

**98**  
stickers!

**fun facts** **crafts** **puzzles** **colouring**

REDAN **FUN TO LEARN**

Support in core school subjects!

PLUS a huge pull-out poster!

# I know!

Issue **2**

Supports the Early Years Curriculum

LEARN ABOUT SPACE!



**WIN**  
Stems™  
The Flexible 3D Maker Toy

Bite-sized facts for curious kids!



Meet Earth's toughest survivor!

Sticker Fun!



+ EASY SCIENCE

Make this awesome **SPACE TARGET** Game!

Plus so much more!  
**Posters**  
**Cut-outs**  
**Recipes**  
**Jokes**  
**World Records**

Experiments



Sundial



Cool things to **make and do!**

This gift complies with EN71 & ISO8124 (Toy Safety). **WARNING:** Not suitable for children under 3 years due to small parts. **CHOKING HAZARD.** Do not aim at eyes or face. Do not use projectiles other than those supplied. Do not apply stickers to skin or surfaces that may be damaged in the process. Batch No. 10000161. Use under direct adult supervision. **Manufactured by and Imported by Xcel Concepts LLP, Stanmore, HA7 1GB, UK.** Please note or retain this information for future reference. Gift may differ from that specified. Gift may not be available on overseas copies. **Airport copies only:** Sock puppet set. During creative activities it is recommended that children wear overalls and all soft furnishings are covered. **GLUEWILL STAIN.** Do not apply stickers to surfaces which may be damaged by their removal. Batch No. 1007294.



# Welcome to

FUN TO LEARN



This magazine belongs to **SMART SQUAD** member:

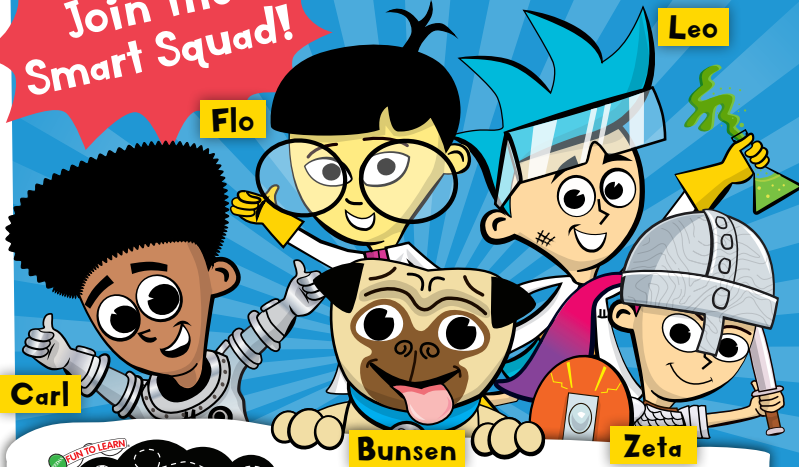
.....

Write your name on the dotted line.

# Look what's inside!

## magazine!

Join the Smart Squad!



## Grown-ups:

I know! is designed to make learning fun. This magazine helps to develop children's abilities in areas of learning set out in **Key Stage 1** of the **National Curriculum**.

- English
- Mathematics
- Science
- Art and Design
- Technology
- History
- Geography
- Computing
- Music
- Physical Education

- Provide your child with a pencil and a set of crayons.
- Allow your child to feel in charge of the magazine.
- Offer prompts and helpful suggestions when needed.
- Encourage your child to talk about what they are doing.
- Praise and offer encouragement to make learning fun!

LIKE us on Facebook for even more!  
[www.facebook.com/Iknowmag](http://www.facebook.com/Iknowmag)

We're ALSO on Twitter!  
Follow @Iknowmag

## 12 Make your own JET PACK!



# PLUS! PULL-OUT poster all about the BIG BANG!

Finish the world map\* from issue #1 with your stickers.

\*Please see the bottom of page 31 for details.



## SUBSCRIBE NOW and SAVE up to 33% off the cover price!

Visit: [www.iknowmagazine.co.uk](http://www.iknowmagazine.co.uk)

hope house

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# Check out these **fun facts!**

They're out of this world!

It takes **8 minutes** for **light** from the Sun to **reach Earth**. This is known as the **speed of light**.

Space is **silent**. There is **no air** in space, which is needed to carry the **sound vibrations**.

About **70%** of **Earth's surface** is covered in **water**.

Over **3600** satellites have launched since 1957. Around **1000** are still **in use**, but the rest are classed as **space debris**.

**Comet Hale-Bopp** was the **biggest** and **brightest** comet for a century. Visible between **May 1996** to **December 1997**.

There are **still footprints** on the **moon** from **1972**, as there is no wind or rain to wash them away.

Our moon is **moving away** from us by **4cm** each year!

On **Venus**, it **snows metal** and **rains sulphuric acid**.

An **asteroid** about the **size of a car** enters Earth's atmosphere about **once a year**. But it **burns up** before it reaches us.

I know about...  
**planets!**

Follow Bunsen's path through the planets. Use your planet stickers as you pass each one.

Use your planet stickers!



**Start**

**Mars**

A mountain on Mars is three times higher than Mount Everest!

**Mercury**

Mercury is the smallest planet.

**Earth**

The only planet with liquid water on its surface.

**Asteroid Belt**

**Venus**

The hottest planet with a surface temperature of 460° Celsius!

**Saturn**

The rings of Saturn are made up of ice crystals of all sizes.

**Jupiter**

The largest of the planets. A gas giant more than twelve times wider than Earth!

**Uranus**

Uranus is the coldest planet. A chilly -259° Celsius!

**Neptune**

A storm on Neptune called the Great Dark Spot, was as big as Earth!

**Did you know...**



In 2006, **Pluto** was downgraded from being a planet to a **dwarf planet**.

Planet sizes are not to scale.

Add some asteroids

I know about the...  
**Space Shuttle!**

Learn about the amazing Space Shuttle. The world's first reusable space craft.

## Reusable Rockets



Two booster rockets launched the shuttle. They then returned to Earth on parachutes to be used again.



Astronauts wore spacesuits to work in the cargo bay.

The cargo bay was large enough to carry satellites, telescopes and modules.

The robotic arm put satellites into space and helped build the International Space Station.

Vertical tail

Air brakes and rudder to help it land.

Main engines

The shuttle's wings helped it glide back to Earth.

From **1981** to **2011** the space shuttle flew a **total of 135 missions**.

## Close-Up Check List

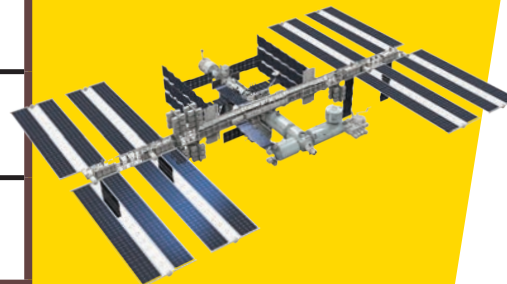
Spot these **five close-ups** in the big picture. Tick each box as you find them.



Draw a line to spell the word **rocket** to help the Space Shuttle dock with the space station.

w	q	d	b	i	y
i	o	x	j	e	l
r	m	c	k	s	t
v	t	r	z	h	r

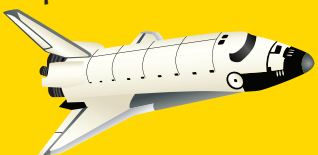
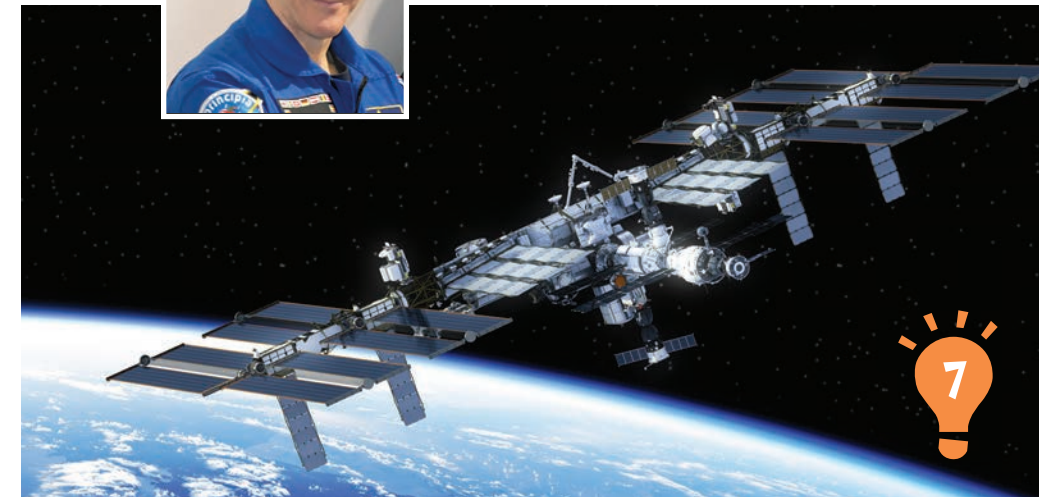
**Mission successful!**



The shuttle helped build the International Space Station (ISS). It has two bathrooms, a gymnasium and a big bay window. Six people are able to live there.



British astronaut, Tim Peake, spent 6 months aboard the International Space Station.



I know...  
**how it works!**

# Air Power

1

Airtight disc

**Spring's 'potential' energy**

As the handle is pulled down the spring is compressed and tension builds.

**Tension builds**

When you let go, the tension is released.

**The spring releases its energy**

2

**Whoosh!**

The narrow spout increases the air power.

The air is forced up and out.

Discover how this issue's rocket toy works.



The current record for the greatest height achieved by a water and air-propelled rocket is 830 metres!  
**How high will yours go?**

## How a real rocket works

Liquid oxidiser  
Liquid fuel  
Pumps  
Combustion chamber

As rocket fuel burns, exhaust gases build up and propel the rocket up and away. It takes a lot of fuel to get a rocket into space.



Science  
Fun to Learn

I know about...  
**sundials!**

It is not known exactly when the first sundial was used.

Some of the **earliest sundials** are up to **3500 years** old, found in **Egypt**.

