

## Quest Lesson Guide: Build a Platform and Ramp

<b>Pillar:</b> SCIENCE	<b>Concept:</b> Simple and Complex Machines	<b>Code:</b> ES1.2	<b>Level:</b> 1
<b>Summary:</b> Build a platform and ramp.			
<b>STEAM Integration:</b> Engineering (Making); Math (Number Sense & Geometry)			
<b>Learning Objectives</b>			
<b>Students will learn about...</b>		<b>Students will learn to...</b>	
Create an inclined plane		Identify individual parts of machines. Craft basic machine parts. Use basic machines suitable to solve specific problems.	

### Quest Introduction:

Build a raised platform only reachable via ramp for parking your lunar rover.

*Students build a platform with ramp to park their Rover*



### Fun Facts:

When you build a ramp up to the platform, you're creating a simple machine called an inclined plane, which is a flat surface with one end higher than the other. This means you can slide or drive equipment up to the platform - much easier than having to lift it.

Did you know, simple machines can be combined together to form compound machines? Big compound machines like a space ship consist of hundreds or thousands of simple machines working together. Compound machines make work even easier because all machines together have a greater mechanical advantage!

**In-Game Assessment:**

The students earn XP in the following badges: 1. Machines 101 – 25% 2. Construction 101 – 25%	Related in-game quiz that tests concepts: 1. Quiz: Simple and Complex Machines
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**Formative Assessment:**

Once the student finished a quest, you can also assess them based on observation and discussion, and according to the following scale. If assessing a student's partially completed project, use the "Notes" section. In this case, assess the child based on their understanding of the projected learning outcomes and how effectively they implemented them on the part of the project they did complete.

5	4	3	2	1
Complete Achievement of goal/task/ understanding	Mostly Complete Achievement of goal/task/ understanding	Partially Complete Achievement of goal/task/ understanding	Very Incomplete Achievement of goal/task/ understanding	Did Not Complete goal/task/ understanding

**Notes:**

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