



Learning outcomes

Engineering presentation (secondary schools)

Descriptor	The <i>Engineering</i> topic explores the materials, components, tools, equipment and processes utilised as part of the Stage 3 project and their importance in the overall design and build.
Age group	<ul style="list-style-type: none"> Grade 7 and 8 students
Duration of activity	<ul style="list-style-type: none"> 100 minutes
Resources	<ul style="list-style-type: none"> PowerPoint presentation Printed Careers in Constructions flyer Audio-visual equipment Experiment materials <p>Build a spaghetti bridge:</p> <ul style="list-style-type: none"> 1 Packet of Spaghetti 1 Tube of Super Glue Ruler Weights (Books work Well) <p>Build a spaghetti bridge:</p> <ul style="list-style-type: none"> 10 Paddle Pop Sticks 5 Skewers 3 Straws (Cut 2.5 Straws into Quarters) 1 Small Cup/Container 1 Rubber Band Masking Tape Pom Poms
Curriculum alignment	<p>Alignment to the Australian Curriculum</p> <ul style="list-style-type: none"> General Capabilities <ul style="list-style-type: none"> Critical and Creative Thinking Design and Technologies
Aims	<ul style="list-style-type: none"> Provide a real-world example of how engineering principles are implemented in a project such as Stage 3 Create interest in engineering careers and explore pathways Foster collaboration skills by working in groups to develop the best possible solution for a problem statement.
Overview	<p>Use the presentation to guide students through engineering on Stage 3 content, video and an experiment. Presentation outline:</p> <ul style="list-style-type: none"> Transport planning Gold Coast Light Rail Stage 3 overview video (2 minutes)

	<ul style="list-style-type: none"> • Careers in construction • Engineering challenges on Stage 3 • Engineering video (3 minutes) • Activities - choose from one or both experiments • Questions for discussion
Lesson Ideas	<p>Examples of Lesson Ideas:</p> <ul style="list-style-type: none"> • Create a competition to see which bridge can support the most weight • Go through the different bridge designs and discuss pros and cons of each design • Discuss the different materials used for bridges and the pros and cons for each material.