

Written and Produced by Vix Southgate

# YURI GAGARIN

T H E F I R S T S P A C E M A N

## TEACHING PACK 1

for

KEY STAGE 2





# Yuri Gagarin



On 9<sup>th</sup> March 1934 Yuri Alexeyevich Gagarin was born in a village called Klushino, near Gzhatsk (renamed Gagarin in 1968) in Russia.

He lived with his father, Alexei Ivanovich; mother, Anna Timofeyana; brothers, Valentin and Boris and a sister, Zoya.

1949 He went to Moscow train as a foundry man (metal-worker) and joined the Saratov Flying Club in his spare time.

1960 Gagarin was accepted onto the cosmonaut training scheme in January and posted at Star Town (Star City) in Moscow.

1965 Gagarin re-entered mission training as a back-up cosmonaut.

1941 The Second World War reached Russia and his village was captured.

1955 He was drafted into the Soviet Military School in Orenburg in 1956.

**On 12th April 1961 Major Yuri Alexeyevich Gagarin became the first human in space and the first person to orbit the Earth.**

1967 began training for the first Soyuz flight.

Colonel Yuri Alexeyevich Gagarin died on 27th March 1968. On a routine test flight in a MiG-15 when it crashed killing him and his co-pilot Colonel Vladimir Serëgin.



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Date: **12<sup>th</sup> April 1961**

Speed: **27,400 km per hr**

Time: **06:07 UTC**

Height: **327 km above earth**

Spacecraft: **VOSTOK-1**

Comonaut: **Yuri Alexeyevich Gagarin**

Launch Site: **Baikonur Cosmodrome**

Age: **27**

# YURI GAGARIN PRESENTATION

## YURI GAGARIN



### The First Spaceman



Vix Southgate



This is a PowerPoint presentation aimed at 6-8 year olds – KeyStage2.

In addition to this Presentation you will need:

**2 types of PRIZES:**

**Prize #1** Preferably **Rocket Balloons** (the ones that blow up and then phrrrt all around the room – at the end of the presentation)

**Prize #2** Something of your choice: e.g. spacey rubbers, sweets, sticker, hand stamp (the one with the most gets an extra prize) etc

Guide to Notes:

Everything written in **bold** is essential information and links directly to the slides.

All other notes are extra, relevant information - useful for answering FAQ's.

This presentation is based on research done by Vix Southgate if you require anymore information or answers to questions please see: **[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)** and go to the 'resources' section.

Further Reading:

**Yuri Gagarin – The First Spaceman** Written and Illustrated by Vix Southgate

**Yuri's Day – The Road to the Stars** Written by Piers Bizony, Illustrated by Andrew King

**Starman** Written by James Doran and Piers Bizony

Websites:

[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)

[www.visualrian.com](http://www.visualrian.com)

[www.yurigagarin50.org](http://www.yurigagarin50.org)

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Contact Ralph Gibson: [photos@novosti.co.uk](mailto:photos@novosti.co.uk)

# Outer Space

What can you see in the sky at night?



[www.videosoutingate.co.uk](http://www.videosoutingate.co.uk)



## Click 1 Q: What can you see in the night sky?

Assuming it's not cloudy, you can see:

**The Stars** - Constellations (groups of stars, like 'the plough')

- Shooting stars
- Comets / asteroids/ meteorites

**The Planets** - (from the sun out) Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.

## Click 2 **The Moon**

**Satellites**

## Click 3 **Other Galaxies**

Click 4 **The ISS** - The International Space Station – people live on the space station and it can be seen with the naked eye.

FACTS

The Sun is a star

The Moon is a natural satellite

Jupiter has 63 confirmed moons

**Q: who wants to fly in OUTER SPACE?**

Be an Astronaut? Tourist? Engineer?

What do they know about Outer space?

There is no sound in space

Aliens – anything that we do not understand is alien!

Space is a vacuum (not the type you clean your house with) but not a perfect vacuum as it does have very small particles in it.

