

Learning conversation record	
<b>Teacher</b> Habsa	<b>Leader</b> David
<b>Date</b> 23 <sup>rd</sup> March 2023	<b>Before / During / After unit of work</b>
<b>Summary of unit of work or lesson and relevant learning outcomes intended</b>  Exploration of a short maths unit (4 lessons) on angles – one week with two lessons to go. What has been covered and what ambition is there in the unit?	
<b>Questions asked</b>  Have the pupils covered angles before this year?        Where do you want them to be by the end of the unit?        This sounds challenging – how much are you stretching them?  What about the lower attainers? Have they got the basic concept of angles as turns?   How are you going to evaluate their learning?   Are they using protractors at all?     What do the books show?    Could I follow up with pupils?	<b>Key points, agreed actions and impact sought from them</b>  Only in mental/oral starters but they covered some in Y5. We have looked at angles in triangles, 2D and 3D shapes and different types of angles. We have explored why the internal angles add up to 180 degrees. They understand internal angles now. We covered the fact that a right angled triangle is not a type of triangle.  To work out the internal angles in any polygon. To know why opposite angles are equal and different types of angles. Some will know the formula as to why internal angles add up to 360 degrees in a polygon.  We are going above and beyond the Y6 curriculum. Many pupils enjoy this.  Yes, they have cut out the angles of triangles and aligned them to 180 degrees, then moved to pictorial versions.  We have some SATs questions and they will carry out an investigation finding angles of different types.  They have used them before. By the end of this unit they will draw shapes to measurements, but there's a difference between drawing angles and a whole shape.  Exploratory tasks and challenges. Calculating angles in triangles and explaining their thinking.  Ask them some of these questions and get them to explain themselves.

Follow up –

- Ask a group of pupils to explain their knowledge, and perhaps reason how they solve some specific problems finding angles.

Subject Leader reflection: In a 7 minute conversation we can build a balanced view of this short but deep unit. This can be validated with pupil voice easily. Looking at books during the conversation is valuable. There does not seem any need to visit a lesson. There is clearly some depth beyond age related expectations. When talking with pupils later the focus could be:


What is the extent of their understanding and confidence with terminology?

What are the lower attainers achieving that will build core knowledge of angles?

LO: Shapes - problem solving 2 2 3 2 3

**Explore**

A pizza restaurant receives its pizza boxes flat. This is what a pizza box looks like after it is folded up.  
What does it look like when it is flat?



I believe that the pizza will look like this when it is flat as in a cube, there are 6 sides altogether.

There are:  
 2 squares  
 4 rectangles  
 6 sides  
 or 6 rectangular faces

1) 'a' matches to 'd'  
 'b' matches to 'c'  
 'c' matches to 'a'  
 'd' matches to 'b'

2) There are:  
 2 triangular faces  
 3 rectangular faces

3) There are:  
 4 triangular faces

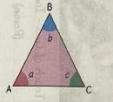
4) There are:  
 5 triangular faces  
 1 hexagonal face

5) There are:  
 8 triangular faces  
 1 rectangular face

LO: Angles in triangles 2 2 3 2 3

**Explore**

Triangle ABC is an equilateral triangle.  
 Lines AB and BC form  $\angle ABC$ .



What is the sum of the angles in a triangle?  
 What is the value of  $\angle ABC$ ?

$\angle ABC = \text{Angle 'B'}$   
 $180 \div 3 = 60^\circ$   
 $\therefore \angle B = 60^\circ$   
 $A = 60^\circ$   
 $B = 60^\circ$   
 $C = 60^\circ$   
 $T = 180$

The triangle is an equilateral triangle as all of the sides are equal. I know that the angles are equal because it is an equilateral triangle; all angles and lengths are equal ( $180 \div 3 = 60$ ). The value of  $\angle ABC$  is  $60^\circ$ .

**Guided Practice**

1 Find  $\angle DCE$ .  
 $180 - (90 + 25) = 65$

2 Find  $\angle LKM$ .  
 $180 - (35 \times 2) = 110$

3 Find  $\angle QSR$ .  
 $180 - (22 + 16) = 142$

4 Find  $\angle VWX$ .  
 $180 - (92 + 34) = 54$

$$Y = 70 + 90 = 160^\circ$$
$$180^\circ - 160^\circ = 20^\circ \checkmark$$

## 10 Angles in a triangle quadrilateral

All angles in a triangle is made from  $180^\circ$  because 2 triangle fit in 1 quadrilateral.

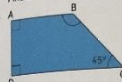
### Formula

$$n - 2 \times 180$$

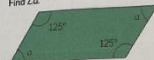
GD

### Guided Practice

1 Find  $\angle ABC$



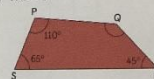
2 Find  $\angle a$



3 Find  $L_0$



4 Find  $\angle PQR$ .



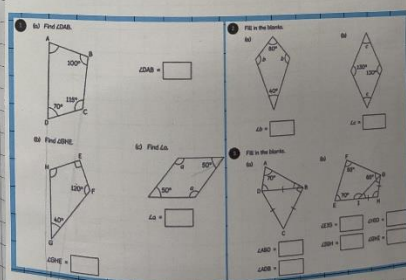
TIP

1) Square  
 $B = 360 - (90 + 90 + 45) = 135^\circ \checkmark$

2) Parallelogram ✓  
 $a = 360 - (125 + 125)$   
 $= 110$  ✓

3) Kite ✓  
 $d = 360 - (90 + 60) \div 2$   
 $= 105^\circ$  ✓

4. Quadrilateral ✓  
 $Q = 360 - (110 + 65 + 45)$   
 $= 150^\circ$  ✓



$$A = 360 - (100 + 115 + 70) = 75^\circ$$