**Colour in the Egyptian mummy.**

Some believed **Stonehenge** was used as a sundial. But it's also been said that it relates more to **seasons**.



Sundials were used to tell the **time** and **seasons** for thousands of years before the **mechanical clocks** from the **14th Century**.

**A Roman sundial.**

The stick is called a **'gnomon'**.



Next time you're at the **beach**, you could **make your own** sundial in the sand!



**History**  
Fun to Learn

Make stuff with  
**Outdoor Nick!**

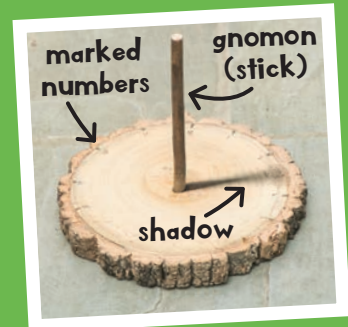


You will need:  
an adult helper  
piece of wood  
pencil  
stick  
clock



**1**

Ask an adult to make a hole in the middle of the wood and insert the stick.



**2**

Put it somewhere sunny. Mark where the shadow points every hour.



**3**

The shadow points north when it's 12 o'clock.

If you don't have wood and a stick, try a paper plate and pencil. The best time to move your sundial is at noon, so you can correctly line up your gnomon. Visit [www.iknowmagazine.co.uk](http://www.iknowmagazine.co.uk) for more videos from Outdoor Nick!

I know about...  
**tardigrades!**

Meet the amazing **water bear!** The world's ultimate survivor.

## Top five facts!

- 1 They can survive **extreme temperatures**. From a chilly **-200° Celsius** up to **151°!**
- 2 They've been around for **530 million years**, making them **older than dinosaurs!**
- 3 There's more than **1,150 species** of tardigrades.
- 4 At just **0.5mm** long, you could line up **100** across the palm of your hand.
- 5 They can live for **10 years** without **food and water!**



## Microscopic world!

Let's take a look at how some things look under the microscope!



**Tardigrade** with eggs inside its old shell.



**Honey Bee Wing**



**Mosquito leg**



**Flea**

## Suited for Space!

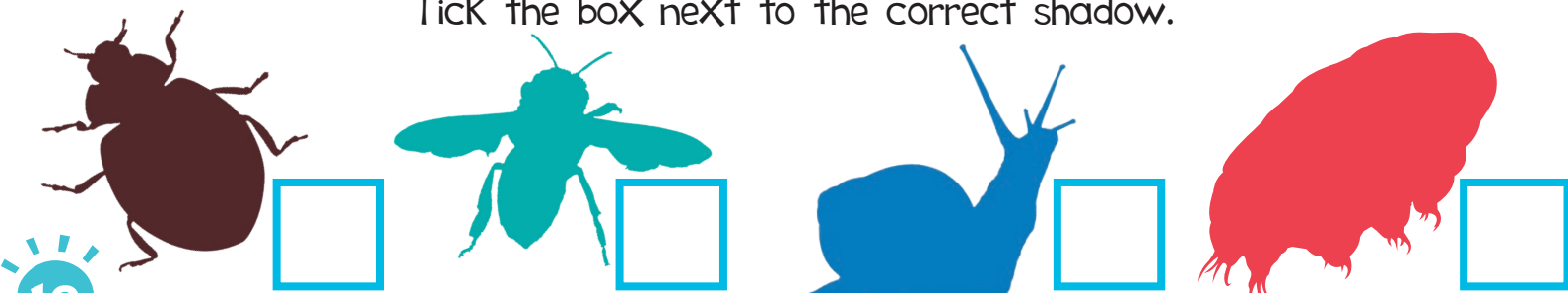
Tardigrades are the only creatures that have survived in space! They can survive 10 days in deadly heat and radiation thanks to their super-thick skin.



Use your space suit stickers!

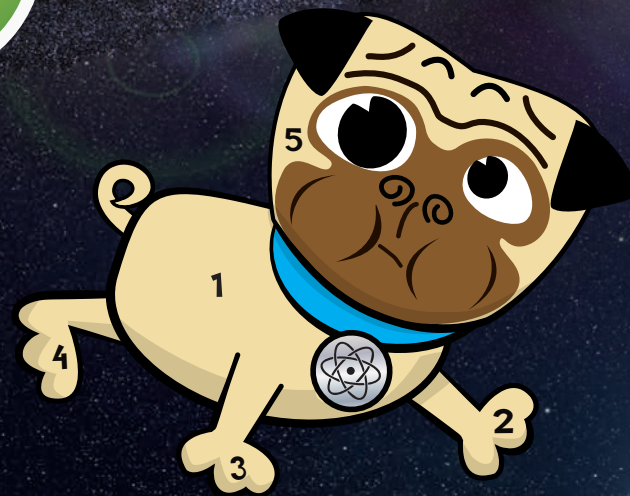
Which of these shadows matches the tardigrade above?

Tick the box next to the correct shadow.



Do you know what the other shadows are?

Answers: Ladybird, bee, snail, tardigrade.



**Quick! Dress Bunsen up in his space suit!**

Use the numbers as a guide. Then pop down the stars.



I know how to...  
**make stuff!**

Raid the recycling to make this awesome  
**Jet Pack!**

## You will need:

- an adult helper
- child-safe scissors
- two large plastic bottles
- kitchen foil
- ribbon or string
- sticky tape
- thick cardboard
- blue sheet of A4 paper
- red and orange tissue paper

Ask an adult to help you wrap the bottles tightly in foil. Fix in place with sticky tape.

Lay a long strip of A4 paper across the bottles. Attach to the sides with some sticky tape.


Cut a piece of thick card to the same width as the bottles. Cut slots at the top and sides.

Roll up balls of tape to attach the bottles to the cardboard.

Cut long strips from tissue paper. Poke the strips into the open end of the bottles.

Feed ribbon through the slots. Make loops around your arms and tie with simple knots. Now it's time to play!

5, 4, 3, 2, 1...  
**Lift-off!**

 **Art and Design**  
Fun to Learn



## Astronaut badges

Cut out these badges and use sticky tape to decorate your rocket pack. Pop one on your arm to look like an astronaut!



In February 1984, Bruce McCandless became the first astronaut to use a jet-powered pack (MMU\*) in space!

\*MMU stands for Manned Manoeuvring Unit.



Calling the  
**Smart Squad!**

Send a photo of you with your jet pack to [iknow@redan.com](mailto:iknow@redan.com) for a chance to appear in the magazine and **win a prize!**

Turn to page 30 for our giveaway rules and privacy statement.

Please recycle



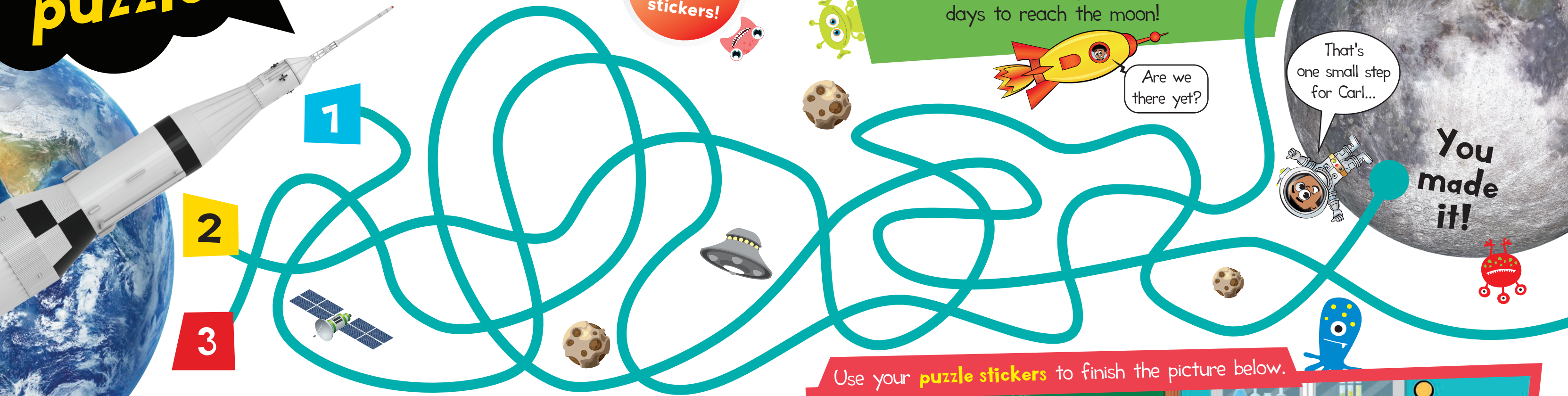
your materials when you've finished!

Let's do some...  
**puzzles!**

Follow the rocket paths.  
Which one leads to the Moon?

Use  
your  
puzzle  
stickers!

The average distance from the Moon to the Earth is 238,855 miles (384,400 km).  
In 1969, it took Apollo 11 three days to reach the moon!



That's one small step for Carl...

Are we there yet?