## Who went to space first?



A) A Dog called Laika

B) Fruit Flies



C) A Monkey called Albert II

[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)



Ask the children to stand and if they think the answer is

A they make dog ears with their hands

B they sit down

C they pretend to be the monkey

(Each click will bring up an answer. The 4<sup>th</sup> and 5<sup>th</sup> click will remove wrong answers)

**The right answer is B** (prize #2)


**The first 'animals' (intentionally) sent into space were fruit flies** launched aboard a V2 Rocket in 1947 by the US.

**Laika was the first dog in space**, but she did not survive the flight. Launched by Russia on Nov 3<sup>rd</sup> 1957, a month after the successful launch of the SPUTNIK satellite.


**Albert II was the first monkey to make it to space** he survived the orbit, but did not survive the landing.

## Space Monkeys



 Able and Baker



 True and Proud

[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)



**Click/Pic 1: Able and Baker went into space in 1959. They were the first monkeys to survive space flight. (US)**

**Click/Pic 2: True and Proud went into space on a 7 day mission in 1989. (Man with mic - Director of Medical Biological Problems Institute - Oleg Gazenko)**

**Which monkeys were American which were Soviet? (Russian?)** NB: The Russian Flag is different to the Soviet flag – The red flag is the Soviet flag!

# Space Dogs

Laika



Belka and Strelka



Zvyovdochka

[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)



**Click/PIC 1: Laika** - The first dog in orbit (3<sup>rd</sup> November 1957) onboard Sputnik-2.

**Click/PIC 2: Belka and Strelka** – First dogs to survive spaceflight. (19<sup>th</sup> August 1960) onboard Sputnik-5.

It also carried 40 mice, 2 rats and lots of plants.

The spacecraft returned to earth on August 20, and all animals were recovered safely.

Due to the success of Sputnik-5. It was time to test the ejector system because they did not think it safe to let a human land in the capsule.

**Click/PIC 3: Zvyozdochka** translated as 'Little Star' - **went into space with a life sized human dummy** called Ivan Ivanovich on 25th March 1961 onboard Sputnik-10.

The Dog was named by Yuri, they successfully orbited the Earth, the dummy was ejected safely and the dog landed safely in the spacecraft.

**They were sent into orbit, so that they could test the ejector seat worked safely before sending a live human.**

**The next flight to be launched was to be the most important space flight in history.**

**Q: What was sent to space next?**

**A: A human.**

**A man called Yuri Gagarin**

## Yuri Gagarin



The First Spaceman

[www.viaouthgate.co.uk](http://www.viaouthgate.co.uk)



Pic 1: **Yuri as a schoolboy** aged approx 6?

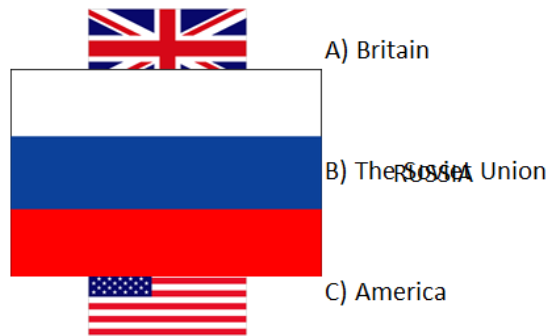
Pic 2: **Yuri The Spaceman in his Cosmonaut suit.**

Pic 3: **Yuri adorned with all the medals he received from the countries of the world on his world tour in 1961**

**Who was Yuri Gagarin?**

Click 1 reveal – **The First Spaceman.**

## Where was Yuri Gagarin born?



[www.viaouthgate.co.uk](http://www.viaouthgate.co.uk)



Ask the children to stand and if they think the answer is

- A they put their hands on their head
- B they put both hands behind their back
- C they sit down

(Each click will bring up an answer. The 4<sup>th</sup> and 5<sup>th</sup> click will remove wrong answers)

**The right answer is B** (Prize #2)

**Yuri Alexeyevich Gagarin was born in 1934 in a small village called Klushino and his family worked on a farm.**

**Yuri was born in The Soviet Union. This is now called Russia.**

**CLICK 6** brings up the Russian Flag.

In 1934 Russia was part of the Soviet Union and was a Communist state, led by Joseph Stalin.

