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# INTRODUCTION TO STEM

*Course Overview* **2023**





## Course Overview

# AT A GLANCE

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**For Ages:** 11-15

**Course Length:** 2 Weeks

**English Level:** B1+

**Starting Dates:** 10th July, 17th July  
2023

**Location:** Canford School, Dorset

Learn how the four STEM fields – Science, Technology, Engineering, and Mathematics – are used to advance contemporary technology. Students will also participate in imaginative and cooperative workgroup design projects as part of our Time to Shine programme, where students put STEM theories and ideas into practice.

SBC Canford's STEM students study the mechanical and scientific principles that underpin the design of technology used in civil engineering, aeronautics and construction.

Discover cutting-edge technology and design is using STEM to lessen humanity's carbon footprint in **Introduction to STEM at SBC Canford** in 2023.



# SAMPLE TIMETABLE

WEEK ONE

8.45-9.00	Morning Assembly				
9.00-10.30	<b>STEM Knowledge</b> <i>Types of STEM</i>	<b>STEM Knowledge</b> <i>Experimenting with Science (1)</i>	<b>STEM Knowledge</b> <i>Physics in STEM</i>	<b>STEM Knowledge</b> <i>Mathematics and STEM construction</i>	<b>STEM Knowledge</b> <i>Engineering in STEM</i>
11.00-12.30	<b>Time to Shine Preparation Project:</b> <i>Technology Design Project</i>	<b>Time to Shine Preparation Project:</b> <i>Testing the Design</i>	<b>Time to Shine Preparation Project:</b> <i>Design Modification</i>	<b>Time to Shine Preparation Project:</b> <i>Design Performance</i>	<b>Week One</b> <i>Time to Shine Ceremony</i>

WEEK TWO

8.45-9.00	Morning Assembly				
9.00-10.30	<b>STEM Knowledge</b> <i>STEM Models</i>	<b>STEM Knowledge</b> <i>Experimenting with Science (2)</i>	<b>STEM Knowledge</b> <i>Physics for Engineering</i>	<b>STEM Knowledge</b> <i>Mathematics for Engineering</i>	<b>STEM Knowledge</b> <i>Course Review</i>
11.00-12.30	<b>Time to Shine Preparation Project:</b> <i>Technology Design Project</i>	<b>Time to Shine Preparation Project:</b> <i>Testing the Design</i>	<b>Time to Shine Preparation Project:</b> <i>Design Modification</i>	<b>Time to Shine Preparation Project:</b> <i>Design Performance</i>	<b>Week Two</b> <i>Time to Shine Ceremony</i>

## Time to Shine

### *Science in Action: The Principles of Science in Engineering*

#### Time to Shine

Introduction to STEM's fun and engaging *Time to Shine* projects will involve students utilising the principles of STEM in interactive teamwork challenges. These challenges include making weight-bearing bridges out of spaghetti, making balloon-powered miniature cars for racing, and mazes through which marbles are run. Most importantly, students will learn the scientific principles behind these constructions.

#### What you'll learn

- An overview of fundamental principles in Science, Technology, Maths and Engineering.
- How these subjects are combined together to solve modern technological challenges.
- Develop key skills in communication and teamwork.
- Take part in our exciting *Science in Action* Time to Shine project, in which you and your team will develop your understanding of how STEM works in action.
- Through fun and engaging lesson activities, develop and apply your 21st century skills, such as critical thinking, communication skills, collaborative skills, and original thinking.