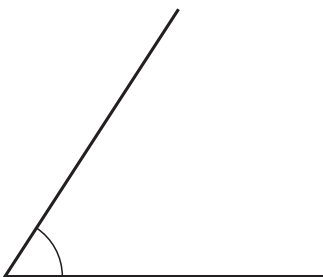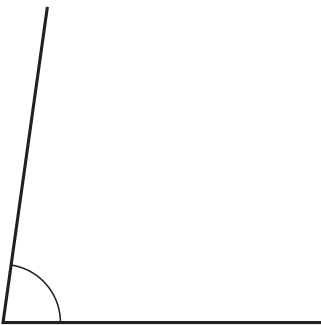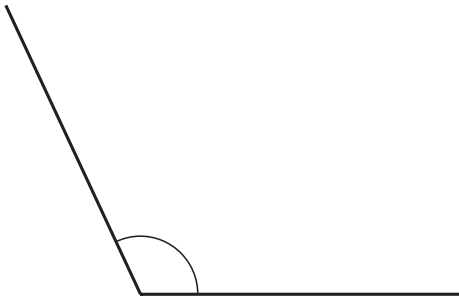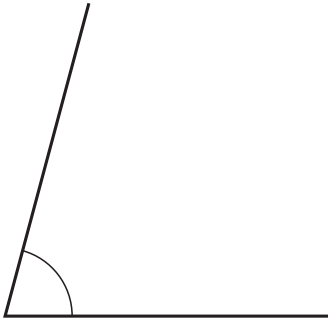
121°
The player's kit is blue or black.

49°
The player's kit is green or black.

104°
The player's kit is green or blue.

57°
The player's kit is white or black.

75°
The player's kit is green or purple.

64°
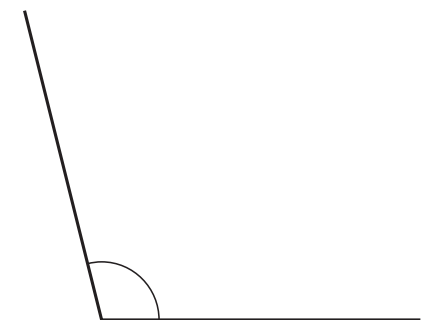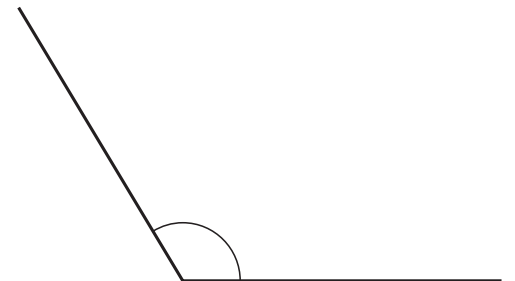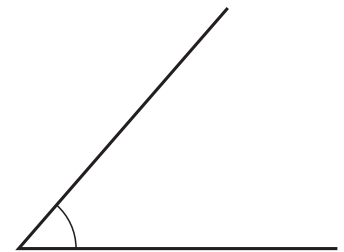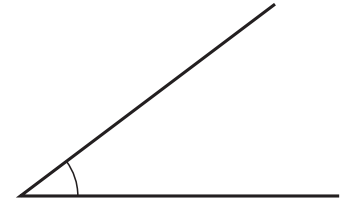The player's kit is blue or white.

82°
The player's kit is purple or white.

115°
The player's kit is black or purple.

37°
The player's kit is white or green.

Clue: The player who finds the kits has a _____ or _____ kit.

Clue 4: **Prime and Composite Numbers**

Look at these maths statements and decide whether they are true or false. If it is true, put a tick. If it is false, put a cross.

Count the number of ticks and crosses.

If there are more ticks than crosses, the player who finds the kits is male.

If there are more crosses than ticks, the player who finds the kits is female.

