

**Year group: six**

**Term: Spring 2018**

**Project title: How fast can we go?**

**Project and Exhibition: Design, build and race Rocket Cars**

**Project synopsis:**

Using the Bloodhound SSC project that aims to break the 1000mph speed barrier for a car, we are going to design, refine, build, test and then, race rocket powered cars.

**Communicating learning:**

At the end of the project, we will produce video presentations detailing the stages of development of our vehicles.

**Project outcomes:**

The project will involve children using a range of cross-curricular skills alongside collaboration, peer critiquing and an iterative approach.

**Curriculum opportunities:**

**English:** Captions, video planning documents, descriptive and technical vocabulary, researching non-fiction sources.

**Maths:** We will exploit opportunities to make accurate measures- timings and technical measures, work out averages, calculate scale speeds, convert m/s into mph and discuss the validity of measurements taken.

**Science:** We will study forces to give the children the required knowledge to understand the effects of friction, air resistance, aerodynamics and the ways in which these can be either reduced or exploited. The children will be introduced to the concept of solid rocket propulsion.

**Humanities:** We will look at the history of speed challenge pioneers (Donald Campbell) and also examine the role of large scale technical projects and the benefits that they can produce in terms of technological progress.

**Creative arts:** We will study vehicle design and after evaluating different styles, decorate our models to create a desired result. The children will produce pastel sketches of the Bloodhound SSC vehicle after drafting and improving them.

**STEM:** We will teach the correct and safe use of appropriate tools (coping saw, bench drill, marking tools), how to fit and align wheels/axels, how to refine a design and how to achieve a 'good finish'.

**Outdoor Learning:** We will test our vehicles on a 20m track set out on the playground.

**Engagement Activity:**

We will use online resources from the Bloodhound SSC Project to introduce this topic and to stimulate interest in this challenge.

**Child initiated:**

Children can bring in images of their 'dream' cars and research the techniques for 'pimping' and customising vehicles.

**How you can help:**

You can continue to support your child with their home learning by supporting them in completing their homework, and using TT Rock stars to aid with the maths. If you are able to look at the website below, it will help to further promote the topic.  
<http://www.bloodhoundssc.com/>