

LKS2 – Lesson Plan 2 – D.T.

Can we design a moon buggy that can explore the Moon?

Aim: To explore how vehicles are designed for space and build a model moon buggy using D.T. skills and scientific understanding.	Key Words: moon, vehicle, wheel, axle, design, chassis, model, terrain, explore, astronaut, movement	Preparation: - Cardboard boxes, straws, skewers, bottle tops, wheels, masking tape - Scissors, glue, rulers - Moon surface images or video - Worksheets: design planning template and evaluation form - Toy cars for demonstration (optional) - Paper for labels and instructions
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Prior Learning: Children know that astronauts use special equipment to explore the Moon and understand basic vehicle parts (e.g. wheels, axles).

WC / PT	<u>Warm-up:</u> Show images or short video clips of real moon buggies used in the Apollo missions. Ask: - Why did astronauts need a moon buggy? - What did it need to do? - What is the surface of the Moon like? Introduce the D.T. challenge: design and build a moon buggy that can move.	0-5 mins
WC	<u>Main Teach:</u> Discuss vehicle features: Chassis to support weight Wheels and axles to allow movement - Stability on rough terrain (e.g. Moon rocks) Demonstrate how to attach wheels and axles to a chassis. Emphasise careful measuring and cutting. Model the design process : plan, build, test, evaluate.	5-10 mins

I / S	<u>Activity:</u> Design and Build a Moon Buggy Children work in pairs or small groups to: 1. Draw a labelled design 2. Choose materials 3. Build the moon buggy 4. Test it on a "lunar landscape" (e.g. crinkled paper or tray of sand) 5. Evaluate: Did it roll? Was it strong? Could it carry an astronaut (small toy)?	10-30 mins
I	<u>Extension Challenge:</u> Add a seat or space for a mini-astronaut toy. Include suspension or a roof. Some children may add decorations or lights (paper-based).	30-35 mins
WC	<u>Plenary:</u> • Test all buggies in a class "Moon Buggy Test Track" • Share what worked well and what could be improved • Reflect: What was the biggest design challenge? Create a wall display of buggy photos with pupil captions.	35-40 mins

WC – Whole Class

PT – Partner Talk

I – Independent

S - Support

Challenge A	Science Link: Explore how gravity on the Moon is different from Earth and how this affects movement.
Challenge B	English Link: Write an instruction manual for "How to Build a Moon Buggy."