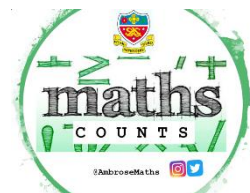


Knowledge Organiser



Lent Term

Year 8

Topic				Independent learning and homework tasks	
				MyMaths	CorbettMaths.com
Find missing sides using Pythagoras' Theorem				Shape/Pythagoras	Pythagoras (Video 257)
Volume and surface area of cuboids				Shape/Volume and surface area	Volume: cube/cuboid (Video 355) Surface area: cuboid (Video 310)
Volume and surface area of prisms				Shape/Volume and surface area	Surface area: prisms (Video 311 & 312) Volume: prisms (Video 356 & 358)
Surface area of cylinders ** top set only				Shape/Volume and surface area	Surface area: cylinder (Video 315)
Represents inequalities on number line				Algebra/ Inequalities	Inequalities: on a number line (Video 176 & 177)
Solve inequalities				Algebra/ Inequalities	Inequalities: solving (Videos 178 & 179)
Derive simple formulae				Algebra/Expressions and Formulae	Algebra: expressions - forming (Video 16)
Rearrange simple formulae				Algebra/Expressions and Formulae	Algebra: changing the subject (Videos 7 & 8)
Ratio and proportion				Number/Ratio and Proportion	Ratio: simplifying/sharing (Videos 269 - 271c) Proportion: recipes (Video 256)
Plot co-ordinates in all 4 quadrants				Algebra /Graphs	Coordinates (Video 84)
Plot straight line graphs and begin to understand gradient and $y=mx+c$				Algebra /Graphs	Linear graphs: drawing using $y=mx+c$ /gradient of a line/ $y=mx+c$ (Videos 187 - 191)
Recognise parallel lines				Algebra /Graphs	Linear graphs: parallel lines (Video 196)
Construct and interpret graphs from real life situations				Algebra /Graphs	Graphs (Videos 160 - 171)
Compare data sets and different statistical diagrams				Data/Processing Data/ Different data sets	Types of data (Videos 342-343a)
Draw and interpret Scatter diagrams				Data/Presenting Data/...	Graphs: scatter diagrams (Videos 165 - 168)

Stretch and Challenge:



1) Practise UKMT Junior Maths Challenge Past papers on:

<https://www.ukmt.org.uk/competitions/solo/junior-mathematical-challenge/archive>

2) Set up an account on parallel.org.uk website, using your school email address and use teacher code "ha52kh"

Lent Term Knowledge

Ratio

A description of a situation using the composite numbers e.g. In a class there are 13 boys and 7 girls
The ratio of boys to girls is 13:7

Axis for graphs

<p>First quadrant</p> <p>Axis are labelled x and y (x horizontal) Axis are divided equally Numbers are written on the lines</p>		<p>Four quadrant</p> <p>Axis are labelled x and y (x horizontal) Axis are divided equally Numbers are written on the lines</p>	
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Straight lines

Straight lines have the form $y = ax + b$ where a and b are numbers. The line can also be expressed as $ax + by = c$

Data types

Discrete	Values that cannot be divided e.g. colours, shoe sizes, flavours, children, ...	
Continuous	Values that can continually be divided e.g. measurements including time	
Primary	Values that you collect personally e.g. the opinions of your friends	
Secondary	Values that someone else collects e.g. national surveys	

Types of graph

<p>Stem and Leaf</p> <p>Has a key</p> <p>Is normally ordered (the numbers on the right are in order)</p>		<p>2 way Stem and Leaf</p>	<table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Girls</th> <th colspan="2">Boys</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td>1</td> <td>3</td> <td>0</td> <td>3</td> </tr> <tr> <td>9</td> <td>6</td> <td>5</td> <td>4</td> <td>2</td> <td>6</td> </tr> <tr> <td></td> <td>9</td> <td>2</td> <td>5</td> <td>0</td> <td>7 8 9</td> </tr> <tr> <td></td> <td></td> <td>3</td> <td>6</td> <td>3</td> <td>8</td> </tr> <tr> <td></td> <td></td> <td>3</td> <td>4</td> <td></td> <td>34</td> </tr> </tbody> </table>			Girls		Boys			1	1	3	0	3	9	6	5	4	2	6		9	2	5	0	7 8 9			3	6	3	8			3	4		34
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<p>Scatter graph</p> <p>Plots two variables against one another</p>																																							