**You made it!**

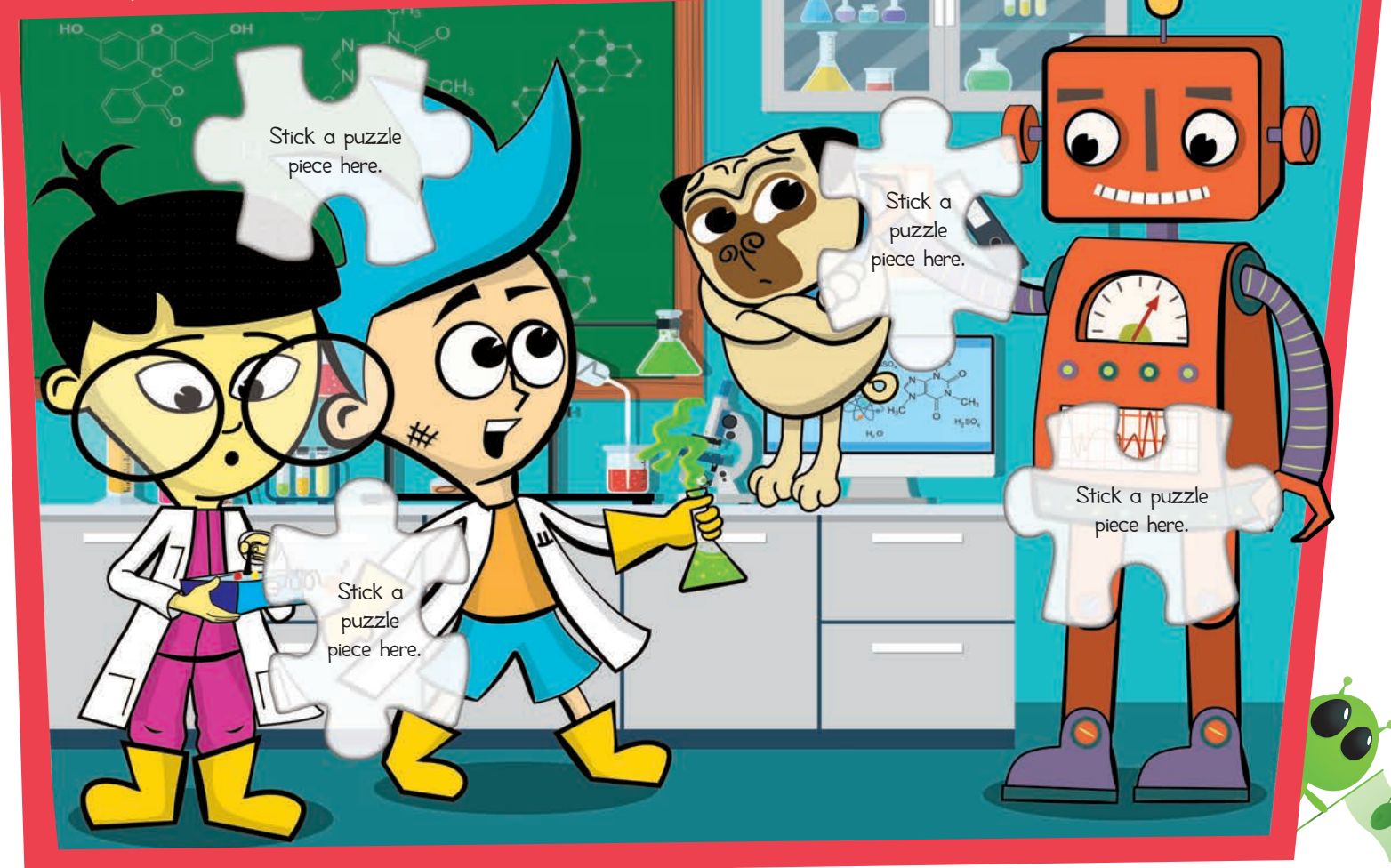
# Space Wordsearch

Cross out the words when you find them.

p	a	s	t	r	o	n	a	u	t
m	e	t	e	o	r	b	h	i	r
i	w	p	z	c	o	m	e	t	e
s	g	l	a	k	c	s	m	a	b
s	s	a	t	e	l	l	i	t	e
i	u	n	f	t	m	o	o	n	p
o	n	e	d	j	l	e	x	q	k
n	i	t	g	a	l	a	x	y	l

- rocket
- mission
- planet
- comet
- meteor
- astronaut
- galaxy
- satellite
- sun
- moon

Use your puzzle stickers to finish the picture below.



Look for **eight aliens** on these pages.  
Pop down a tick sticker next to each one you find.

I know about...  
**lungs!**

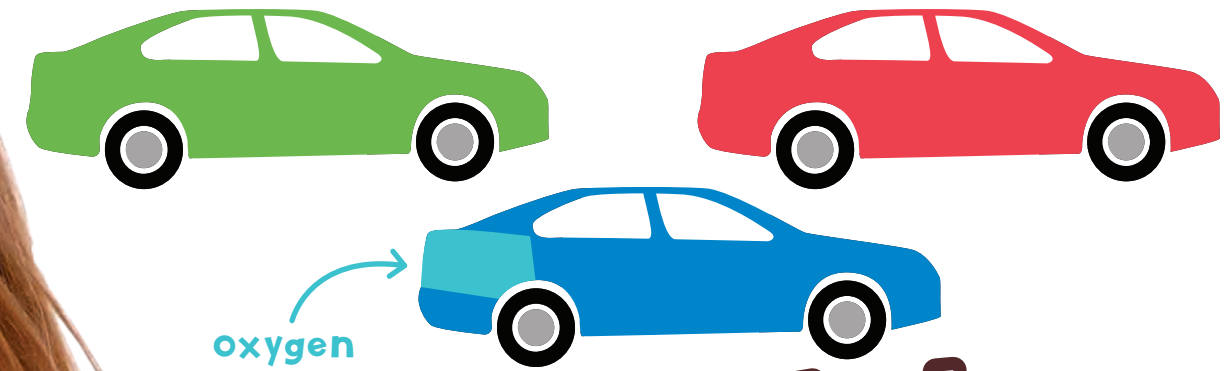
Take a deep breath! Find out about your lungs and how they work.

As we breathe in through our mouth or nose, the air fills our lungs.

Oxygen gets into the blood, through tiny air sacs called alveoli. It's pumped around the body by the heart.

Once the blood has travelled around the body in red blood cells, it brings carbon dioxide back to the lungs where we breathe it out. Now the body is ready to do it all again!

An average human breathes in enough air to fill roughly three cars every day! Only about a car boot of this air is oxygen.



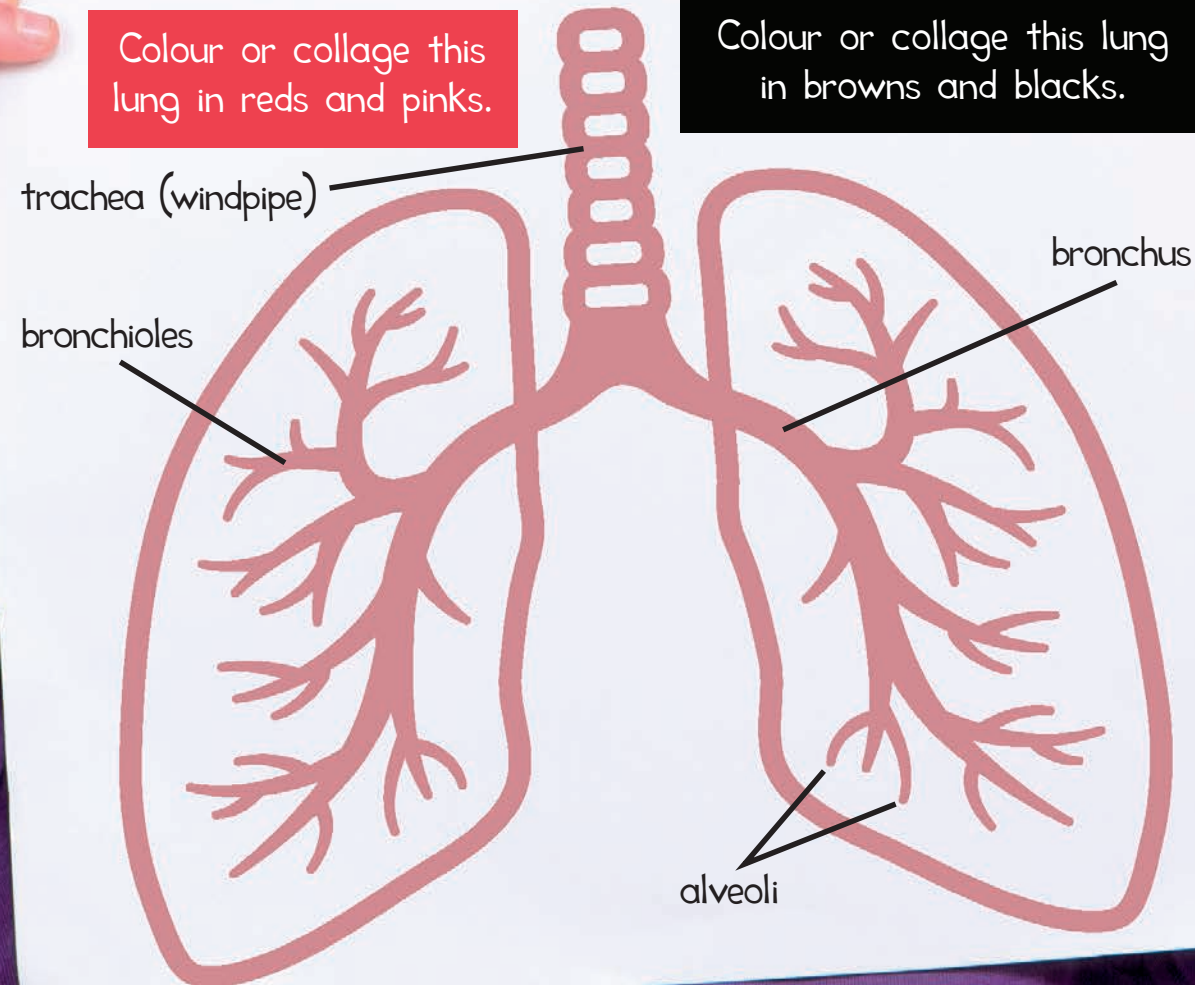
## Healthy lungs

In healthy people who breathe clean air and do not smoke, the lungs are light pink.



Colour or collage this lung in reds and pinks.

Colour or collage this lung in browns and blacks.



## Unhealthy lungs

In people who smoke, have a poor, fatty diet, or breathe poor air, the lungs may be brown. This is due to toxins damaging the lungs.



Time for an...  
**experiment**

How much air can your lungs hold?

**You'll need:**

- a 2 litre bottle
- a large bowl
- a bendy straw
- some water



Half fill a large bowl with water. Then fill the bottle and screw on the cap.

Ask an adult to help you turn the bottle upside-down, putting the cap in the water. Now remove the cap.



Carefully insert the short end of your bendy straw into the bottle. You may need help holding the bottle.



1, 2, 3...  
**breathe!**

Science Fun to learn

Take a deep breath and blow all of the air in your lungs into the bottle. The air will displace the water in the bottle and show you how much air your lungs hold. Mark the bottle and let someone else try!