	True ✓	False ✗
2 is a prime number.		
23 is the only prime number between 20 and 30.		
15, 16 and 17 are all composite numbers.		
The next prime number after 50 is 53.		
There are 3 prime numbers between 1 and 10.		
The prime numbers between 30 and 40 are 31 and 37.		
67 is a composite number.		
The largest prime number less than 100 is 97.		
2 and 3 are the only consecutive prime numbers.		
Total		

Clue: The player who finds the kits is male/female.
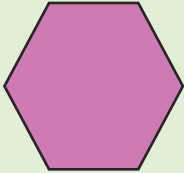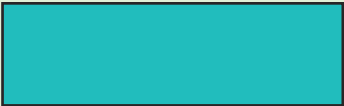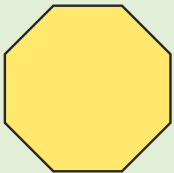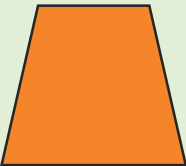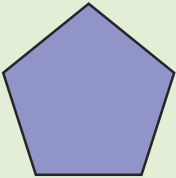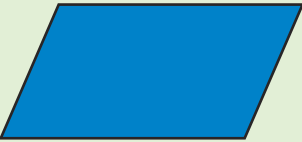
(Circle the correct answer.)
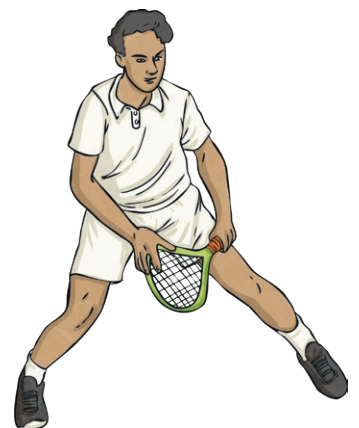
In each row, find the statement that is not correct.

The column with the most incorrect statements will tell you the age of the player who finds the kits.

	Every angle in this shape is a right angle.	This shape has six equal sides.	This shape has six lines of symmetry.
	In this shape, opposite sides are equal.	This shape has four right angles.	This is a regular shape.
	This is an octagon.	All the sides in this shape are equal.	This shape has four lines of symmetry.
	This is a trapezium.	This shape has one pair of parallel sides.	This is a regular shape.
	This shape has no lines of symmetry.	All the sides in this shape are equal.	This shape has one right angle.
	This shape has no lines of symmetry.	This shape has five equal sides.	Each angle in this shape is 108°.
	Opposite sides in this shape are parallel.	Opposite angles in this shape are equal.	This shape has two lines of symmetry.
	19-24	25-30	31-35

Clue: The player who finds the kits is aged _____.

MORNING STAR

GIANT HURRICANE FOUND ON SATURN

Scientists at NASA say a giant hurricane on Saturn, 1500 miles wide, has been photographed by their roving spacecraft, Cassini.

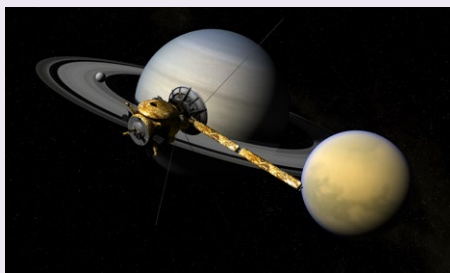Cassini, which was launched way back in 2004, has been snapping all sorts of amazing images during its 77 000mph journey through our solar system but its latest pictures have sent the space-science community into an intergalactic spin!


On April 26, 2017, the spacecraft dived down between Saturn and its innermost rings, and what it photographed astounded scientists back on Earth. "We did a double take when we saw this... because it looks so much like a hurricane on Earth," Andrew Ingersoll (a NASA team member) explained.

The hurricane, which is about as wide as the continent of Europe, has probably been churning for years, sometimes at speeds of up to 330mph!

Scientists have long known about Saturn's violent weather patterns. In 1980, NASA's space probe, Voyager, measured winds at 1,100mph – which is about the same speed as an RAF Tornado fighter plane! Plus, keen-eyed astronomers have witnessed storms the size of Earth, using powerful telescopes.

But it is Cassini's ability to get close and photograph the hurricane that has delighted scientists the world over.
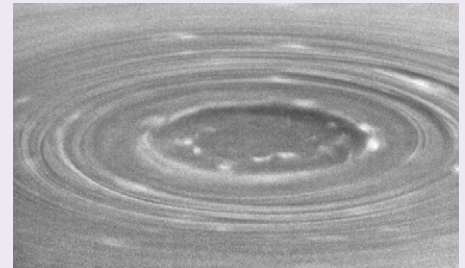
1. How fast did Cassini travel on its way through the solar system?