**Yuri went to the local school until the German Army attacked in 1941. The Second World War meant that Yuri missed school for nearly 2 years.**

After the war, Yuri went back to school and volunteer teachers helped all the children to catch up with their learning.

## A map of the world



www.vixsouthgate.co.uk

Ask if anyone knows where on this map they live.

The star shows where Gagarin grew up.

## Yuri Gagarin's Family



www.vixsouthgate.co.uk



Pic 1: **Yuri (Front Centre) (Left- Right) Brothers Valentin, Boris and his sister Zoya**

Pic 2: **Yuri and his parents**

**Mothers name Anna** -Born in St Petersburg. Dairymaid.

**Fathers name Alexei** – Carpenter.

Their father, Alexei, was a carpenter and worked on a farm maintaining the buildings, a job he loved. He hoped, one day, to pass the skills onto all his sons.

Anna, their mother, worked as a dairymaid. She was born in St Petersburg and, being a city girl, was educated and read to the children every night.



## What did Yuri want to learn to be?



Ask the children to stand... and if they think the answer is  
A they make an A with their arms above their head.  
B they sit down  
C they pretend to be an aeroplane  
**DO NOT CLICK again until you have handed out prizes.**

**They will all be right and can all get PRIZE #1 a Rocket balloon!**

**ANSWER: All the above.**

**1<sup>st</sup> he wanted to be an engineer but could not get on to the courses.**

He started off wanting to be an Engineer but because his studies were stopped during the war, he did not have the grades to get into an engineering school.

**Pic 2:** Yuri and Gherman Titov at Zhukovsky (*Zoo-kov-ski*) Air Force Engineers Academy in 1962

**Then he decided he would train as a gymnast but the courses were full.**

He moved to Moscow and lived with an Uncle and tried to get on a course to become a Gymnast. All the courses were full.

**Pic 1:** A Russian gymnast called Yuri Titov in 1961

**Pic 3:** Yuri and a YAK-18 which was the first plane he learned to fly.

**When Yuri was a young boy he had a passion for planes and used to make models out of whatever he could find.**

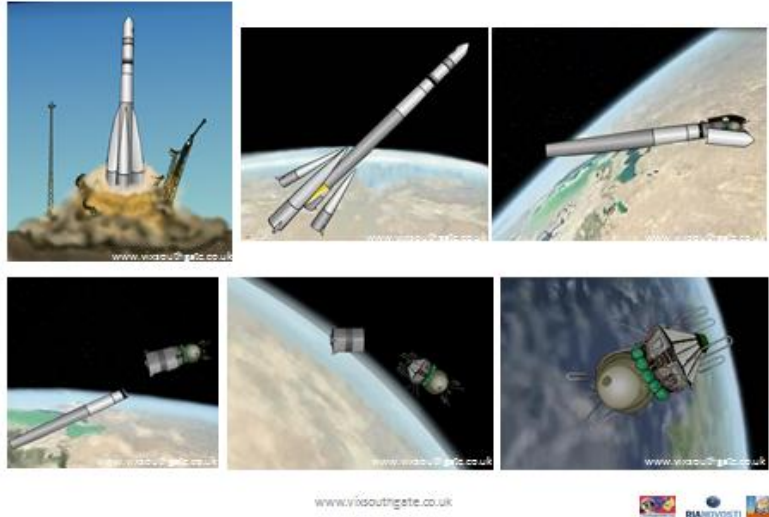
**So what did he actually learn to be?**

Click 4 reveals Yuri as a Foundryman

Yuri got onto a course to learn to be a **Foundryman**. (someone who works in a Foundry, which is a Metalwork factory) (Sheffield and Manchester had lots of foundries – Sheffield was famous for its cutlery)

**When he was learning to be a foundryman, he joined a flying club in his spare time and learned how to fly light aircraft.**

## Yuri's Rocket



**SIMPLE:**

- Click1 = Rocket is launched into space;**
- Click2 = Once the fuel is used, the rocket boosters fall away;**
- Click3 = the nose fairing comes away showing the capsule that Yuri is in;**
- Click4 = near orbit the core stage falls away;**
- Click5 = The final stage falls away and Yuri is in Orbit in his capsule (the ball)**

### WHO WANTS TO SEE A ROCKET BLASTING OFF?

Or MORE DESCRIPTIVE:

**The first human spaceflight mission was called VOSTOK-1** (which is the name of the small round capsule, in which Yuri sat).

