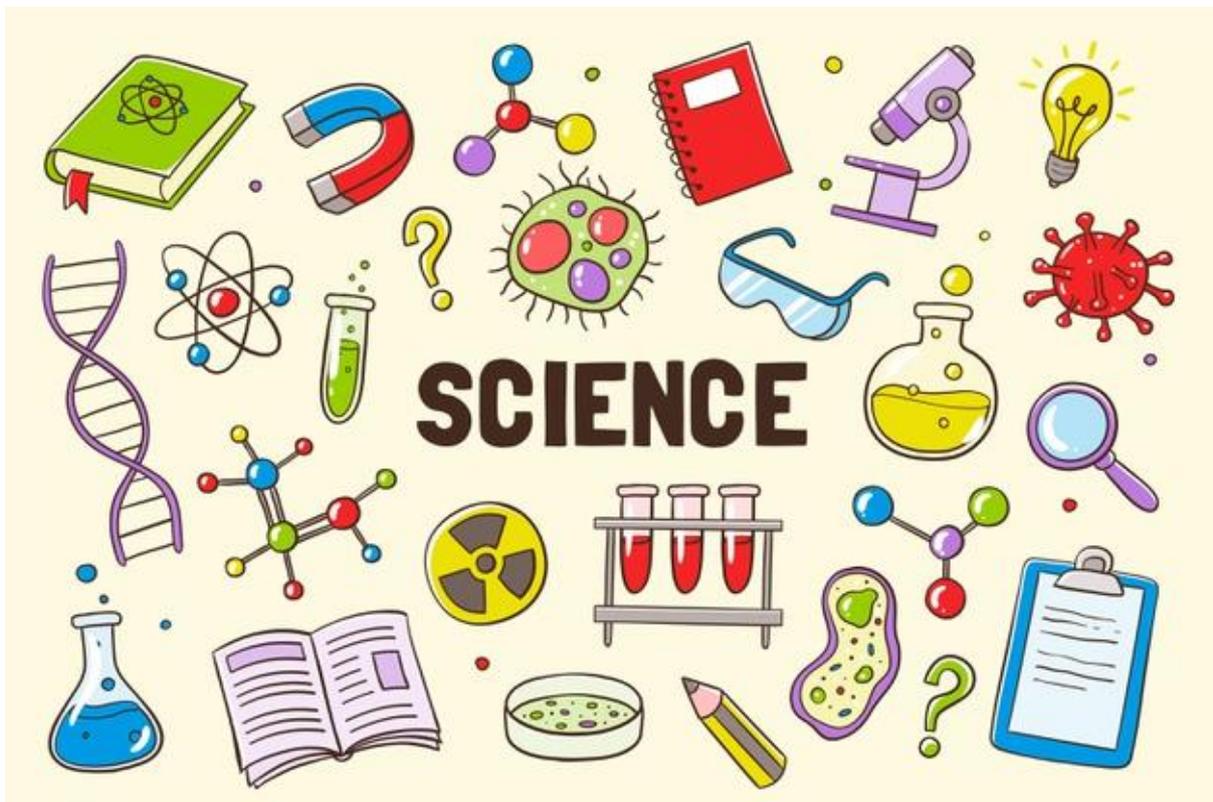


Year 6 Science Transition Booklet



We are looking forward to meeting you all in September. In this booklet, there is some information about science and the department plus some activities that you can do at home. Please bring your reports with you to your science lesson in September!

Welcome to science at Wilsthorpe. This booklet will make you ready for all your adventures at Planet Wilsthorpe.

At Wilsthorpe most of your science lessons will take place on the second floor labs. There are twelve teachers in science and two technicians.



Mrs Brewster – Curriculum Area Leader for Science

Hi, I am the Head of Science here at Wilsthorpe, but I also work across Two Counties Trust supporting other science departments two days a week. I love science because it explains the world around us, allows us to explore the wonders of our universe. Outside of school, I love playing my flute and I am a qualified swimming coach. I also love baking with my children; I am quite partial to a chocolate brownie.

Mrs Laurie – Assistance Curriculum Area Leader for Science

Hello, Science is all about understanding the world around you, being able to explain how and why things happen. There are always new things to learn, and understanding helps you to see the world in a different way. This is what I love about science, and being a science teacher gives me the opportunity to help people like you to also learn new things about the world.