I know about...  
**space!**

Grab some pens, pencils,  
or even paint to  
**colour in the rocket!**

**Idea!** Add foil to  
your rocket to make it  
look like shiny metal.



### **Pull out the page.**

Ask an adult to help you cut out  
this shape along the red dotted lines.

### **Put your face in the hole.**

Remember to pull your funniest faces!

### **Send us your photo!**

Send a photo of you as the astronaut to:-

**iknow@redan.com**

for your chance to appear in  
our magazine and win a prize!

### **Try it with your pals!**

### **Did you know?**

In 1961, Russian cosmonaut  
**Yuri Gagarin** became the  
first person to travel  
into space aboard his  
spacecraft, **Vostok 1**.



Yuri returned to  
Earth in this tiny  
space capsule!

I know about...  
**Russia!**

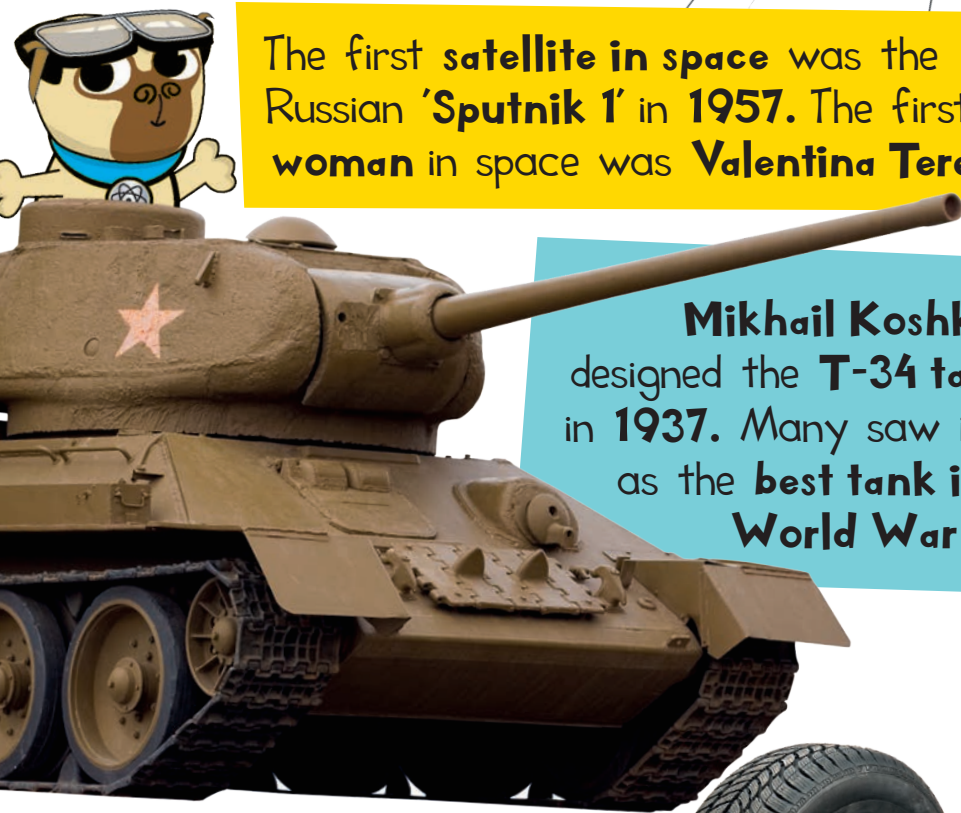
Let's find out about **Russia**, the **largest country** in the world.

## World firsts!

The first **satellite in space** was the Russian '**Sputnik 1**' in **1957**. The first **woman in space** was **Valentina Tereshkova**.



**Mikhail Koshkin** designed the **T-34 tank** in **1937**. Many saw it as the **best tank in World War 2**.



**Sergei Lebedev** discovered synthetic rubber in **1910**. It's used in things like **tyres, gloves, seals and insulation**.

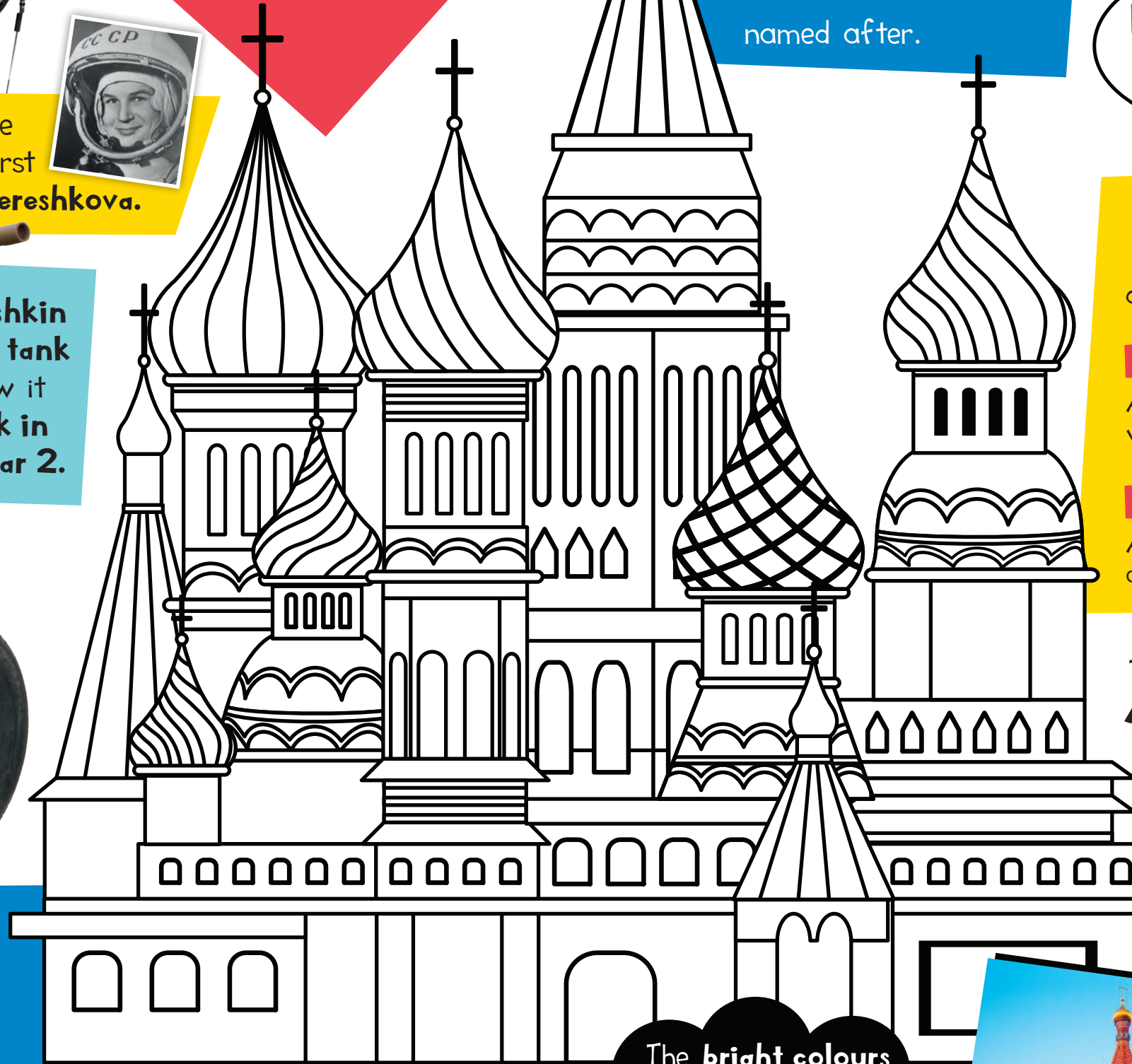


Russian dolls – **Matryoshkas**  
"mah-tree-osh-kas"



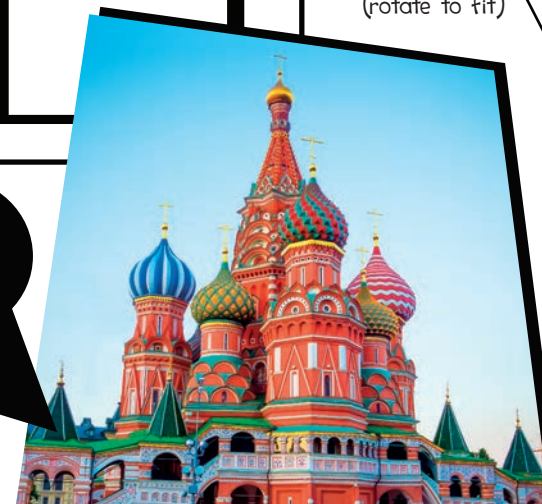
Number the Russian dolls in **size order**. Start with **1 as the largest** and end with **5 as the smallest**.

This is **St. Basil's Cathedral** in **Moscow**. It was built between **1551–1561** on orders by **Ivan the Terrible**, the **Tsar** at the time.



The cathedral has **ten** chapels. The **tenth** chapel was built in **1588**, over the grave of local saint '**Basil the Blessed**', who the cathedral is now named after.

The **bright colours** weren't added for over **200 years**. **Colour in** the cathedral above. Use this picture to help you.



Flag of **Russia**.



**Hi!**  
**Privyet!**  
'preev-yet'

**How are you?**  
**Kak dyela?**  
'kahk-dee-lah'

**Goodbye!**  
**Do Svidaniya!**  
'duh svee-dah-nee-ya'

Tick the box if you think these Russian dishes are **yuk** or **yum**!

**Borscht** say "bor-shht"  
A beetroot soup with meat and vegetables, onions and potatoes.

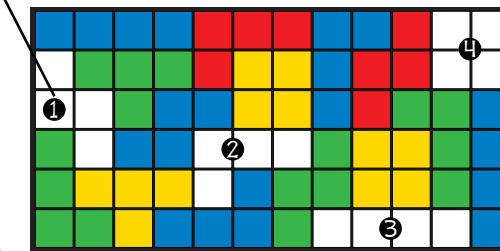
Yuk!	Yum!
<input type="checkbox"/>	<input type="checkbox"/>

**Blini** say "blee-nee"  
A pancake with fillings like jam, cheese or chocolate syrup.

Yuk!	Yum!
<input type="checkbox"/>	<input type="checkbox"/>

The video game **Tetris** was invented by **Alexey Pajitnov** in **1984**. Players **move** and **rotate** shapes to fit into rows.