**Click/Pic 1: Launch of the rocket carrying Vostok-1** (at the top in the nose cone)

This rocket is what is needed to get Yuri into orbit but most of it does not come back to earth!

**Click/Pic 2: Separation of the rocket boosters** (Once the rocket clears the Earth's gravity they fall off)

Gravity explanation: If you jump up in the air, the force of the Earth's gravity pulls you back down.

Rocket Power explanation: To blast free of the Earth's gravity you have to travel very high, very quickly, before the Earth has time to pull you back.

**Click/Pic 3: The separation of the nose fairing.** (The nose fairing protects Vostok-1 during the take off, until it gets into space.)

As the rocket goes through the atmosphere, the nose gets very hot and heat could damage the equipment needed to guide the capsule back to Earth.

**Click/Pic 4: The core stage shuts down and falls away.**

The thrust that was needed to fire the rocket into space is no longer needed. Once they have used up all their fuel they are separated from the orbital module (capsule and service module)

Up to PIC 4 happens in only 6 minutes after take off.

10 minutes after take off:

**Pic 5: The Final stage shuts down and separates leaving the Vostok-1 Capsule (the big ball – with Yuri inside) and the Service Module.**

The Vostok-1 capsule (the ball) is the only part of the Rocket that returns to Earth.

The rest gets hit by asteroids/broken up and eventually falls back towards the Earth and burns up in the upper atmosphere.

### WHO WANTS TO SEE A ROCKET BLASTING OFF?

## Rocket Launch



www.videosofthefuture.co.uk

Rocket launch – **MOVIE**

Listen out for Yuri Gagarin saying “Poyekhali” which means Let’s go!

## Yuri’s Landing



www.videosofthefuture.co.uk

**SIMPLE:** Click1 = The service module fires to slow the capsule down which means it starts to fall back towards Earth

Click2 = The service module should have come apart but didn't which meant that Yuri was being spun around and around (Click3 spins the picture)

Click4 = Once in Earth's atmosphere the Capsule deploys (lets out) its parachute and Yuri's ejector seat is fired out of the capsule

Click5 = Yuri's seat deploys its parachute

Click6 = Yuri jumps out of the seat and deploys his own parachute landing safely.

**Pic 1: The Service Module does a retro burn** (over the coast of Africa)

The retro burn slows the capsule down which allows it to be pulled back towards the Earth by gravity.

*The spacecraft is travelling from left to right. By firing towards the direction you are flying is like putting the brakes on in a car.*

(Example - a bucket of water – spun round fast = the water stays in the bucket, but as the bucket slows down, gravity pulls the water to the ground)

**Pic 2: The Service module was supposed to release before the capsule begins re-entry but Vostok-1's service module failed to separate.**

Q: What do you think happened because of this?

A: The re-entry, instead of being just a bumpy ride straight through. The capsule and module spun and shook and twisted for 10 minutes until the module wires burned through enough for it to separate.

Q: What's the bumpiest ride you have ever been on? Fairground? Airplane?

**Pic 3: Vostok-1 deployed its parachute to keep it steady so that Yuri, in his ejector seat could be fired out of the Capsule.**

Q: What would happen if the capsule door was not facing the right direction when he ejects?

A: If it is pointing at the ground – he may eject and hit the ground before being able to open his parachute

A: If it is pointing in the air he may be fired too high and it could be too cold (this is less likely to happen)

**Pic 4/5: Yuri's seat deploys its parachute to stabilise it so that Yuri can jump out.**

**Pic 6: Yuri deploys his parachute and lands**



[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)

When Yuri Gagarin was up in space, he did not see the world like this. This is a view from the American Apollo missions to the moon, they were much further away.