   _____

2. How wide is the hurricane that Cassini photographed? Tick two.

   1500 miles ☐ the width of Earth ☐

   77000 miles ☐ the width of the continent of Europe ☐

3. '...its latest pictures have sent the space-science community into an intergalactic spin!'

   a) Think about what types of people might make up the space-science community. Write down two of them:

   _____

   _____

   b) According to the report, the pictures of the giant hurricane on Saturn have sent them into an 'intergalactic spin'. What do you think it means by this?

   _____

   _____

4. It took NASA years to build Cassini, then 13 years for it to reach Saturn. Millions of dollars have been spent on it. Imagine you are the Head Scientist at NASA in charge of the Cassini mission. You have been asked to say some words on TV about the photos of the giant hurricane and how you feel about them:

   _____

   _____

   _____

   _____

SPaG Mat

a Add an appropriate relative clause to this sentence, adding in the correct punctuation.

The magician

_____

was performing at a birthday party.

b Look at the choices of words within the brackets. Circle the correct word to fit the sentence.

Shivering and cold, the children tried to block the (draft/ draught) that was coming from under the door.

The businesswoman had made a sizable (prophet/profit) on her investment.

c Circle both of the adverbs in this sentence.

Tomorrow, Gita will proudly represent her athletics club in the county competition.

d Mr Whoops has accidentally jumbled two adjectives that he uses to describe his fantastic yet naughty new puppy. Can you help him to unjumble them?

MSCHEIUSOVI

SLLMAVREUO

e Can you think of the silent letter word to match the definition?

A piece of land surrounded by water. _____

A medieval soldier that wore armour. _____

f Rearrange this sentence so that it has a fronted adverbial. Don't forget the correct punctuation.

The racehorses picked up speed to try to win the race as they neared the finish line.

Spot Mr Whoops' Mistakes

Mr Whoops is a little bit clumsy...OK, OK, he's a lot clumsy! Even though he's really trying hard with his writing, he's still accidentally misspelt 13 of his Y5/Y6 key spelling words. Can you spot his mistakes?

Highlight them in the passage of text.

Could you then correct the words at the bottom of the sheet and create Whoops to practise?

Activity 3

Monday April 1st
Dear Diary,

I hate April Fools' Day! I have to spend my whole day looking over my showlder waiting for my mischevous naybour, Peter Pest, to play one of his usual pathetic tricks! He's a complete hinderence with absolutely no conshunce, even when he manages to embaras the people on his own street. Acording to him, we should all have a better sense of humour - what a joke! This year, my day started when I walked out of my house to one of Peter's familar daft grins, so straight away, I knew he was up to something. I wearily had a thourar look around for any signs that might sugestt trouble but I didn't notice anything...that was until I opened my viercule door. He'd managed to inturfear with my car and had atached a cream pie inside. So as I opened it...SPLAT...the pie launched straight into my face. You just wait for next year, Peter Pest!
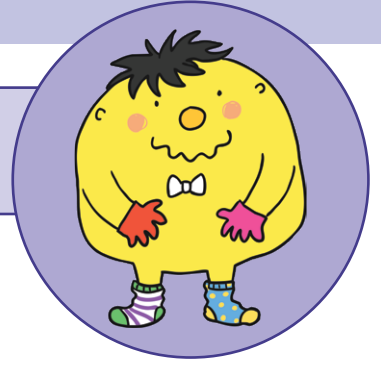
Mr. Whoops needs to practise these words:

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

Oooooo...did I not spell these correctly? Whoops!

Fix the Sentence

before every spelling test i trying to memorate each word but I often do'nt get full marks?

_____

_____

Are healthy took shop which cells a range of nutricious snacks were open for busyness every morning brake.

_____

_____

in his briefcase the spesial agent was keeped all of his confidenshul documents!

_____

_____

The Mystery of the Stolen Spacesuit

A serious crime has been committed before the launch of the space shuttle to Mars. It is the night before the rocket is due to launch and everything has been prepared and packed. When the astronauts went in to do their final checks, one of them found that their spacesuit was missing and saw a remarkably similar one appear on a well-known auction site!