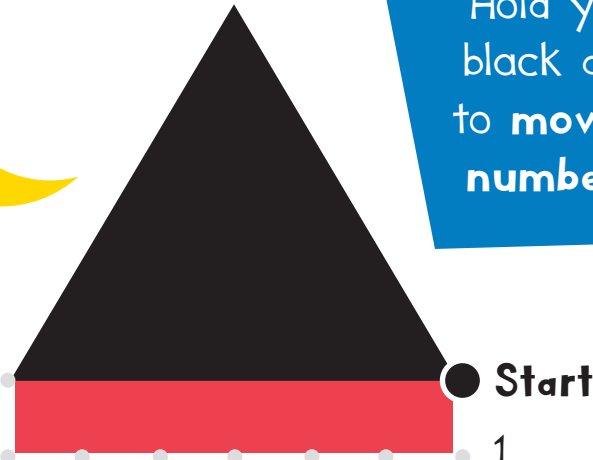
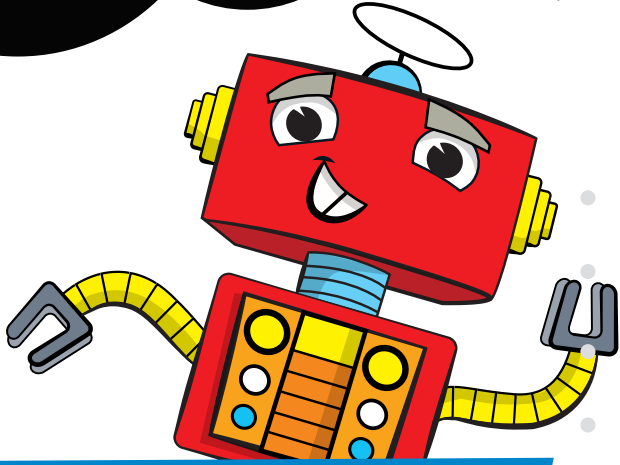
**Draw lines** from the shapes to where they **fit in the grid**.



I know about...  
**coding!**



Hold your pencil on the black dot. Use the code to move your pencil the number of dots shown.



1

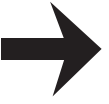
2

3...

**Code:**



down  
13 dots



right  
2 dots



down  
4 dots



left  
10 dots



up  
4 dots



right  
2 dots

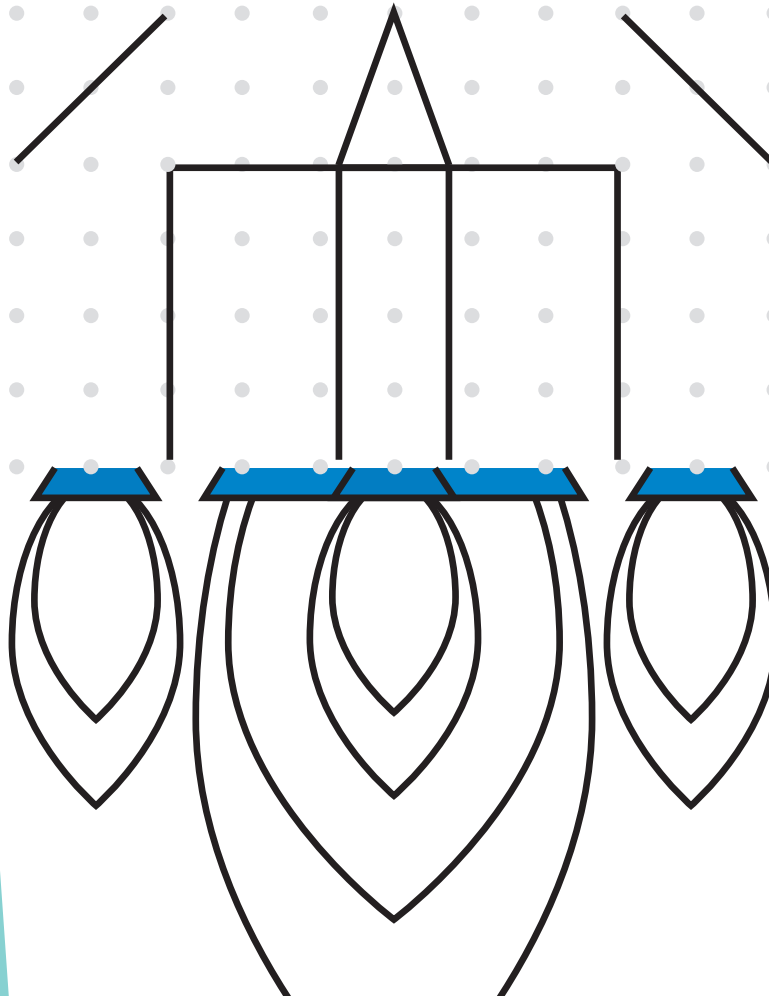


up  
13 dots

**NASA's Space Shuttle** used a computer designed in the 1970s. It had **less computer code** than most of today's **mobile phones!**

Computers use **binary code** which is written as either **1s or 0s**. Cross out the numbers that aren't **binary code**.

1 0 1 0 1 0 1 0 7 1  
1 1 0 1 8 1 0 1 1 8 1  
8 7 0 1 0 1 7 1 0 1  
0 1 0 7 8 1 1 1 0 7



**Computing**  
Fun to Learn

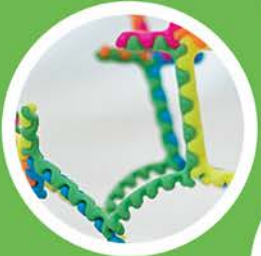
PRIZE DRAW

# Stems®

6 tubs to win!

You could WIN a tub of 60 pieces!

Draw lines to where each close-up fits in the large picture.



## Enter now for a chance to WIN!

Introducing **Stems®** an intriguing **new construction toy** from Learning Resources. Just one Stem provides endless possibilities. The **weird, wobbly geometry** zips together, letting you create anything in your imagination - **bouncing balls, wheels, leaping frogs** and much more!

### Competition now closed!

DEVELOPS:

Curiosity

Fine Motor Coordination

Hand-eye Coordination

Problem solving

Set has 12 each of: pink, orange, yellow, blue and green



<https://www.learningresources.co.uk> R.R.P. £25.99 Suitable for ages 5+

I know a...  
**recipe**

# Alien Smoothie!

Before you start, ask an adult to help you peel, cut and chop all the fruit.

**You will need:**  
an adult helper  
10 ice cubes  
a blender  
an apple  
2 kiwis  
half a banana  
a yoghurt

**1** Pop all the fruit into a bowl.



**2** Add the yoghurt and the ice.



**3** Ask your adult helper to blend all the ingredients together.

**4** Pour into your favourite cup, pop in a paper straw and enjoy!

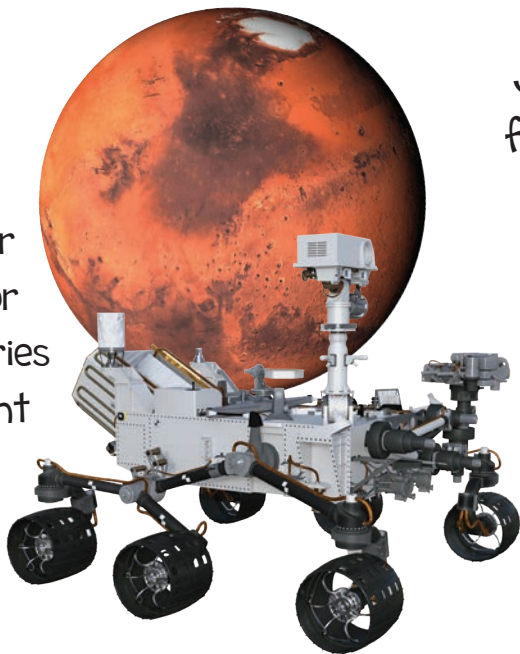
## Tip!

To make your smoothie extra green add a few mint or even spinach leaves!

## Is there alien life?

### Mars

NASA's Mars Rover continues to look for life on Mars. Discoveries of methane gas might mean microscopic creatures can exist there.



### Europa

Jupiter's moon has seas below its frozen surface. Perhaps life exists around volcanic vents like some of Earth's sea beds.

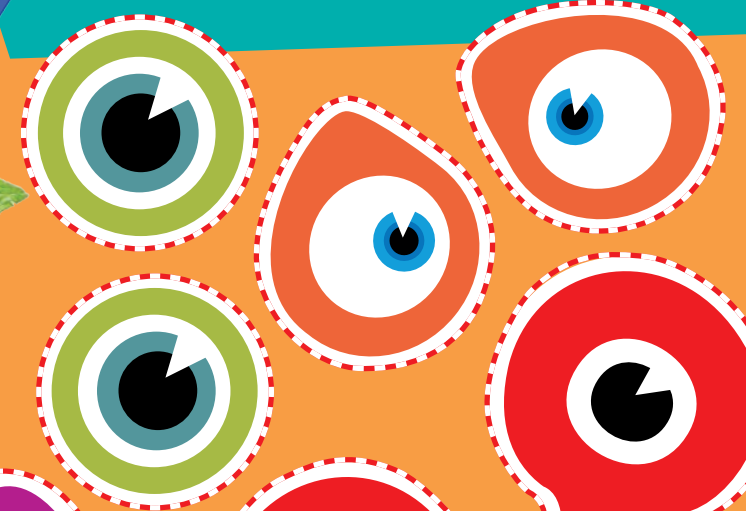


### Enceladus

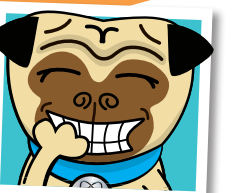
The water spouting from geysers on Saturn's moon was found to be salty and contain organic molecules, the basic ingredients for life!