Yuri could see that the Earth was round but he saw the world in much more detail.

He could see mountains and rivers and fields and the oceans. And on his return to Earth he said (CLICK to reveal) **“Orbiting the Earth in the spaceship, I saw how beautiful our planet is. People, let us preserve and increase this beauty, not destroy it!”**

**Discuss with the children, how people of Earth can help to save the planet.** (ideas and links available from [www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk))

**Recycling** – what can be recycled? – Glass, Plastic, Paper, Cardboard, Tetra-pak (milk/juice cartons), tin foil,

**Picking up rubbish** (stops it contaminating fresh water and rivers, which stops it killing the creatures that live there)

**Turning off lights when not needed** (If the power stations don't have to supply as much power, which means they burn less fuel producing it)

Solar Panels, Wind Turbines, Rain collectors

**By not having the TV/PC on Standby when not in use**

**Telling Mum and Dad to only boil the water they need for the job**

**Turn the tap off when brushing your teeth**

## Let's celebrate 50 years of human space flight!



www.vixsouthgate.co.uk



Get the children moving – let them get up and dance and fire off the balloon rockets.

Take a photograph or video:

Send a copy to [office@yurigagarin50.org](mailto:office@yurigagarin50.org)

Post it on our Flickr site <http://www.flickr.com/groups/yg50/>

Upload to YouTube and add it to the YuriGagarin50 YouTube Channel

Tweet it to @YuriGagarin50

## Air-Powered Rocket

### Things you will need:

- The 'How to build an Air-powered Rocket' instructions
- A small tube to blow through (inner cardboard tube of kitchen foil is perfect)
- 2 Sheets of coloured A4 paper (different colours can make it look better)
- Sticky tape
- Scissors
- Putty (bluTack / Plasticine) (playdoh may work too)

### Who wants to make an air-powered Rocket?

You can either give the children the instructions and ask them to make it over the weekend with their parents or make it together in the classroom.

Detailed Rocket-making instructions can be found at:

[www.vixsouthgate.co.uk/resources](http://www.vixsouthgate.co.uk/resources) OR download the complete Launch Manuals from [www.yurigagarin50.org/resources/launch-manual](http://www.yurigagarin50.org/resources/launch-manual)

## You are ready to start making!

www.vixsouthgate.co.uk



## With thanks to:



• YuriGagarin50



• Ralph Gibson (RIA Novosti – Russian News and Image Archive)

• Hellen Ward (Canterbury University)

• Heather MacRae (Venture Thinking)



Yuri Gagarin – The First Spaceman

The story of Gagarin's rise to fame.

Including an illustrated version of the transcript recorded during his space flight.

Only £4.99 + P&P

Available from:  
[www.vixsouthgate.co.uk](http://www.vixsouthgate.co.uk)

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# SOLUTIONS for KS2 Activity Pack

WORDSEARCH 1

S	B	T	O	R	B	I	T	H	G
P	L	A	N	E	T	I	F	R	A
A	R	E	C	F	K	A	Z	O	G
C	A	P	S	U	L	E	G	C	A
E	I	K	D	T	O	S	O	K	R
L	O	R	E	M	U	P	N	E	I
C	O	S	M	O	N	A	U	T	N
A	R	T	R	O	E	C	P	U	E
S	T	A	N	N	C	S	E	K	N
P	L	R	E	U	M	Y	U	R	I

WORDSEARCH 2

G	A	G	A	T	E	K	C	O	R
A	A	I	G	N	I	T	I	O	N
L	K	O	R	O	L	E	V	A	C
A	N	I	O	R	T	O	E	P	A
X	I	V	N	R	S	A	T	I	P
Y	R	O	S	T	B	B	R	O	S
I	A	C	O	G	N	I	O	R	U
L	G	K	T	A	H	U	T	A	L
S	A	T	E	L	L	I	T	E	E
N	G	E	H	C	N	U	A	L	S