Measurement and Geometry: Using Units of Measurement: Champion 2D Shape Drawing

Australian Curriculum

This lesson plan could be used to support the teaching and learning of the following Content Description from the Australian Curriculum.

Y5 – Measurement and Geometry

Australian Curriculum - Calculate perimeter and area of rectangles using familiar metric units (ACMMG109)

Child-Friendly Aim: To accurately draw a range of 2D shapes using the measurements given.	Success Criteria:I can follow instructions to accurately draw shapes.I.I can draw lines accurately using a ruler.I can draw angles accurately using a protractor.I can reason about 2D shapes.	Resources: Lesson Pack Rulers and protractors
	Key/New Words: Protractor, ruler, length, angle, dimensions, polygon, parallel, perpendicular.	Preparation: Differentiated Champion 2D Shape Drawing Activity Sheets - one per child Extra Challenge Activity Sheet - as required

Prior Loorning	It will be helpful if children are confident at identifying, comparing, classifying and describing the properties of a wide range of
Prior Learning:	2D shapes.

Learning Sequence

	Reading Scales Quiz: The Lesson Presentation displays a range of ruler and protractor scales, which the children have to interpret and read correctly to say what length the arrow indicates.				
Whole Class	Drawing 2D Shapes from Given Dimensions: Using the examples on the Lesson Presentation, work as a class to follow instructions to draw 2D shapes from given dimensions.				
	Champion 2D Shape Drawing: Children complete the differentiated Champion 2D Shape Drawing Activity Sheet, demonstrating that they can accurately draw a range of 2D shapes using the measurements given and calculate missing angles and lengths. Can children draw a range of 2D shapes? Can children calculate missing angles and lengths? Draw 2D shapes from given dimensions (to the nearest 5° and whole cm). Draw 2D shapes from given dimensions (to the nearest 5° and half cm). Draw 2D shapes from given dimensions (to the nearest 1° and mm). An Extra Challenge Activity Sheet is provided as an extension activity if required.				
	Shape Reasoning: The children prove or disprove the statements displayed on the Lesson Presentation, using their understanding of properties of shapes.				

Masterit

Computeit:	Use a programming website (e.g. Scratch) to draw regular 2D shapes.
Createit:	Explore how to create optical illusion art using 2D shapes.
Performit:	Write and perform rhyming poetry based on the properties of 2D shapes.

Mathematics

Measurement and Geometry

Mathematics | Year 5 | Measurement and Geometry | Using Units of Measurement | 2D Shape Drawing | Champion 2D Shape Drawing | Lesson 2 of 3

Aim

• To accurately draw a range of 2D shapes using the measurements given.

Success Criteria

- I can follow instructions to accurately draw shapes.
- I can draw lines accurately using a ruler.
- I can draw angles accurately using a protractor.
- I can reason about 2D shapes.

What measurement does the arrow indicate?





What measurement does the arrow indicate?





What measurement does the arrow indicate?





What measurement does the arrow indicate?



Drawing 2D Shapes from Given Dimensions

Follow these instructions to accurately draw this triangle:

- Draw a line, AB, 6cm in length.
- At A, measure and draw an angle of 55°.
- At B, measure and draw an angle of 80°.
- Mark the point where the lines intersect C.
- Measure and label angle C.
- Measure and label lines AC and BC.



Drawing 2D Shapes from Given Dimensions

Follow these instructions to accurately draw this quadrilateral:

- Draw a line, AB, 5cm in length.
- At A, measure an angle of 120° and a line of 4cm. Mark this D.
- At B, measure an angle of 60° and a line of 4cm. Mark this C.
- Join CD. Measure and label angles C and D and line CD. What shape have we drawn?



We have drawn a parallelogram.





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(has driver -	t has drivery	theodowne	*		
Draw a line, AG, Nom in langth. NG 4, matum and chow on angle of 20° and a line of 20m Namhrini D. NG 10° and these set angle of 200° and a line of 20m Namhrini D. Non. CC and measure and labe. The angle C and D not line CM.	Draw a long, AD, 3.5mm in length. Ad A, restaure and array an angle of 202° and a lone of L5mm, Mark Bus D. 72 B, restaure and lone rais under of hit ¹⁰ and a line of 2.5mm, Mark Bus C. See, DC and restaure and lobe. The angle C and D and Line CD.	Draw a loss, AC, N-2011 in length. AS A, memory and draw an angle of 200° and a loss of 2, memory Mark but 0. 72 B, means well before on ourse of 10° and a loss of 4.2011. Mark but 0. Jon. 50 and memory end labe, the engine C and D and Line CD.	,		
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4 5, measure and draw an angle of J35".	At 5, measure and draw an angle of 210°.	At 5, measure and draw an angle of \$67.	Å	I m	Nº
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Shape Reasoning

Prove or disprove these statements:



Shape Reasoning

Prove or disprove these statements:

Ealse – the interior The interior angles angles of a regular of this hexagon hexagon are 120°, are acute. which are obtuse.

