

Year 5 and 6: Mathematics

Prisms and Pyramids

This resource can be used to plan an individual Mathematics lesson or a unit of work. The suggested activities can be used in the order presented here, or they can be adapted for your teaching plan and classroom.

CURRICULUM OBJECTIVES

VIDEO OUTCOMES

Mathematics / Year 5 / Measurement and Geometry / Shape / ACMMG111

Connect three-dimensional objects with their nets and other two-dimensional representations

- identifying the shape and relative position of each face of a solid to determine the net of the solid, including that of prisms and pyramids
- representing two-dimensional shapes such as photographs, sketches and images created by digital technologies

Mathematics / Year 6 / Measurement and Geometry / Shape / ACMMG140

Construct simple prisms and pyramids

- constructing prisms and pyramids from nets, and skeletal models

TEACHER PACK OUTCOMES

Mathematics / Year 5 / Measurement and Geometry / Shape / ACMMG111

Connect three-dimensional objects with their nets and other two-dimensional representations

- identifying the shape and relative position of each face of a solid to determine the net of the solid, including that of prisms and pyramids
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Mathematics / Year 6 / Measurement and Geometry / Shape / ACMMG140

Construct simple prisms and pyramids

- considering the history and significance of pyramids from a range of cultural perspectives including those structures found in China, Korea and Indonesia
- constructing prisms and pyramids from nets, and skeletal models


Activity	Resources	Outcomes
<p><u>Activity 1: What Are Prisms and Pyramids?</u> Timeframe: 20 minutes Lesson overview: Students will learn what prisms and pyramids are and how they can be made from nets.</p>		
<p>Activate students' prior knowledge by discussing three dimensional objects and their features.</p>	IWB	ACMMG111
<p>Introduce two new types of three dimensional shapes that students will be learning about: prisms and pyramids.</p>	ClickView Miniclip – <i>Prisms and Pyramids</i>	ACMMG140
<p>Distribute a copy of the <i>What Do I Know?</i> worksheet to each student. Students are to fill in the worksheet with any facts that they already know about prisms and pyramids.</p>	<i>What Do I Know?</i> worksheet	
<p>Watch the ClickView Miniclip <i>Prisms and Pyramids</i> as a class.</p>		
<p>After viewing, discuss and summarise the information presented. Students should add any new information learned to their worksheet.</p>		
<p>On the IWB, collectively brainstorm the facts that students have written down.</p>		

Activity	Resources	Outcomes
<p><u>Activity 2: Prisms and Pyramids in the Real World</u> Timeframe: 25 minutes Lesson overview: Students will view a PowerPoint presentation showing different prisms and pyramids in the world and identify their shapes.</p> <hr/> <p>Open the <i>Prisms and Pyramids in the Real World</i> PowerPoint presentation on the IWB.</p> <p>Go through each slide with the class and ask students to name each shape presented.</p> <p>Continue until the PowerPoint presentation is complete.</p> <p>There are additional empty slides at the end of the PowerPoint presentation to add your own examples.</p>	<p>IWB</p> <p><i>Prisms and Pyramids in the Real World</i> PowerPoint presentation</p>	<p>ACMMG111</p> <p>ACMMG140</p>

Activity	Resources	Outcomes
<p><u>Activity 3: Constructing Nets</u> Timeframe: 40 minutes Lesson overview: Students will construct their own prisms and pyramids from a variety of nets.</p> <hr/> <p>Print off the nets included in the <i>Constructing Nets</i> worksheet.</p> <p>Students can pick a net and follow the instructions on the worksheet to begin constructing.</p> <p>When a student finishes constructing a prism or pyramid, have them complete a copy of the <i>Constructing Nets Response Sheet</i> worksheet.</p> <p>Continue this activity for as long as you wish.</p>	<p><i>Constructing Nets</i> worksheet</p> <p>Scissors</p> <p>Tape</p> <p><i>Constructing Nets Response Sheet</i> worksheet</p> <p>Additional grid paper</p> <p>Rulers</p> <p>Pencils</p>	<p>ACMMG111</p> <p>ACMMG140</p>

Activity	Resources	Outcomes
<p><u>Activity 4: Connect the Net</u> Timeframe: 10 minutes Lesson overview: Students will match the 3D shapes with their nets and name each shape.</p> <hr/> <p>Distribute a copy of the <i>Connect the Net</i> worksheet to each student.</p> <p>Students are to connect the net, the name of the shape, and the 3D shape together.</p> <p>Use the <i>Connect the Net Answer Sheet</i> to mark activities.</p>	<p><i>Connect the Net</i> worksheet</p> <p><i>Connect the Net Answer Sheet</i></p>	<p>ACMMG111</p> <p>ACMMG140</p>

Activity	Resources	Outcomes
<p><u>Activity 5: Drawing and Identifying</u> Timeframe: 20 minutes Lesson overview: Students will respond to a PowerPoint activity featuring hints of 3D prisms and pyramids by either drawing the shapes or naming and identifying their features.</p> <hr/> <p>Display the <i>Drawing and Identifying</i> PowerPoint presentation on the IWB. Go through the instructions and background information together as a class.</p> <p>Students will take turns in responding to each slide in front of the class. There are 18 unique slides in total.</p> <div> <p>Optional: You can do this activity either at the pace of the students, or as a timed race activity (e.g. 30 seconds to complete the task).</p> <p>You can also print off the PowerPoint presentation as a collection of worksheets for students to do independently.</p> </div>	<p><i>Drawing and Identifying</i> PowerPoint presentation</p> <p>IWB</p> <p>Optional: Stopwatch</p> <p>PowerPoint printed as worksheets</p>	<p>ACMMG111</p> <p>ACMMG140</p>

Activity	Resources	Outcomes
<p><u>Activity 6: Interactive Video</u> Timeframe: 15 minutes Lesson overview: Students will watch the ClickView Miniclip and answer the interactive questions to show their understanding of three dimensional prisms and pyramids.</p> <hr/> <p>ClickView has created an interactive video lesson to accompany the ClickView Miniclip <i>Prisms and Pyramids</i>. It includes a range of question types such as multiple choice, missing word, and true or false.</p> <p>You can assign the interactive video to your students to do at any suitable point in your unit. Alternatively, you can edit the pre-made questions to suit your students or create your own interactive video.</p> <p>To share the interactive video with your students, follow these steps:</p> <ol style="list-style-type: none"> 1. Search for the Miniclip <i>Prisms and Pyramids</i> that has the interactive logo (). 2. Click to view the video. 3. Click on the "Interactive videos" tab beneath the video. 4. Click the "Print as Worksheet" OR "Save to Workspace" button on the interactive video. 5. If you click "Save to Workspace", you can either click "Share with your students" or access it via your Workspace. <ul style="list-style-type: none"> • If you choose "Share with your students", copy the link and send it to your students. • Otherwise go to your Workspace, select the "Interactive videos" folder, and click "Share" to access the link and send to students. <p>Students can watch and answer the interactive questions either in class or at home. Their results will be collated for you to view from your Workspace.</p> <p>The following tutorial video playlist is available if you require assistance:</p> <p>ClickView Interactive Videos https://clickv.ie/w/PJGk</p>	<p>Interactive video for the ClickView Miniclip – <i>Prisms and Pyramids</i></p> <p>1:1 devices with Internet connection</p>	<p>ACMMG111</p> <p>ACMMG140</p>