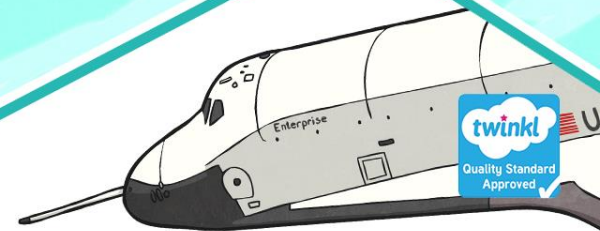
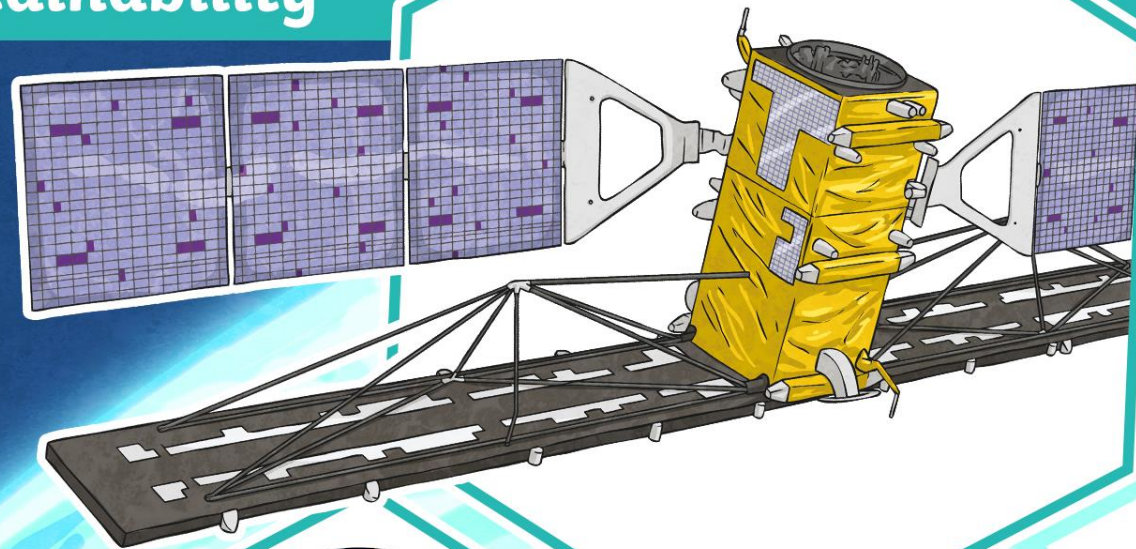
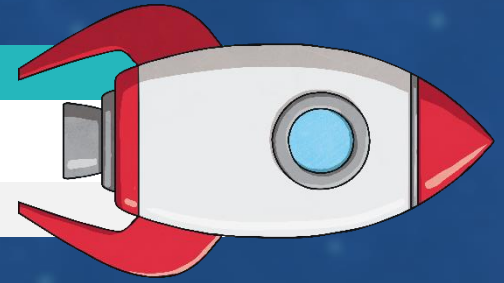


World Space Week

Space and Sustainability

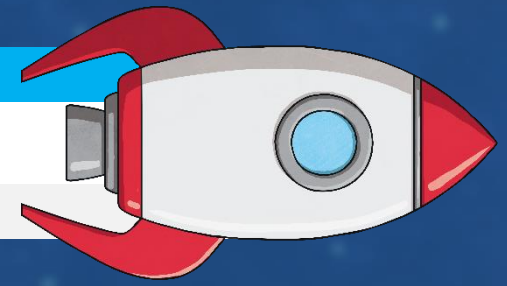


Aims



- To learn about World Space Week.
- To understand achieving sustainability in space, and achieving sustainability from space.

Space and Sustainability



The theme for World Space Week 2022 is...

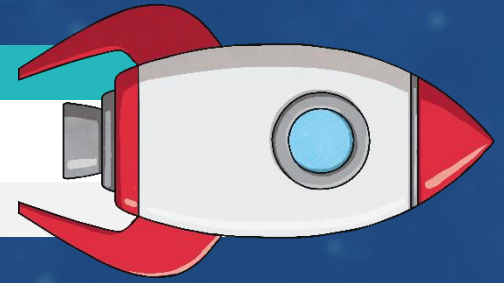


'Space and Sustainability'



This World Space Week, let's learn more about achieving sustainability in space, and achieving sustainability from space.

