

# Let's Move to the Moon – Mission Information



*Below is a brief description of the missions included in the 'Let's Move to the Moon' project run by Discover Materials, funded by the UK Space Agency and supported by the Henry Royce Institute.*

**Mission 0** - The students have to work out the code to the padlock in order to open the suitcase. The clues will be in the Mission Booklet.

**Mission 1** - The students will use callipers, ruler and mass balance provided to calculate the density of bars of different materials.

**Mission 2** - The students will be provided with a metal and plastic ruler and try bending them in order to learn a bit more about the mechanical properties of materials and discuss the requirements of the materials they may want to take to the Moon.

**Mission 3** - The students will use an instant cool pack, cubes of different materials and an infrared thermometer to study how good different materials are at conducting heat by measuring the temperature of the cool pack and the temperature of the top surface of the material.

**Mission 4** - Using UV colour changing beads, a long wavelength UV torch and sheets of different materials the students will investigate how good different materials are at absorbing UV light. This ability will be based on the colour changes of the UV beads after exposure to UV light through the different materials.

**Mission 5** – Using a vacuum jar and a hand pump the students will investigate the effect of a vacuum on a marshmallow, a balloon and a ping pong ball.

**Mission 6** – Using a 35mm film cannister, a effervescent vitamin C tablet and some water the students will learn about propulsion by launching their cannisters into the air and experimenting with the water : tablet ratio to see how high they can get their rocket.

**Mission 7** – This mission involves a Discover Materials Ambassador visiting the school and they will bring along a 3D printed rocket which they will launch using a foot pump. They will also discuss the project with the students and help them finish their posters.

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