Away from school, I love my allotment, swimming in the sea when I get the chance, and having fun with my family and friends.

Mr Turner - Assistance Curriculum Area Leader for Science



I love science because I always want to know why things happen and how they work and that is what science is all about.

My favourite is chemistry because it is amazing to know how atoms make chemical reactions happen.

When I am not doing science I enjoy playing games with my own children.

I also love singing along to most kinds of music – there tends to be many Disney tunes in my house!

Mr Gray – Assistant Head Teacher

I am an Assistant Head Teacher who also teaches Science. Science is brilliant because it encourages us to be curious about the world around us!





Miss Day

My name is Miss Day. I love Science because it is amazing to look around you and understand why things happen the way they do, why plants are green, why swimming pool water stays cool even in the sun, why standing on Lego hurts! It is fascinating! At home, I love reading manga, cooking and playing my PS4...when I have time!

Mr Donnelly

I love science, particularly physics, because it explains the universe we live in. The mysteries of the universe are just questions we do not yet know the answer to and science is the toolkit to be able to find those answers.

Outside of school, I am a rugby coach, a scout leader, and I really enjoy roleplaying games like Dungeons and Dragons. The table-top versions rather than the console ones, though I am also an Xbox player.

Firm believer in the idea that you do not stop playing games because you get old; you get old because you stop playing games!



Miss Dyche



Science is all around us and allows us to do so many things! My interests are Human Biology, Physiology, Archaeology and Forensic Science. During my free time, I enjoy karate and have just won a bronze medal in kata at the latest national club competition! I do at least 4 hours a week with my partner and I am training to teach it too! My favourite song is To Build a Home by The Cinematic Orchestra and I particularly like cake, especially Red Velvet or any cheesecake I am not fussy!

Miss Fitzsimmons

Hello I'm Miss Fitzsimmons and I am a science teacher at Wilsthorpe School. I enjoy science because there is always new things to learn as we discover more about how the world works. I think science also makes the world a better place as we think of new ways to help people solve problems. Apart from science, I really enjoy listening to music- I play the piano and guitar in my free time. I also enjoy reading, especially fantasy stories. I am looking forward to meeting you all when you arrive at Wilsthorpe!



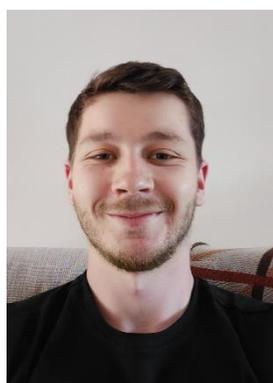
Mrs Hirst

I have been interested in studying science, in particular biochemistry, since I became aware of the amazing way in which organisms work. From the mini-battles our immune system is fighting without us even being aware to the ability of plants to harness the energy of the sun and make sugars.

My hidden talent is that I taught ballet, tap and freestyle dance from a late teenager before training as and becoming a science teacher. My favourite song is firework by Katy Perry. Outside of school, I love to go on walks with my dog and bake cupcakes.



Mr Murphy



Hi I am Mr Murphy and this will be my first year at Wilsthorpe so I am very excited to get started teaching you all! I love science and specialise in Biology.

My Passion for science stems from my love of nature, I love going out and exploring the British countryside and abroad when I get a chance! This is something I will bring into the classroom and extra-curricular activities over the course of the year. I pride myself on being a snail expert and am always on hand with a snail tale!

Apart from Science, I am a keen photographer and a bit of a film nut. Favourite films include the Lord of the Rings trilogy and all the Marvel films.

Mr Ozenir



Hello, I am Mr Ozenir and I love teaching Biology to understand the world around us.

Mr Shearing

Science is a great subject (not saying the best but we will leave that for you to decide!) - It gives you a better understanding of everything around you in day-to-day life and there is always a new discovery to get excited about! Outside of school life, I enjoy playing games, listening to music (many different types!) and working out.



Miss Thomas



Hi everyone! I am Miss Thomas and I am a Science teacher at Wilsthorpe School. I love Science because it is all about discovering new things and it helps us to understand the World we live in...and it is great fun! I love to bake and sew in my free time and I also really enjoy films.

Dr Campbell – Science Technician

Hi, I am Dr Campbell, I am one of the science technicians here, and you will see me around preparing the practicals that you will do in science. My favourite area of science is microbiology and the battle between microbes and us. When I am not at school, I enjoy baking, Lego and crafts.

