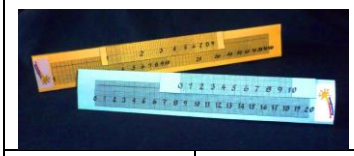
Design and make a Slide Rule



Pupil Name	
Key Stage 2 Learning Points (from the National Curriculum 2014) Specific to this project.	
Ma5/2.1a	read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
Ma6/2.1a	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
Ma4/2.1b	find 1,000 more or less than a given number
Ma3/2.1c	compare and order numbers up to 1,000
Ma4/2.1d	recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s)
Ma4/2.1e	order and compare numbers beyond 1,000
Ma5/2.3g	multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
Ma6/2.3g	identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers are up to three decimal places
Ma6/2.2h	solve problems involving addition, subtraction, multiplication and division
DT2/1.1a	use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
DT2/1.1b	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
DT2/1.2a	select from and use a wider range of tools and equipment to perform practical tasks accurately
DT2/1.2b	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
DT2/1.3b	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Evidence for meeting these strands to come from:
Teacher observations and questioning pupils during project.
Pupil design sheet.
Pupils Self-Assessment on evaluation sheet.
Peer Assessment on evaluation sheet.
Photographs taken during making / testing process.

Key Stage 2 Learning Points (from the National Curriculum 2014) Generic to all Imagineering Projects
Science: Health and Safety - Pupils should be taught to:
• recognize that there are hazards in materials and physical processes, and assess risks and take action to reduce risks to themselves and others
Design and Technology: Knowledge, skills and understanding Working with tools, equipment, materials and components to make quality products:
Pupils should be taught to: • select tools, techniques and materials for making their product from a range suggested by the teacher • suggest alternative ways of making their product, if first attempts fail • explore the sensory qualities of materials and how to use materials and processes • measure, cut and shape a range of materials
Evaluating processes and products: Pupils should be taught to: • reflect on the progress of their work as they design and make, identifying ways they could improve their products • carry out appropriate tests before making any improvements
Design and Technology: Breadth of study **During the key stage, pupils should be taught the knowledge, skills and understanding through:** • focused practical tasks that develop a range of techniques, skills, processes and knowledge • design and make assignments using a range of materials, including electrical and mechanical components

Pupil Project Record		Date
Name	**Title of Project**	
Before you begin your project… Draw a picture of what you think it will look like? Who are you making it for? **What safety rules will you need to follow? (Inc. use of equipment)**		
When you have finished your project… Draw a diagram of your project. Label the parts. (You could include a photo.)		
What do you think of your finished project? What happened during testing? How do you use it?		
What would you change/improve if you did it again? What materials would be better than card? Why?		
What skills did you use?		
What does your partner think?		