Cut out and stick these funny alien faces on to your smoothie.



Dee lish!



Cheese!

Calling the **Smart Squad!**

Send a photo of you with your **Alien Smoothie** to [iknow@redan.com](mailto:iknow@redan.com) for a chance to appear in the magazine and **win a prize!**

Turn to page 30 for our giveaway rules and privacy statement.



I know about...  
**the moon**

Find out how the moon affects our Earth.

The moon buggy, driven by astronauts David Scott and James Irwin in 1971.

The Moon may be the remains of a clash our Earth had over 450 billion years ago!

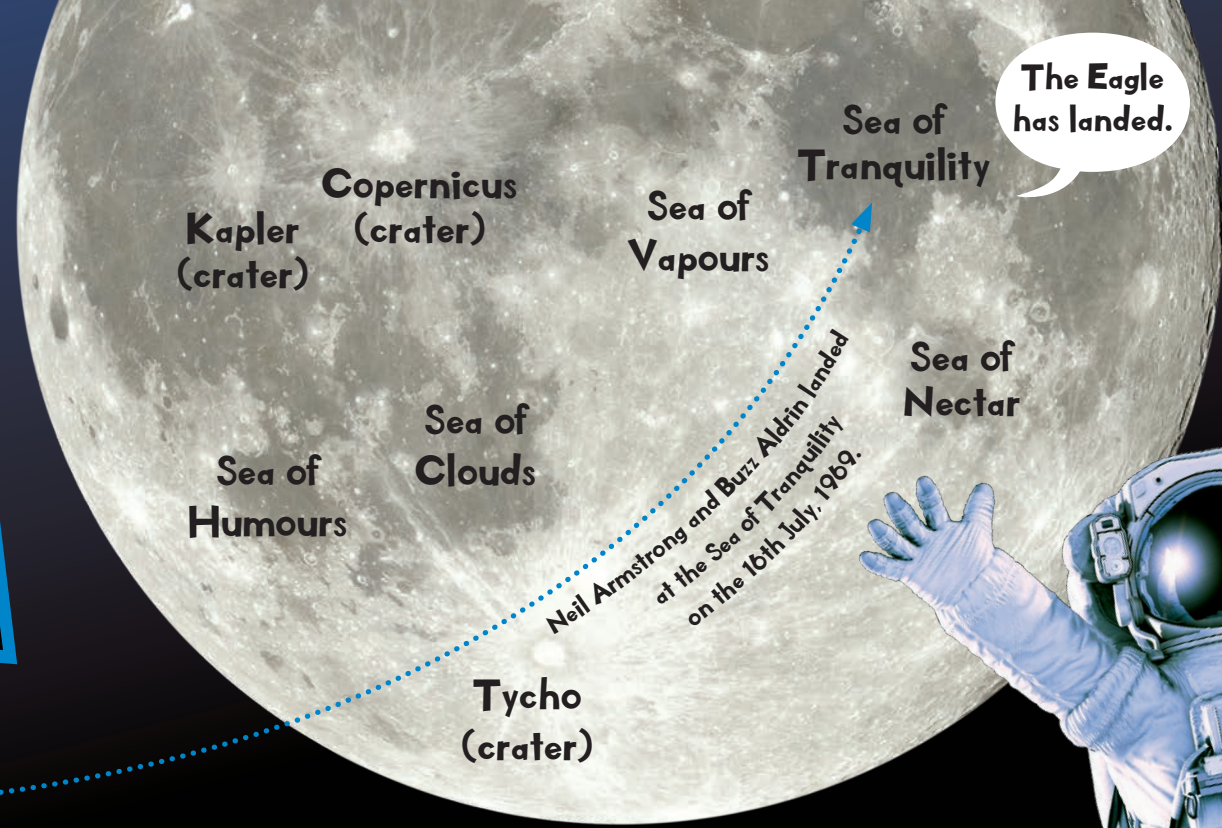


**Boom!**

Neil Armstrong was the first man on the moon in 1969. There have been six lunar landings. The last was in 1972.

That's one small step for a man...

...one giant leap for mankind.



The Eagle has landed.

# Low Gravity

The moon's gravity is 17% of Earth's strength. Things would weigh a lot less on the moon.



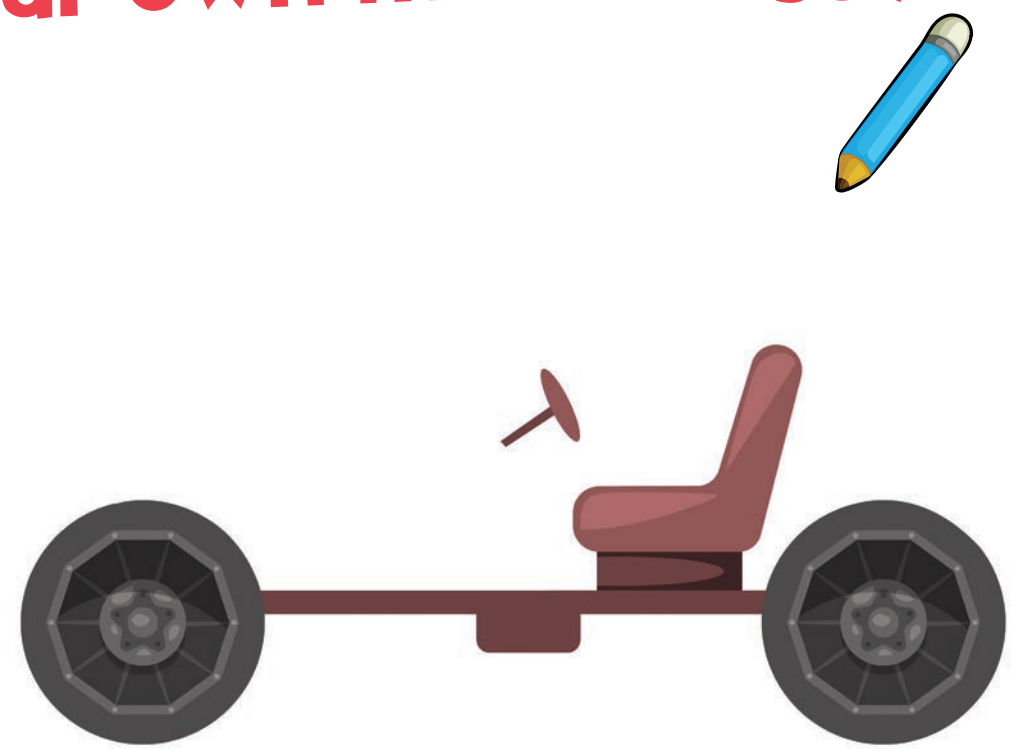
## If we had no moon...

The Earth would spin faster, there would be **no seasons** and our days would only be **six to eight hours long!**



## Design your own moon buggy!

What gadgets would you put on it?



## Tidal Power!

The moon's gravity pulls the seas towards it creating the rising and falling **tides**. Great for surfing!

Art and design  
Fun to Learn

Hey, dudes!



Colour in Bunsen.

**I know!**  
Smart Squad!

The sender of every drawing, photo or fact printed here has won a **HEXBUG MICRO ANT** and **HEXBUG SCORPION**. The **ANT** skitters around bouncing off anything in its path and won't be stopped. The **SCORPION** scuttles around the room exploring every area. The realistic bouncing of the tail will make you **think it's actually alive!**



**Fact Fix!**

The Sun is actually a star!

Send in your favourite fact. If we like it, we'll print it and you'll win a prize!  
(Remember to send your photo, too!)

Alex M, 6, Fife

Maia T, 8  
Freshwater

Do not litter.

**PLASTIC**  
By Maisie Bohm

Maisie B, 9  
Newport

scaly lion

Ruby E, 6  
Whitchurch

Danika C, 7  
Chatsworth

**Critter pics!**

What critters and minibeasts have you seen? Take a picture and send it to [iknow@redan.com](mailto:iknow@redan.com) for a chance to win a prize!

**A caterpillar!**  
Tim B, 6, Chesterfield

We love to see your drawings. Draw something in the space below. It could be a space rocket, a dinosaur, a bug, a shark or just your favourite animal.

Name: .....

Address: .....

Postcode: ..... Telephone: .....

Email: .....

**Post UK and Eire:**  
I Know! Magazine, Redan Publishing, Canon Court East, Abbey Lawn, Shrewsbury, SY2 5DE

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We're ALSO on twitter!  
Follow @Iknowmag

Grown-ups can like or follow for competitions, facts, pictures and more!

TWO-PART POSTER. If you missed issue 1 and would like the poster for your stickers, please send a stamped, addressed A5 size envelope with postage paid to: 'FTL I Know! Poster', Redan Publishing Ltd Canon Court East, Shrewsbury, SY2 5DE for either £1.81 second class, or £1.90 for first class.



**Let's get quizzzy!**

How much did you learn? Tick the correct boxes to answer the questions.

1 The temperature on Venus is 460° Celsius!  
true  false

2 The space shuttle flew a total of 135 missions.  
true  false

3 Tardigrades have been around for just 5 years.  
true  false

4 Apollo 11 reached the moon in 3 days.  
true  false

5 The first person in space was Russian.  
true  false

Hint: Turn to these pages to help you find the answers. 1; Page 4. 2; Page 7. 3; Page 10. 4; Page 15. 5; Page 18.

**If you scored...**  
1-2: Not bad!  
3-4: Well done!  
5: Superstar!



Answers, NO PEKING!  
1-True, 2-True, 3-False, 4-True, 5-True.

**Prize Competition and Prize Draw Rules:** Unless otherwise stated, the promoter is Redan Publishing Ltd. No employee of Redan Publishing Ltd, or participating companies, may enter the prize competitions and prize draws in this issue. The editor's decision is final and no correspondence will be entered into. Winners' names will appear in Issue 10. Entrants should note that I Know! Magazine does not accept responsibility for the return of any letters including those consisting of artistic or other material. Prizes are non-transferable and there is no cash alternative. Prizes may differ from those shown. Please allow at least 40 days from the competition closing date to receive your prize. Unless otherwise stated, prize draws/prize competitions are open to entrants worldwide. Please note that all DVD prizes are only compatible with Region 2 DVD players.