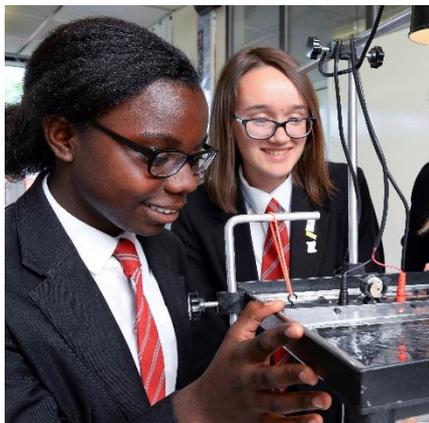


Mrs Blaydon – Science Technician



I am a science technician. I love science because it is so much fun with all the exciting practicals and there is lots to learn. I like all the areas of science but my favourite is chemistry. Outside of school, I enjoy running, baking and going to watch sporting activities.

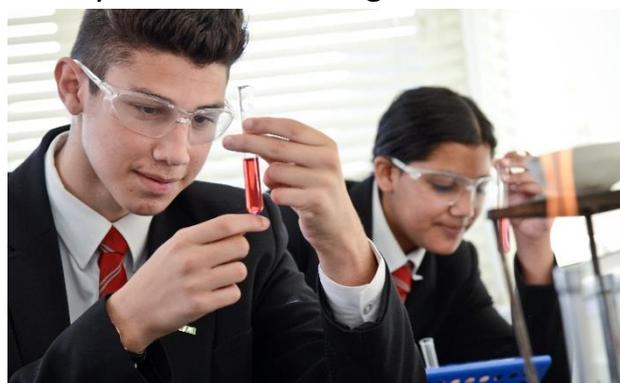
What to expect



When you have your first science lesson at Wilsthorpe you will need to wait outside until the teacher allows you into the classroom – because science labs can have equipment or chemicals in, students are not allowed in labs before the teacher! Each lab is filled with equipment that you will get to use over the next 5 years – although not all at once!

The very first topic you will complete in science will be an introduction to science, which will teach you how to work safely within a lab, and use the different pieces of equipment that you will use throughout secondary. You will then learn how we conduct experiments in science.

After that we will study the topics of Cells and Particles. In these topics, you will use what you learnt at primary school and expand on that knowledge. Each lesson will use your knowledge organisers to check key facts from previous learning.



During the cells topic we will expand on the living world topic that you did at primary and look at cell structure and specialist cells. Finally, we will look at how the cells move all the important substances around your body.



During the Particles topic you will expand on what you learnt from the states of matter topic. At Wilsthorpe you will learn about the particle model and how we use this to explain the states of matter. We will also look at how the states change and finally diffusion.

The mission



Your challenge to be ready for Planet Wilsthorpe is to attempt four missions; we will use these in our lessons in September. Please do not panic if you cannot complete them all!

Mission 1: All about you

All astronauts need a good biography! Therefore, your very first task is to tell us about yourself. You may want to design yourself as an alien and design your alien planet! Let us know your favourite books or cakes!

Mission 2:

It is incredibly important that all our astronauts understand how exercise affects our bodies. In this mission, you are going to find out what happens – and try to explain it!

Task 1:

What is the importance of oxygen?

Use your prior knowledge or research and find out why oxygen is so important to humans.

Task 2:

What effect does exercise have?

Astronauts need to be very fit in order to fly to Planet Wilsthorpe, but exercise affects the body. Your next task is to investigate how exercise affects your body.

There is a video to support this experiment here:

<https://youtu.be/O94ou7MpYGM>



Instructions:

1. Find your pulse rate – Measure your pulse rate by feeling on your neck and counting the number of beats in one minute. Record this as your resting pulse rate.
2. Find your breathing rate – count the number of breaths that you take in one minute. Record this as your resting breath rate.
3. Pick an exercise – you could do star jumps, running on the spot, burpees – whatever you would like!
4. Decide how long you will exercise each time – for example, you could exercise for 1min, then 2 mins and increase the exercise time by 1 min each time until you reach 10 mins. You could decide to do every 2 mins.
5. Once you have your range (minimum and maximum time you exercise for) and interval (how much you will increase the time by each time), start exercising and measure you pulse rate and breathing rate after each set of exercises. You will need to record your results in a table like this:

Amount of Exercise /mins	Pulse Rate /beats per min	Breathing Rate /breaths per min
0 (resting)		
2		
4		
6		
8		
10		

6. You might want to draw a graph of your results

Task 3: What did you find?