As the Detective Chief Inspector, it is your job to find out who has stolen the suit. Your officers have taken down the names and descriptions of the thirty astronauts who were training during the day.

There are also five clues that have been left. To crack the case, you will need to solve each clue and check the information against the list of names.

Good luck!
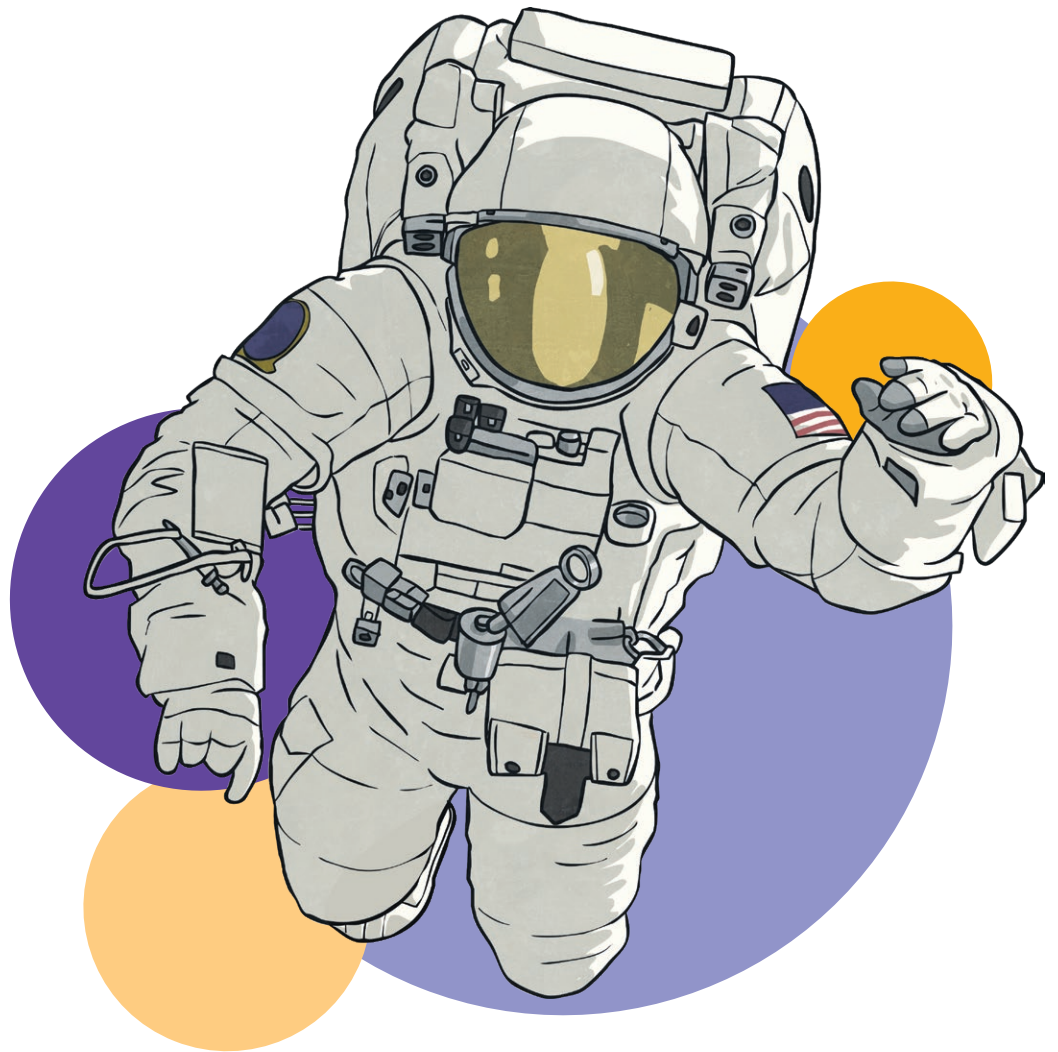
The Astronaut Descriptions

Name	Gender	Nationality	Colour of Uniform	Wear Glasses?	Age
Astrid Asteroid	female	Russian	orange	Y	31
Aurora Astro	female	American	navy blue	Y	32
Apollo Atom	male	British	silver	N	24
Belinda Bright	female	American	navy blue	N	26
Comet Crater	male	Chinese	navy blue	N	35
Carina Cosmo	female	Chinese	silver	N	46
Cassiopeia Celeste	female	British	orange	N	29
Draco Day	male	British	silver	Y	36
Eos Eclipse	male	Russian	silver	Y	36
Esther Earthshine	female	American	navy blue	N	33
Halo Hypernova	male	British	silver	N	45
Helene Hubble	female	American	orange	Y	41
Juno Jupiter	female	British	orange	N	39
Leo Lightyear	male	Russian	navy blue	Y	38
Luna Lunar	female	British	navy blue	N	28
Lyra Light	female	British	navy blue	Y	26
Mars Molecule	male	Russian	orange	N	25
Mercury Meteor	male	Chinese	silver	Y	29
Miranda Moon	female	Chinese	orange	Y	39
Norma Nebula	female	American	silver	N	31
Nysa Neutrino	male	American	silver	N	41
Orion Orbit	male	Chinese	navy blue	N	45
Phoenix Pulsar	male	British	silver	Y	34
Portia Pluto	female	Russian	silver	N	35
Rhea Radiant	female	American	orange	N	33
Rocket Red	male	Russian	orange	N	38
Themis Totality	male	British	silver	N	37
Triton Twinkle	male	Chinese	navy blue	Y	29
Venus Van Allen	female	American	orange	N	45
Wolf White	male	British	silver	Y	29

Clue 1: **Space Sentences**

These space sentences have been written with parentheses. Check which ones have the correct punctuation (it could be commas, brackets or dashes).