World Space Week

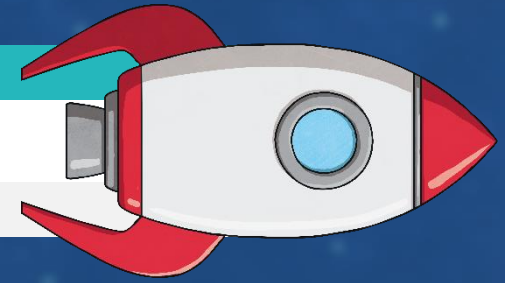


World Space Week is the largest space-themed event on Earth.

It is a celebration of space science and technology that will improve conditions for humans on Earth.

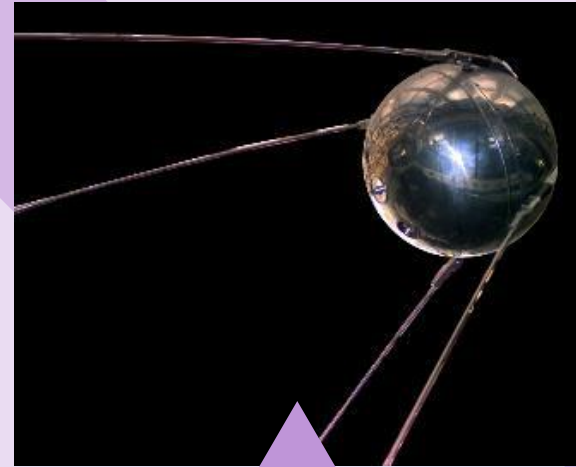
It always starts on the 4th October because this marks the date of the launch of Sputnik 1, the first artificial satellite around Earth.

Sputnik 1



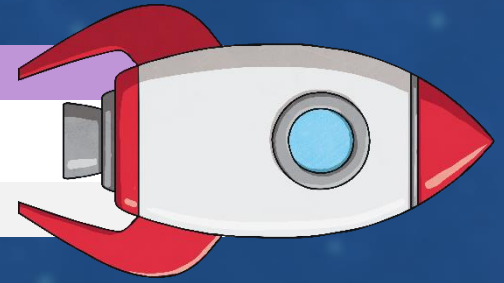
Sputnik 1 was the first ever artificial satellite, launched on 4th October 1957, over sixty years ago.

- ★ It was launched into the atmosphere by the Soviet Union.
- ★ It was 58cm in diameter.
- ★ It was in orbit for three weeks.
- ★ It burned up as it fell to Earth, having travelled 70,000,000km.



Sputnik 1 started the 'Great Space Race' between the Soviet Union and the U.S.A.

Space Travel



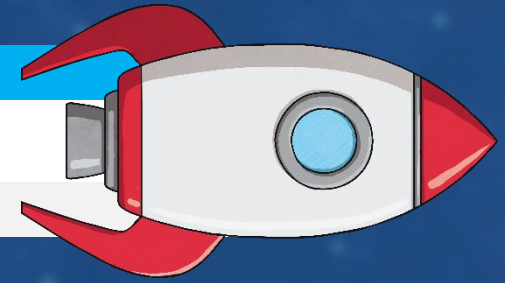
Since 1957, many countries have dedicated time, money and resources to investigating space.

Astronauts have trained for trips into space and many people know of famous scientists such as Edwin (Buzz) Aldrin and Neil Armstrong, who landed on the Moon in 1969.



Can you name any other astronauts?

Achieving Sustainability in Space

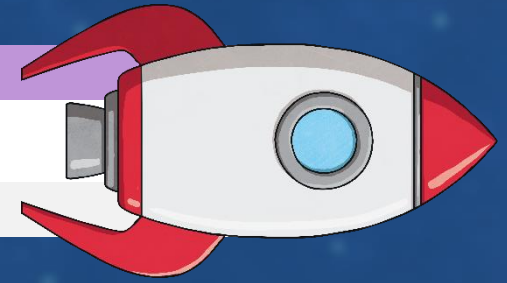


This year's theme is inspired by how sustainability in space relates to how humanity uses space.



- With a particular focus on the orbital area surrounding Earth itself.

Quick Quiz



How Many Satellites Currently Orbit Earth?

1900+

2500+

4500+

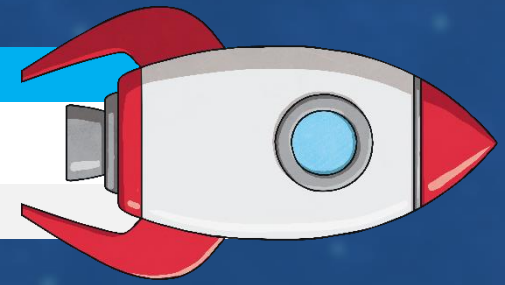
Correct!

- 4500+ satellites orbit the Earth.