Now you need to talk about your results. What did you notice happened to your pulse rate and breathing rate as you increased the amount of exercise? Why do you think this happened?

Mission 3:

We need to find a way to get to Planet Wilsthorpe so we are now going to investigate how reactions can help us reach Planet Wilsthorpe.

Task 1: What is a chemical reaction?

Use your prior knowledge or research to find out the differences between a chemical reaction and a physical reaction and then how chemical reactions can be used to propel a rocket!

Task 2: How different are chemical reactions?

You are going to investigate how different chemical reactions behave; you will need to use basic kitchen ingredients to investigate. There is a video to support this here:

You will need:

Some small containers – a small cup or plastic tub will be fine (if you only have one wash it in between each experiment)

- Bicarbonate of Soda – or baking powder
- Vinegar
- Lemon Juice
- Water
- Teaspoon

Method:

1. Put a teaspoon of bicarbonate of soda into your container.
2. Add two teaspoons of water to the container and observe what happens.
3. Record your observations in a table.
4. Repeat the experiment, but this time use vinegar instead of water
5. Repeat once more using lemon juice instead of water.
6. You may want to try with other liquids also.

There is a video to support the experiment here: <https://youtu.be/5iAliy8x-gs>



You may want to record your observations in a table like this:

Reaction	Observations
Bicarbonate of soda and water	
Bicarbonate of soda and vinegar	
Bicarbonate of soda and lemon juice	

Your observations might be which one was the most reactive (gave off the most bubbles) or which reaction lasted the longest. You may just describe what you see happening.

Task 3: What did you find?

In real life, rockets use other chemical reactions into to propel them into space, but which chemical reaction did you find to be the best and why? What chemical reaction do they use in the space program?

Mission 4:

Astronauts need a safe landing onto Planet Wilsthorpe, and one way that they can do this is by using parachutes. In these tasks, you will investigate how we can land safely.

Task 1: How do parachutes work?

Use your prior knowledge or research to find out how a parachute works and how we can land safely on Planet Wilsthorpe.

Task 2: Investigating parachutes.

What you will need:

- Piece of paper or a plastic bag
- String
- A mass – you could use a small toy that you do not mind dropping or a ball of plasticine.
- Ruler
- Hole punch – don't panic if you don't have a hole punch you can just carefully poke a hole through.
- Stopwatch – you can use the timer on a phone if you do not have a stopwatch!

Instructions

What are you going to change about your parachute to test what would make a slowest decent? You could change the size of the parachute, the number of holes in the top of the parachute or the material of the parachute.

Once you have decided what you will change, you will need to keep the other factors (variables) the same. Therefore, if you are changing the size of the parachute then you need to keep the material of the parachute the same.

What you will need to do:

Make your parachute – take a piece of paper or plastic bag and cut a square out. Hole punch a hole in each corner and attach 4 equal lengths of string to the holes. Tie the toy to the bottom of the strings.

Test your parachute – Find a high place the drop it from – the top of stairs normally works quite well! Get a helper, who can drop your parachute. As soon as they drop the parachute start the timer and when it reaches the



ground stop. Record the time it took. You may wish to repeat your test. You will then need to change your parachute – either swap your parachute for a larger area, or add holes in the top or keep the size the same and change the material. Then repeat your test.

There is a video to support this experiment here:

<https://youtu.be/vCsRtkWBMK0>

You will need to record your results in a table; you might want to use one like the one below:

Area of Parachute /cm ²	Time taken to reach the floor /s
25 (5cm x 5cm)	
100 (10cm x 10cm)	
225 (15cm x 15cm)	
400 (20cm x 20cm)	

Task 3: What did you find out?

What did you find out about what effects parachutes? Which of the parachutes that you tested had the slowest fall and would be the safest for our astronauts? Can you explain your results?

Mission 4: Report your findings

You now need to report your findings and bring them to you first science lesson at Planet Wilsthorpe! You can report your findings however you wish – create poster, a leaflet or a report. Keep these safe, and bring them to your first lessons in Science at Wilsthorpe!

We look forward to meeting you all in September,

Team Science!