If there are more ticks, then the culprit is male. If there are more crosses, then the culprit is female.
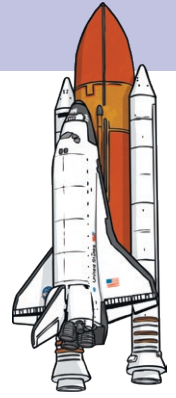
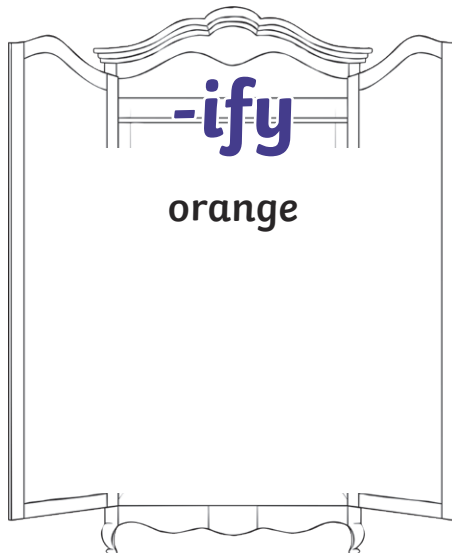| Space Sentence	✓ or X
The astronauts, who come from all over the world have prepared for this mission for months.	
"I have waited for this chance for years," said one of the astronauts – she was actually one of the older astronauts.	
Unfortunately, the space food (most of the astronauts dislike) has disappeared from the storage cupboard.	
Mission control, which is located in Paris, has delayed the take-off.	
Tom Peek – one of the British astronauts has eaten all of the space food.	
Luckily, the Space Agency stored extra food in a safe place they kept this a secret.	
Finally, the spare food (mainly baked beans) has been packed into the rocket.	
The rocket, with its extra food stores, has taken off safely.	

There were _____ crosses and _____ ticks.

There were more _____ so the culprit is male/female.

With all the chaos this police investigation has caused, the uniforms have been muddled up! In order to help prepare for takeoff, you need to match the nouns and adjectives to the correct suffix to form a verb. Whichever suffix has the most matching words will reveal the colour of the culprit's uniform.

Remember: sometimes the root word will need to be altered before the suffix is added.

pollen   vandal   final   solid   elastic

alien   fertile   advert   test   intense

-ate

navy blue

-ify

orange

-ise

silver

The suffix with the most root words is _____, so the culprit's uniform is _____.

While they wait for the mystery to be solved, the astronauts have been thinking of exciting synonyms for different words. Whichever nationality of astronauts have thought of the most synonyms for their word will reveal the nationality of the culprit.