- These satellites provide benefits to billions of people around the world.

A satellite is an object that orbits (goes around) a planet.

Did You Know...?



Some of the benefits of satellites include but are not limited to the following:

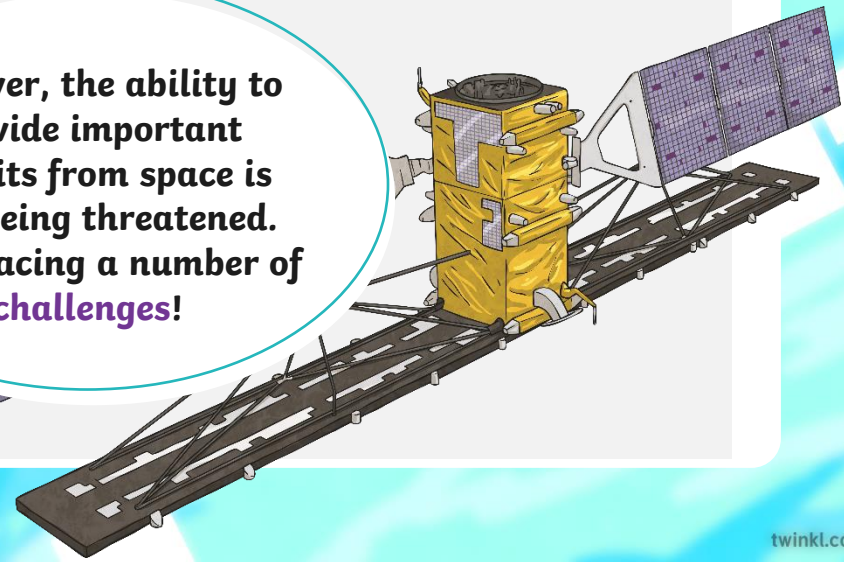
Scientific satellites collect information from space which helps us to understand issues, such as climate change and pollution, better.

Airplanes, ships and cars use information from satellites to find their way from place to place.

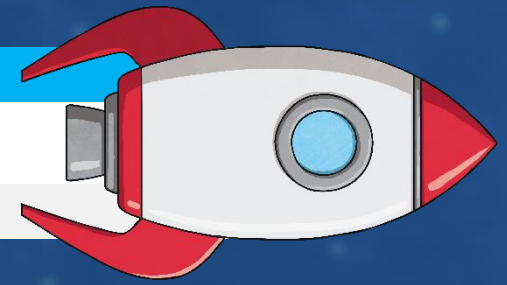
Satellites are also used to help predict the weather forecast all around the world.

Communication satellites help send radio, telephone calls, computer information and television signals all over the world.

However, the ability to provide important benefits from space is now being threatened. We're facing a number of **challenges!**



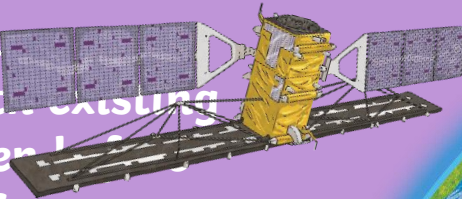
What Are These Challenges?



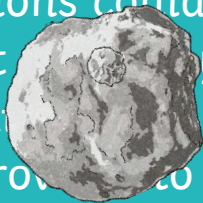
There is an increasing amount of debris in orbit.



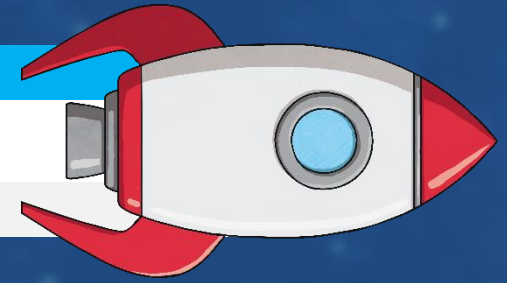
This increase in debris could result in collisions with existing satellites, even before the launch of new satellites is considered.



These collisions could then impact the many benefits that satellites currently provide to the world.



What Are These Challenges?



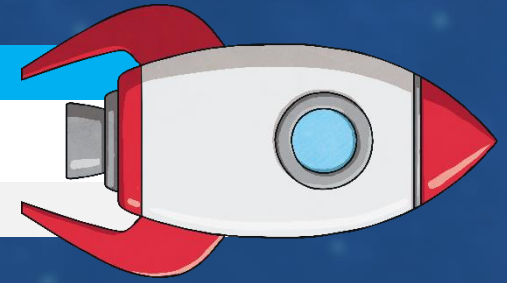
There is also more interest in space from all around the world with many countries having more satellites and relying on information from these satellites.

