

The STEM Curriculum

STEM curriculum vision			
<p><i>Science, technology, engineering and maths are the building blocks of the future. The most successful companies in the world are built on them, and our students benefit from STEM inventions every day. At Barr's Hill we equip our students with the fundamental skills they will need for a forward-looking career.</i></p> <p><i>The curriculum begins with the fundamentals of circuits and 3D modelling. Students will design, make and evaluate models using CAD which can then be 3D printed. In Year 8 they will learn vital engineering and wood work skills as they plan to open their own online craft store. In Year 9 the students will embed intelligence into a designed probe as we look at terraforming Mars.</i></p>			
Key stage 3 – Units of study			
Term	Year 7	Year 8	Year 9
Rotation 1	<p><i>Surviving a zombie apocalypse: Designing circuits for a beacon, prototyping an arm protector and 3D printing a rainwater collector.</i></p>	<p><i>Starting a craft business: Manufacturing a bug hotel using wood working tools.</i></p>	<p><i>Terraforming Mars: Designing a probe that can land safely, Collecting data on a BBC Micro:bit.</i></p>

Supporting your child with their learning		
Year	Topic	Link
7	<ul style="list-style-type: none"> - Learn about circuits from BBC Bitesize. - Learn the basics of 3D modelling in TinkerCAD (they have lots of tutorials) 	<p>https://www.bbc.co.uk/bitesize/topics/zqy39j6/articles/zjm8kty https://www.tinkercad.com/</p>
8	<ul style="list-style-type: none"> - Learn about the different types of wood and their qualities from <i>Woodworking for Mere Mortals</i>. - Go to B and Q and look at the types of wood they have available. Think about what each might be good or bad for. 	<p>https://www.youtube.com/watch?v=y7qLvEYoBu0</p>
9	<ul style="list-style-type: none"> - Learn about the challenges of building a base on Mars from Kurzgesagt. - Practice creating complex objects in TinkerCAD. 	<p>https://www.youtube.com/watch?v=uqKGREZs6-w https://www.tinkercad.com/</p>