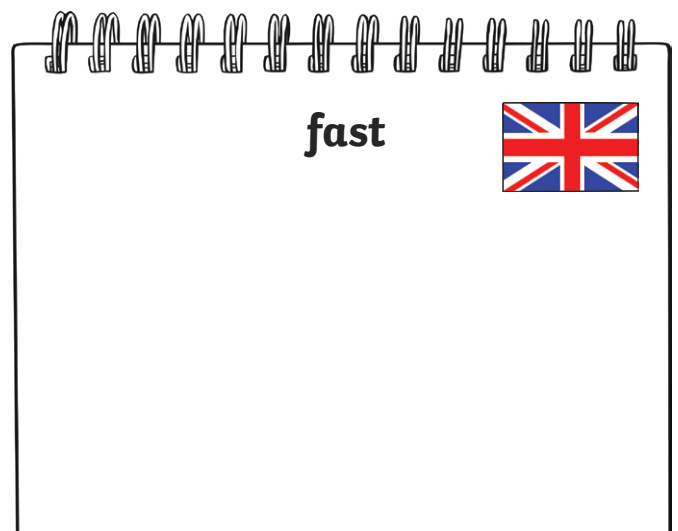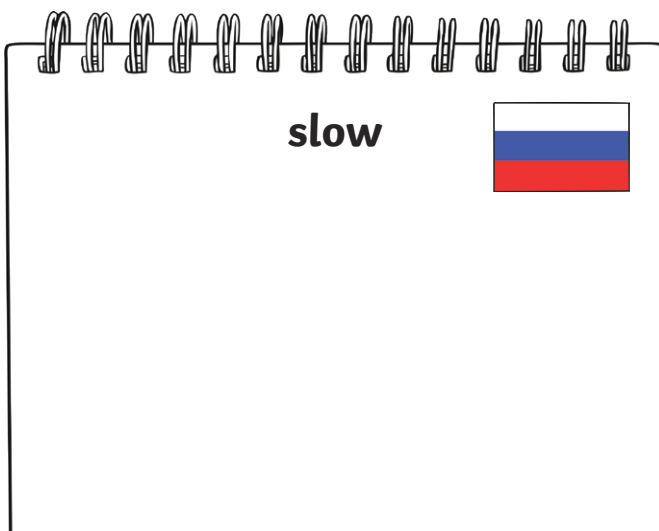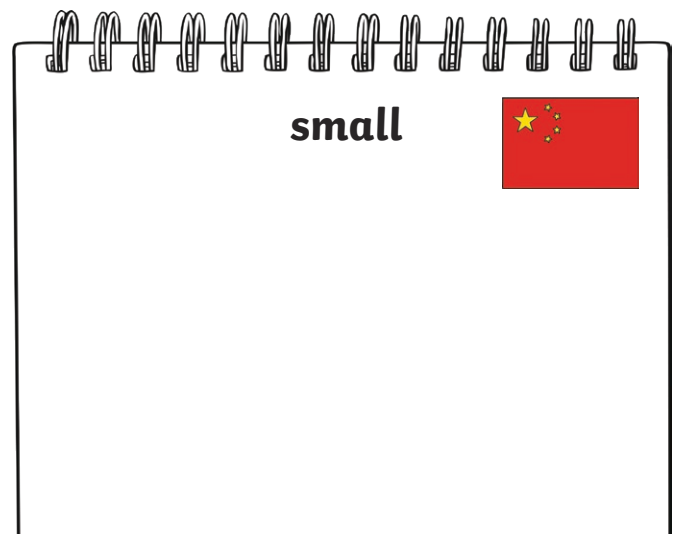| diminutive	turbo	steady	zippy
unhurried	minuscule	speedy	nanoscopic
colossal	mountainous	swift	gargantuan

