# Lesson 10 – Bit:Bot Race Car Project Modular Racetrack

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * Modular design is a common method employed in industry to enable parts from one design to be re-used in different ways. (Kitchens, Car parts etc). You could also link the concept of functions in programming to the real world | * Apply understanding of computational thinking and programming skills to achieve a goal * Design a section of the racetrack that will test aspects of car design (cornering, speed etc) * Develop a system that allows modular track sections to be connected together |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Learners will enjoy the hands-on building * Encourage Learners to work together and to communicate, some Learners will like the idea of trying to out-fox the competitors and make sections difficult * Learners will like the idea of spying | **Expected Progress:**   * Learners complete a section of modular track   **Good Progress:**   * Learner work in a team with good communication skills to develop a modular track with range of features   **Exceptional Progress:**   * Learner work in a team with good communication skills to develop a modular track with range of features that suits their vehicle design but may offer greater challenges to their competitors |
| Links to KS3 Programme of Study | |
| * undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users | |
| Key Concepts | Key Words |
| * Modular Design | * Modular Design * Client Requirements |
| Differentiation | Resources |
| Some Learners may struggle with measurements and will need support in ensuring that tracks built by different teams fit together | * Lesson 10 ppt * Lesson 10 Activity Sheet * Build Materials and Adhesives * PC to research racetracks |
| Lesson Flow | |
| * Introduce the objectives and reintroduce the project aims * Discuss the concept of modular design and how this is used in the real world, examples such as kitchen designs or using the same car parts across a range of vehicles * Discuss racetracks, use examples such as Cadwell Park in the UK or Shanghai International in China, get the Learners to research these and make a list of features of racetracks they could include * Review the client requirements for the track (Slide 5) * Support Learners in the design and build process | |
| Making | |
| Modular racetrack sections | |