Shape Reasoning

Prove or disprove these statements:

True - this **Texis gound**oes not **baregullus idesagod**. angles the same.

Aim

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				Deliv	ered By:		Supp	ort:		
Success Criteria	Me	Friend	Teacher	т	РРА	s	I	AL	GP	
I can follow instructions to accurately draw shapes.				Notes/Evidence						
I can draw lines accurately using a ruler.										
I can draw angles accurately using a protractor.										
I can reason about shapes.										
Next Steps										
J										
J										

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PPA	Planning, Preparation and Assessment	AL	Adult Led
s	Supply	GP	Guided Practice

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Follow the instructions to draw the 2D shapes:	
Draw a line, AB, 3cm in length.	
At A, measure and draw an angle of 60°.	
At B, measure and draw an angle of 60°.	
Mark the point where A and B intersect and label this C.	
Measure and label angle C.	
I have drawn a	
Draw a line, AB, 4cm in length.	
At A, measure and draw an angle of 80° and a line of 2cm. Mark this D.	
At B, measure and draw an angle of 100° and a line of 2cm. Mark this C.	
Join CD and measure and label the angles C and D and line CD.	
I have drawn a	
Draw a line, AB, 5cm in length.	
At A, measure and draw an angle of 90° and a line of 3cm. Mark this E.	
At B, measure and draw an angle of 90° and a line of 3cm. Mark this C.	
At C, measure and draw an angle of 135°.	
At E, measure and draw an angle of 135°.	
Label the new angle created, as D.	
Measure and label angle D.	
I have drawn a	

Follow the instructions to draw the 2D shapes:	
Draw a line, AB, 3cm in length.	
At A measure and draw an angle of 35°.	
At B, measure and draw an angle of 90°.	
Label the new angle created, as C.	
Measure and label angle C.	
I have drawn a	
Draw a line, AB, 3.5cm in length.	
At A, measure and draw an angle of 122° and a line of 2.5cm. Mark this D.	
At B, measure and draw an angle of 58° and a line of 2.5cm. Mark this C.	
Join CD and measure and label the angles C and D and line CD.	
I have drawn a	
Draw a line, AB, 4.5cm in length.	
At A, measure and draw an angle of 115° and a line of 1.5cm. Mark this E.	
At B, measure and draw an angle of 115° and a line of 1.5cm. Mark this C.	
At C, measure and draw an angle of 110°.	
At E, measure and draw an angle of 110°.	
Label the new angle created, as D.	
Measure and label angle D.	
I have drawn a	



Follow the instructions to draw the 2D shapes:	
Draw a line, AB, 3cm in length.	
At A, measure and draw an angle of 38°.	
At B, measure and draw an angle of 66°.	
Label the new angle created, as C.	
Measure and label angle C.	
I have drawn a	
Draw a line, AB, 4.2cm in length.	
At A, measure and draw an angle of 103° and a line of 3.3cm. Mark this D.	
At B, measure and draw an angle of 65° and a line of 4.2cm. Mark this C.	
Join CD and measure and label the angles C and D and line CD.	
I have drawn a	
Draw a line, AB, 4.3cm in length.	
At A, measure and draw an angle of 93° and a line of 4.6cm. Mark this E.	
At B, measure and draw an angle of 123° and a line of 3.4cm. Mark this C.	
At C, measure and draw an angle of 58°.	
At E, measure and draw an angle of 52°.	
Label the new angle created, as D.	
Measure and label angle D.	
I have drawn a	

Champion 2D Shape Drawing Answers







Champion 2D Shape Drawing Extra Challenge



Champion 2D Shape Drawing Extra Challenge **Answers**

1.	Draw this kite accurately when A = 4cm. Measure and label angle X.
Answer:	Sides of 4cm and 6cm, angle X = 46°.
2.	Draw this parallelogram when B = 1.5cm. Use diagonally opposite angle facts to help you complete the drawing.
Answer:	Sides of 1.5cm and 4.5cm.
3.	Draw this isosceles triangle when C = 5cm. Measure and label angle Y.
Answer:	Sides of 5cm and 3cm, angle Y = 112°.

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