**Privacy Statement:** By submitting personal details when entering for any prize draws/prize competitions or the letters page prize, you are consenting to Redan Publishing Ltd and its associate companies, such as fulfillment houses and couriers, using this information for the sole purpose of administering these prize draws/prize competitions. Personal details provided will not be used for any other purpose. The age of the child is only used to ensure the content of this magazine is relevant to its readers. Competition and Letters' page submissions sent to I Know! magazine indicate consent to publish the child's first name, age, last name, town, and photo if supplied. All submissions must be sent with the consent of a parent or guardian. Submissions will be held for a maximum of 24 months, after which time, all data will be deleted. If you wish for your submission to be deleted before this time, do contact us. Individuals have the right to complain to the Information Commissioner's Office (ICO) if they believe there is a problem with the way their data has been handled.



I know about...  
**gravity**

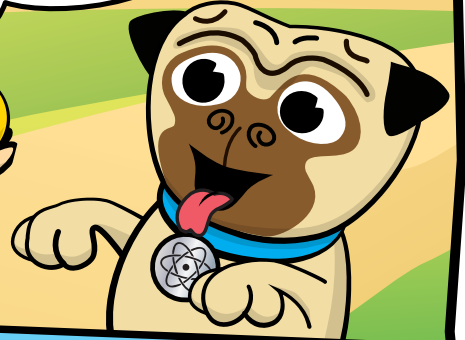
What goes up,  
must come  
down!

by Clive Pritchard



Hey, Bunsen. I've brought your two favourite toys to the park today.

My squeaky bone and tennis ball!

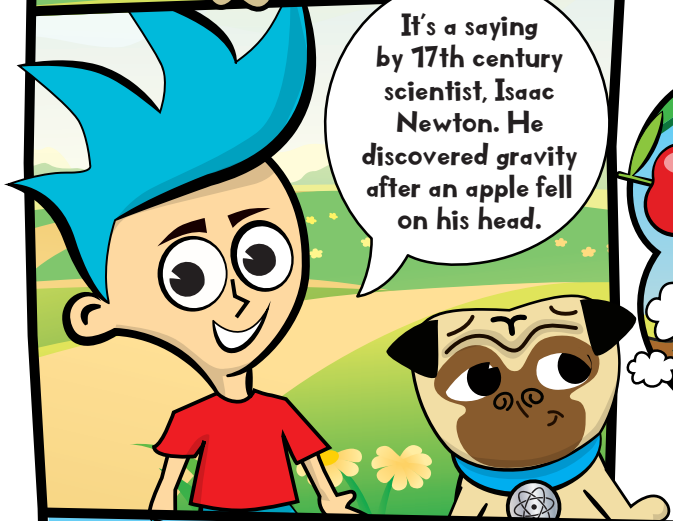
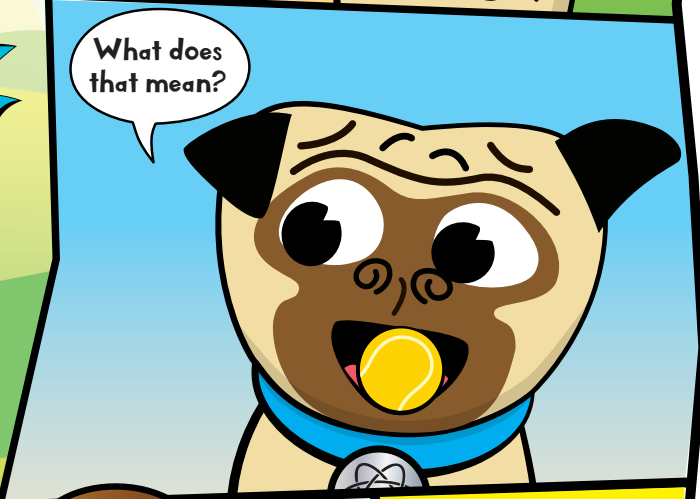


Leo threw the ball and squeaky bone...

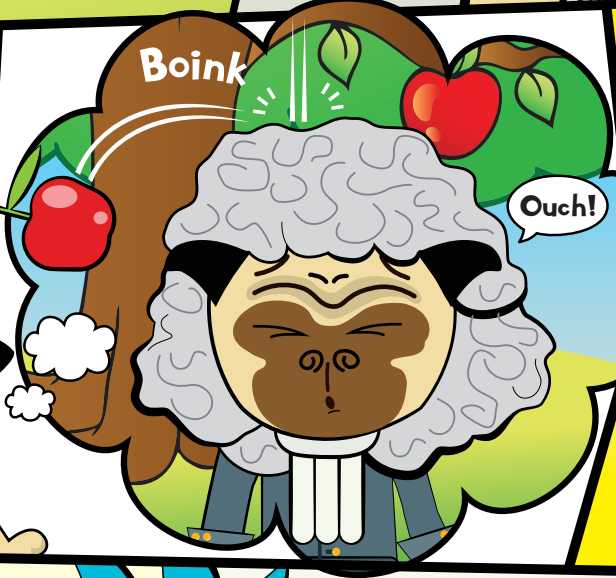


What goes up, must come down!

What does that mean?



It's a saying by 17th century scientist, Isaac Newton. He discovered gravity after an apple fell on his head.



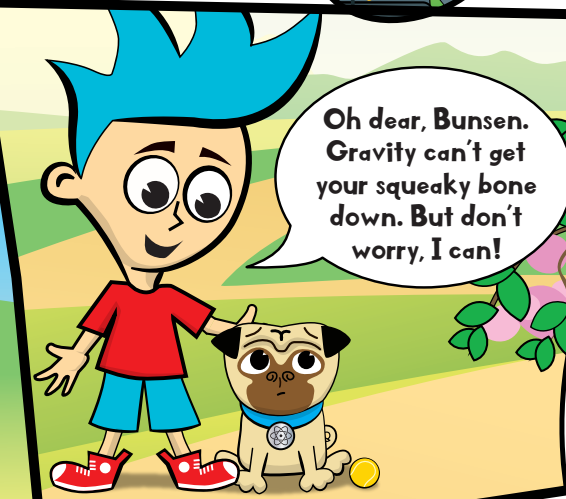
Ouch!



Hmm. I wonder what made it fall?



When we jump, gravity brings us back down. Without it, we'd float off into space!



Oh dear, Bunsen. Gravity can't get your squeaky bone down. But don't worry, I can!



Squeak!  
Squeak!  
**THE END.**



# Gravity Experiment!



## You will need:

- a coin
- a scrap of paper
- two matchboxes

1

Tear a coin-sized piece of paper.



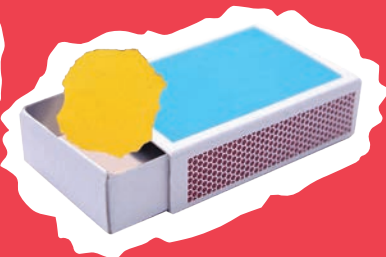
2

Drop the coin and paper from the same height. The paper falls more slowly because air gets in its way.



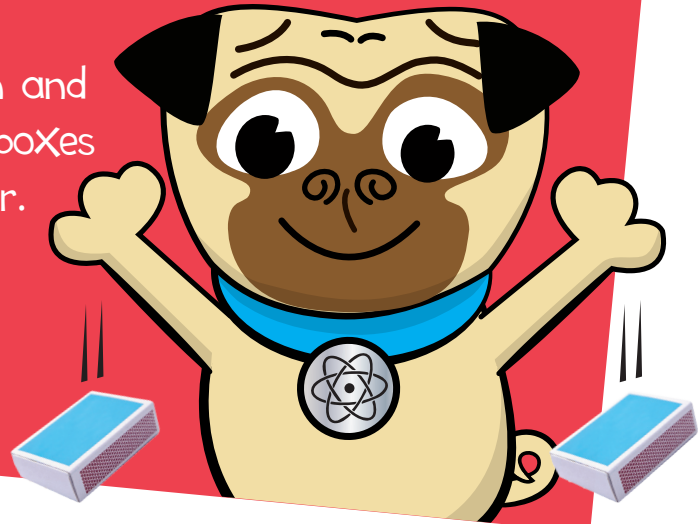
3

Now put the coin in one matchbox and the paper in another.



4

Close them and drop both boxes together.



5

## Which landed first?

The boxes have the same air resistance and should land at the same time. Even though their weight is different!



The 16th century Italian scientist, Galileo, is believed to have dropped objects from the Leaning Tower of Pisa to perform this experiment!



Let's make a...  
**target game**

# Space Target Game!

**3**

Earth

Earth is the **only planet** in our solar system with **liquid water** on the surface. But **NASA** believe there may be **running water** on **Mars** too!

**2**

Venus

Venus rotates **backwards**. The **sun** rises in the **west** and sets in the **east**.

**1**

Mercury

A year on **Mercury** takes **88** Earth days.

**4**

Mars

Mars has **two moons**, Phobos and Deimos.

**5**

Jupiter

Jupiter's days last **10 Earth hours**.

**6**

Saturn

Saturn's moons have conditions that **might support life**.

**7**

Uranus

Uranus' methane atmosphere gives it its **blue colour**.

**8**

Neptune

Neptune is named after the Roman god of the sea.

Turn the page to start!

Follow the easy steps to make your amazing space target game!

3  
2  
1

Lift-off!



Place the board on the floor or a table and take two steps back.

Launch the rocket toy\* and see which planet the nose lands on.

Each planet has a score next to it. Have **three goes each** and add up the numbers.

**The highest score wins!**

\*If you don't have the rocket toy for this issue, you could use a counter or a rolled up ball of paper.

### Calling the Smart Squad!

Send us a photo of you with your **Target Game** for a chance to win a prize! Turn to page 30 for details.



Space Explorer

REDAN FUN TO LEARN

# I know!™

Look what's coming in the next issue of I Know! magazine!  
On sale 26th September (UK).  
On sale February 2020 in Australia and New Zealand.

91 stickers!

Click together shark!

With a scuba diver!

\*Gift not available on subscription copies.

sticker game!

puzzles!

sharks!

recipe!

crafts!

If you like this magazine, you might also like...



