

Subject:	Science Intent:
Science	We study Science because Science is about understanding. Understanding of how everything works, our place, impact, role and responsibilities in the Universe. To explore how scientific ideas develop and how we learn through experimentation. We provide stimulating, engaging and intellectually challenging learning environments to enable all our students to develop their scientific investigative and analytical skills. We are committed to promoting equal opportunity and take up of STEM careers. We want ALL of our students to be able to ask good questions, and thereby make informed decisions. May the force be with you!

The Big Questions...

Year 7	Year 8	Year 9
<ul style="list-style-type: none"> - Biology: What exactly is a building block of life, why can't we see individual ones with just our eyes and how do they become giant organisms that can do many things through specialisation and collaboration? How do joints and muscles really work? Why does an insecticide cause damage to fish in oceans miles away? What is reproduction? - Chemistry: What is everything made of? Why are some things solid and others liquid or gases? How can we get pure water from the sea? Is black ink really black? Why does iron rust but copper doesn't? Which is better to put on a bee sting – vinegar or toothpaste? - Physics: Why do high heeled shoes sink into mud but boots don't? How is it that I can see lightening before I hear thunder? Why do some things move faster than others and what stops us floating off of the planet? 	<ul style="list-style-type: none"> - Biology: Why do we chew food and how does it help us grow? How can we encourage plants to grow and how do they make their own food? What is the difference between breathing and respiring? - Chemistry: Why do some things get hot and some things get cold when we mix them together? Why do some reactions seem to lose mass, even though atoms aren't ever destroyed? How can we make reactions happen faster or slower if we need too? - Physics: Why does a huge ship float but a stone sinks? Why do plastic cups keep drinks warmer than metal cups? How do the waves in the sea look like they are moving forward when they are moving up and down? What is a magnet? 	<p>Building on prior knowledge and enhancing practical skills for the transition to GCSE</p> <ul style="list-style-type: none"> - Biology: What is in a cell and how can we use stains to see them? How does the habitat on our school field change? Is it really possible to catch a ruler quicker with practice? What is in our food and how can we test for it? Why does a plant stand upright without bones? - Chemistry: How pure is our tap water? What crystals will form when copper oxide reacts with sulphuric acid? Why does an electrode get coated with copper but not sodium during electrolysis? How many colours are there in a black pen? - Physics: How can we measure density? Why are some wires better than others in appliances? How far can a spring stretch? What affect does colour and finish of material have on keeping things hot and cold?

What skills will I develop?

- When studying Science, there are many skills that you will develop. These include analysing information to allow you to find a pattern, discussing limitations of what you have observed and drawing conclusions from experiments that you have completed.
- In Science in Key Stage 3, you will build a foundation skill set that will allow you to build further, making links between models and concepts, enabling you to apply your knowledge to unfamiliar contexts. This will give you a solid base from which to build on in GCSE.
- You will develop a level of knowledge through to mastery of the 10 Big Ideas in Science and be able to explain phenomena and make predictions.
- There is often lots more to learn – what's your favourite Big Idea?

What great resources can I use?

- www.bbc.co.uk/bitesize contains great links to all topics studied.
- www.kerboodle.com contains great links to all topics studied.
- www.senecalearning.com covers all the core information. Make sure you choose KS3!
- <https://www.educationquizzes.com/ks3/science/> has a wealth of great resources that can be used to support your learning and give you updates on your understanding through regular low-stakes tests!

How will I be assessed?

At Key Stage 3 work is regularly assessed through the completion of exam style questions and knowledge testing on ShowMyHomework.

Teacher written feedback is given on a series of 'Teacher Assessed Tasks', so that pupils can improve their work before moving on to the next topic of the course.

In Year 7 and Year 8 we give grades as percentages, along with APBS scores. We also give students time to self-assess their work and then suggest target work that will help to make improvements and boost student awareness of their strengths and their areas for development. In Year 9 we give do give students a prediction of the GCSE band we believe their current progress indicates they might achieve at the end of year 11.

Three ways that parents/carers can help...

1. Set time aside to talk through the Science that they're learning in class. Ask them to explain it to you, and/or try and relate it to your daily life.
2. There are many science programmes on TV now, some are specific to physics (watching anything presented by Brian Cox or Jim Al-Khalili would be excellent), other programmes are specific to biology and chemistry, BBC, Discovery Channel & Smithsonian are good sources.
3. Visit the Science & Natural History Museums in London, The Science Centre in Winchester or The National Space Centre in Leicester.