big 🇺🇸

small 🇨🇳

slow 🇷🇺

fast 🇬🇧
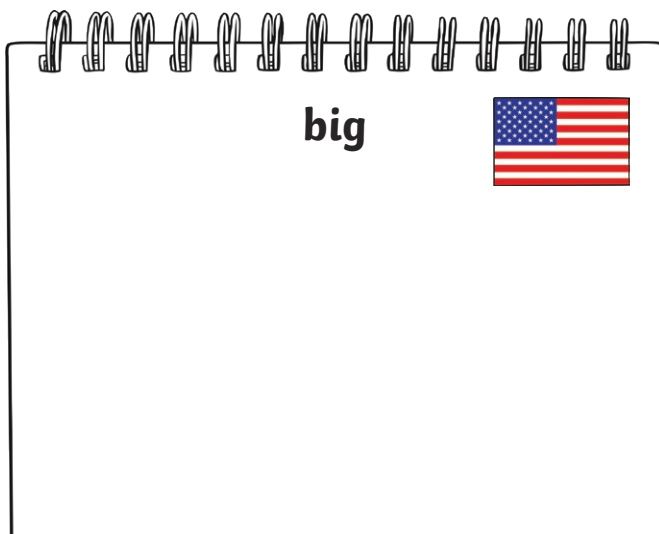
**The nationality of the astronauts who found the most synonyms was _____.**
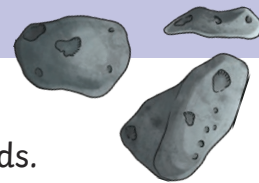
Find your way through this vortex of sentences by following the pathway of passive sentences (up, down, left and right) and avoiding the active asteroids.

At the end of your journey you will discover whether the culprit wears glasses or not.

Start

The spacesuit was taken by one of the astronauts.	The mission was delayed by the incident.	Rocket Red ate the space food.	The delayed mission devastated Orion Orbit.
The incident delayed the mission.	The culprit will be discovered by the Detective Chief Inspector.	One of the astronauts took the spacesuit.	Esther Earthshine lost the navy blue uniforms.
The Detective Chief Inspector will discover the culprit.	The space food was eaten by Rocket Red.	Carina Cosmo is the oldest astronaut on the mission.	Lyra Light spotted the spacesuit on a well-known auction site.
Apollo Atom is the youngest person to ever join astronaut training.	Orion Orbit was devastated by the delayed mission.	The navy blue uniforms were lost by Esther Earthshine.	Juno Jupiter has been on five missions in the past.
Norma Nebular packed the silver uniforms.	During the mission, the astronauts will receive regular messages from home.	The spacesuit was spotted on a well-known auction site by Lyra Light.	The rocket will orbit the planet for 40 days and nights.
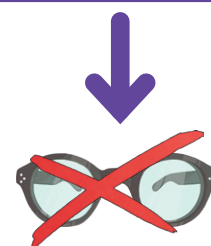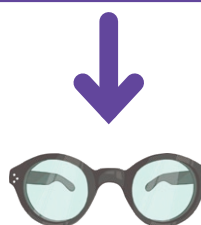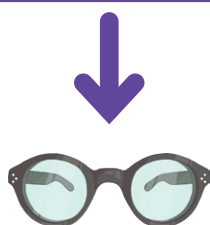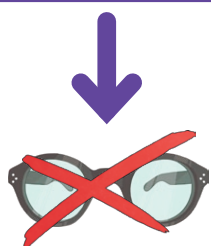
The culprit wears/does not wear glasses.

Clue 5: **Hyphens Go into Hyperdrive**
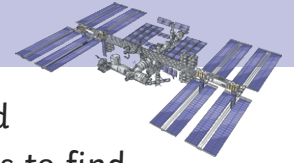
The astronauts have been writing about their time in space. They have tried to use hyphenated words but some have got confused. Check these sentences to find which ones are correct. If they are, give them a tick. If they are incorrect, give them a cross.

If you have more ticks, then the culprit is more than 30 years old. If you have more crosses, then the culprit is less than 30 years old.

Space Sentence	✓ or ✗
During my first mission, we saw thirty-one large asteroids one day.	
Taking-off is the most dangerous part of any space mission.	
It can be difficult not to be bad-tempered when spending a lot of time in space with the same people.	
On my last mission, I worked with the all knowing Belinda Bright.	
As we headed back home, I was hopeful that our reentry into the Earth's atmosphere would go smoothly.	
I was sent on a spacewalk to re-cover some exposed electrical wires.	
Before any mission, it is important to re-search the planet you will be visiting.	
On the space station, we re-cycle all of our water through a complicated system.	

There were _____ crosses and _____ ticks. There were more _____

so the culprit is less than/more than 30 years old.

Return to the list of suspects and work out who the culprit is!