The strong demand for satellite television and global communications has increased the amount of communication satellites in orbit. This crowding has led to interference with many forms of communication.

In order to continue benefiting from space we must work towards sustainability of activities in space.



Why Does Space Sustainability Matter?



If outer space is not safe, secure and peaceful – the ability to use it could be taken from all.

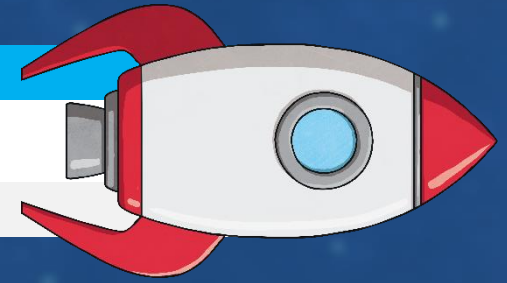
What Would This Mean?

We would lose the ability to use the space environment for:

- security purposes,
- Earth observations,
- communications,
- navigation,
- and space exploration among many other things!



What Can We Do to Help?



Sharing information with each other will help us get a clearer picture of just how much debris there is.

Sharing collected weather data and forecasts.

Be aware of space activities.

Knowing exactly what satellites are in orbit will help us work towards avoiding collisions.

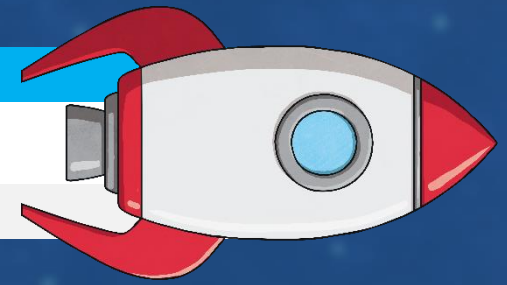
Sharing of information between countries will reduce the amount of satellites needed in orbit.



Discussion

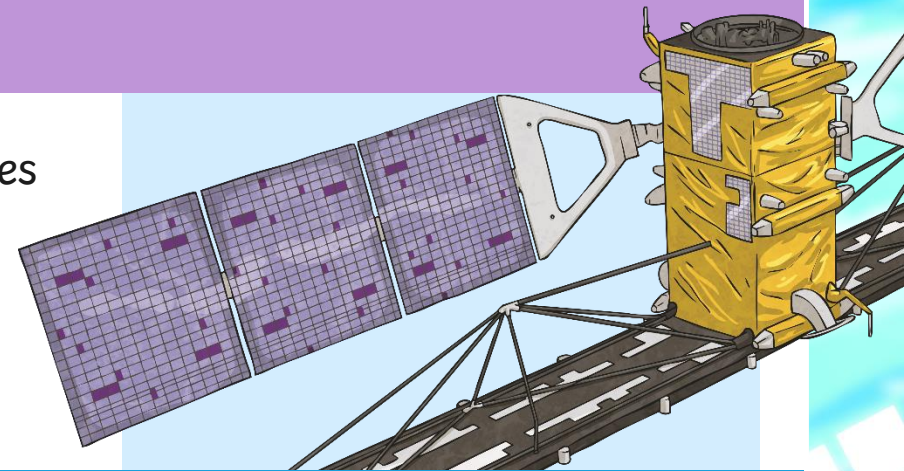
Why do you think countries are reluctant to share information?

Did You Know...?



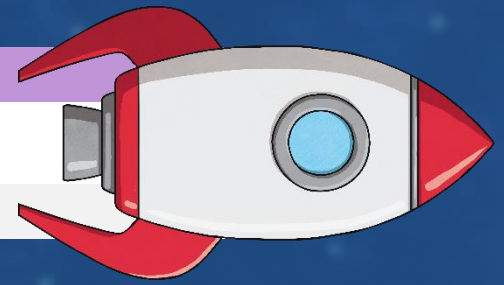
February 10th, 2009 – two satellites collided accidentally, creating a large amount of debris circling 800km above Earth!

Nearly 2000 pieces of the two satellites – chunks of foil, metal and plastic now orbit Earth posing a collision threat to other satellites and the **International Space Station!**



The International Space Station is a large spacecraft in orbit around Earth. It serves as **a home where crews of astronauts and cosmonauts live**. The space station is also a unique science laboratory. Several nations worked together to build and use the space station. (*nasa.gov*)

Time to Reflect

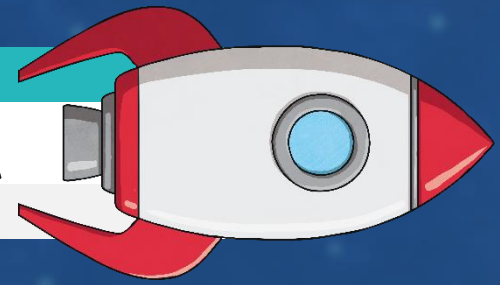


This World Space Week, let's explore just how much sustaining the orbital space around Earth will benefit us in the future.