ON SALE NOW!

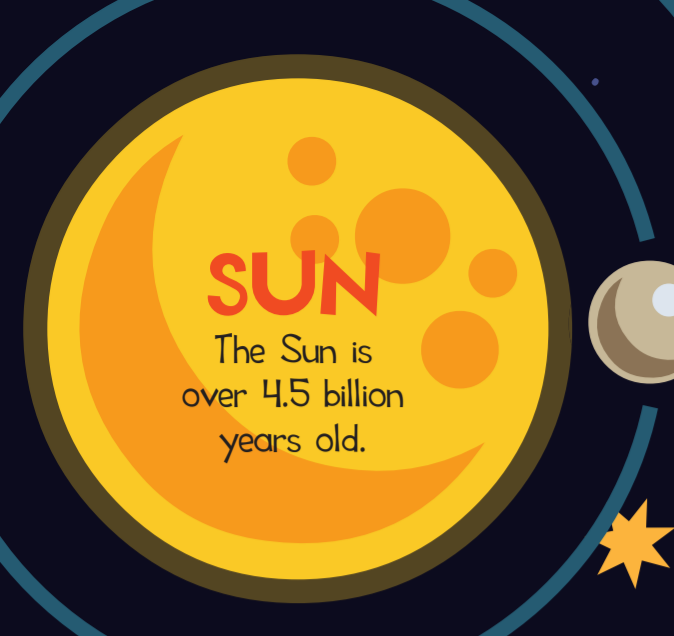
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Issue #2

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# SUN

The Sun is over 4.5 billion years old.

## MERCURY

The smallest planet in the solar system.

## MARS

Has the tallest mountain in the solar system.

## EARTH

Earth's water was initially trapped within the planet.

## VENUS

The second brightest natural object in the sky.



## JUPITER

Has the shortest day of all the planets.

### 1959 - RUSSIA

Luna 2, the first spacecraft to reach the Moon.

### 1968 - AMERICA

Apollo 8, the first manned spacecraft to reach the moon.

### 1990 - JAPAN

Japan's first moon mission.

### 2003 - EUROPE

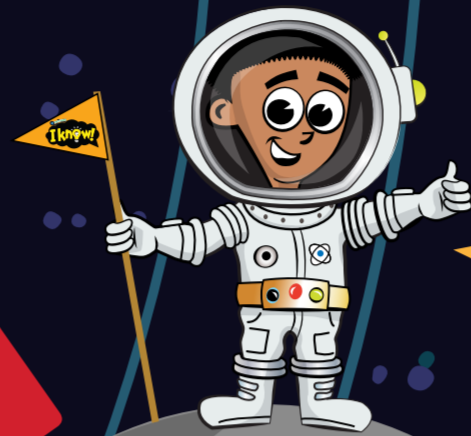
Europe launches Ariane 5 to the moon.

### 2007 - CHINA

Change 1 launched to orbit the moon.

### 2008 - INDIA

India's first mission to the moon.



Temperature in space today. **-270°C**

Temperature in space decreases over time.

Temperature, seconds after big bang. **1 Billion°C**

# AFTER THE BIG BANG!

The universe is a seething hot soup of electrons, quark and other particles.

Still too hot to form into atoms. Charged electrons and protons prevent light from shining. The universe is a super-hot fog.

Electrons combine with protons and neutrons to form atoms, mostly hydrogen and helium. Light can finally shine.

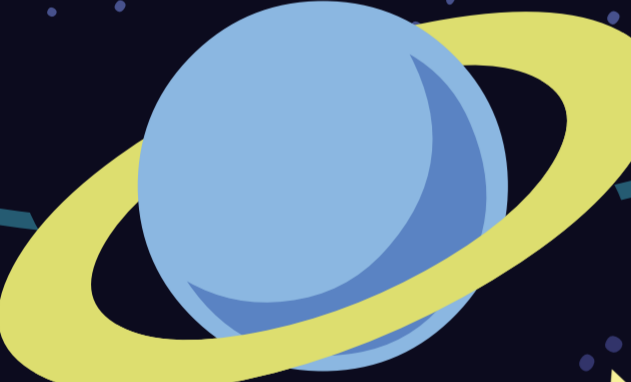
Gravity makes hydrogen and helium gas mix to form the giant clouds that will become galaxies. Smaller clumps of gas collapse to form the first stars.

As galaxies cluster together under gravity. The first star dies and spews heavy elements in the space. Planets like those in our solar system start to form.

**FUN TO LEARN**

# I know!

All about space!



## SATURN

Made mostly of hydrogen.

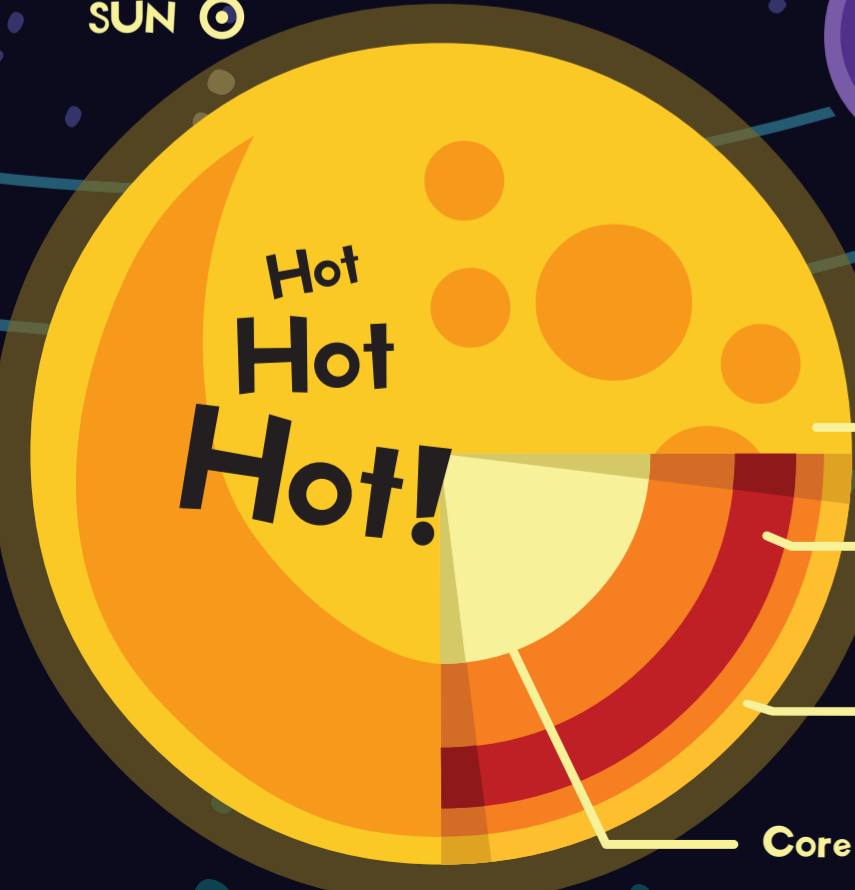
## URANUS

This planet is tipped on its side.

## NEPTUNE

Surface Gravity is almost Earth-like.

## SUN ☉



## PLUTO

Now known as a dwarf planet.



## Hubble Telescope

It's taken the deepest images of the universe ever recorded.

## Meteorite

Some are as old as the solar system.



Earth ☉



Venus ♀



Mars ♂

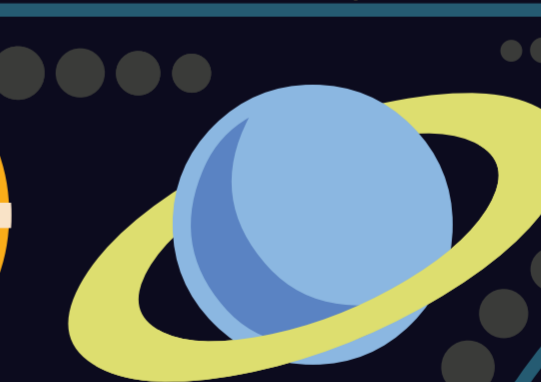


Mercury ☿

Only Mercury, Venus, Earth and Mars are made up of rocks or metals with a hard surface.



Jupiter ♃



Saturn ♄



Uranus ♅

Neptune ♆

Pluto ♇

Jupiter, Saturn, Uranus and Neptune are known as gas giants. They don't have a solid surface.



## COMET

Comets are made of ice, dust and small rocky particles.







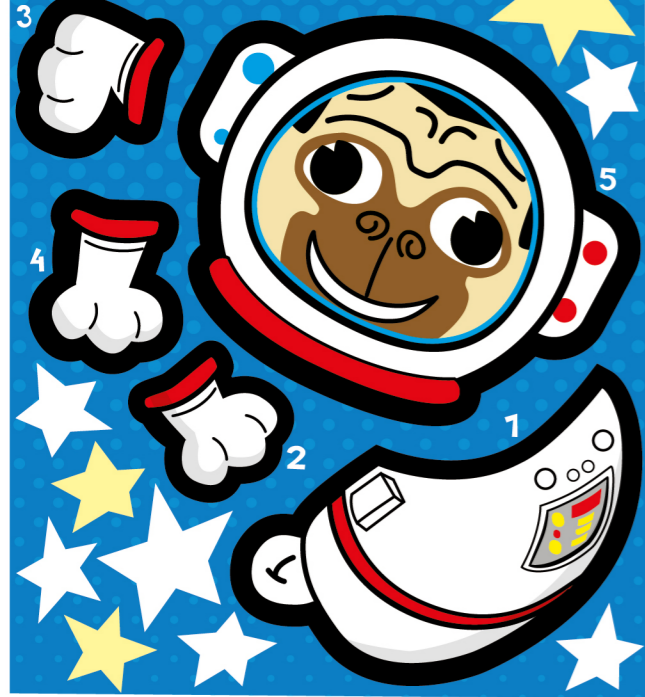
Do not adhere stickers to surfaces that may be damaged by their removal.

**I know!**

Use these stickers to finish the map of the world from ISSUE 1!



Use these stickers on page 11.



Use these stickers on page 15.



Use these stickers on pages 4 and 5.



Do not adhere stickers to surfaces that may be damaged by their removal.