Possible World Space Week Activities

- create Sustainability in Space posters
- create your own solar system
- learn about famous astronauts

WSW 2022 Competition



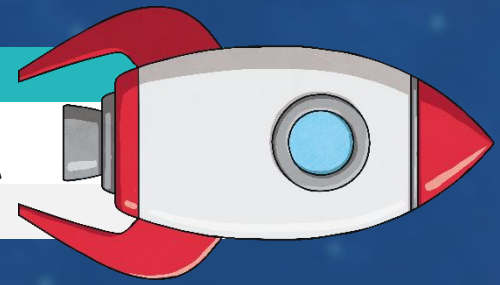
We will be running a **Competition** to promote children's love of Science. There will be one Challenge for EYFS and Key Stage One and another for Key Stage Two children.

The EYFS/Key Stage One Competition is to **draw or make a Rocket** and give it a name.

The Key Stage Two Competition is to **design and make a poster that celebrates the importance of Space travel**. This can be created using any form of medium (pencils, felts, paint, collage, photography etc). It cannot be bigger than A2.



WSW 2022 Competition



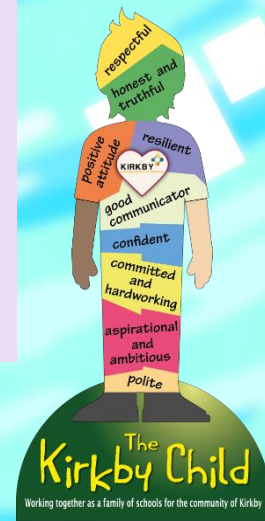
Science is such an amazing subject with so much to find out about.

Whichever Competition you enter, please write 3 facts if you are in Key Stage Two or 1 fact in Key Stage One which AMAZES you most and stick these on the back of your entry. You will be able to share these with the rest of your class. I can't wait to read yours and will share my favourite AMAZING facts with you all!

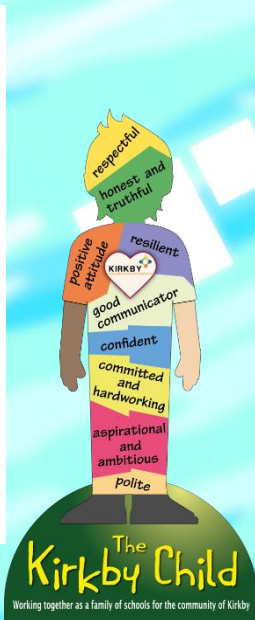
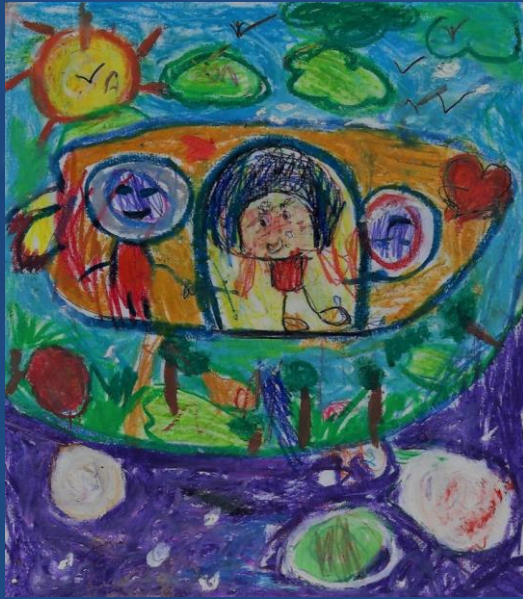
There will be a special prize for **the TOP THREE entries** in each competition. Entries will be displayed in school.

Entries must be completed and brought into school and handed to the class teacher by **Monday 17th October**.

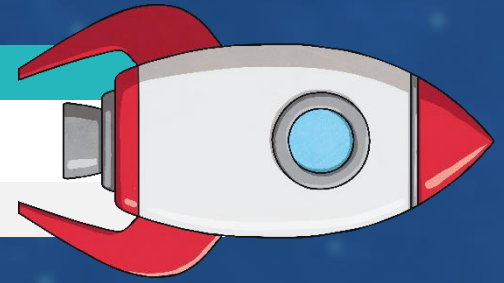
The winners will be announced on **Thursday 20th October**.



Some examples of 2D linked to women in space to inspire you



Aims



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