

Building Better Learners

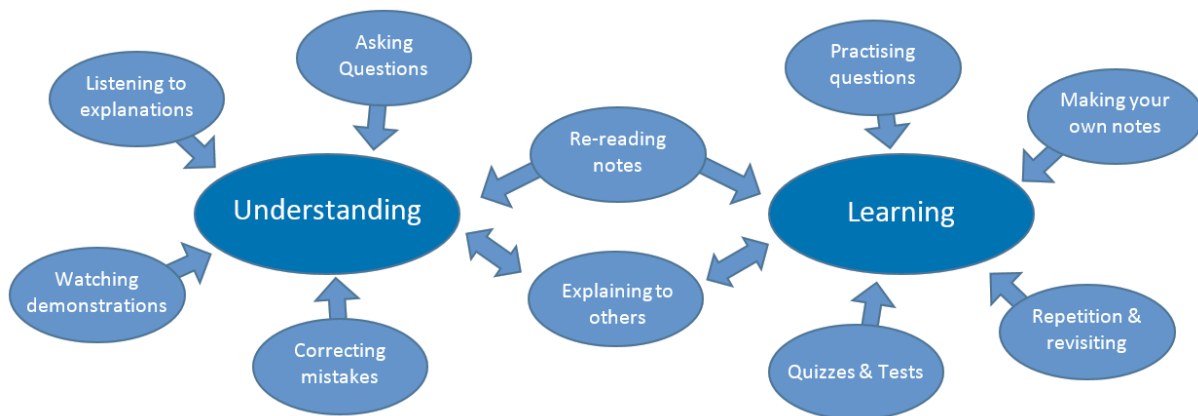
Using the progress ladder to support your understanding & learning in Mathematics

The progress ladder is an Excel file which you can use to support your studies in Mathematics. This document is intended to explain how to use your progress ladder to help you make the best progress that you can. The progress ladder is available from the Mathematics Department area of the school website.

<https://mathematics.bourne-grammar.lincs.sch.uk>

The progress ladder should be saved and renamed on your home computer/device. It is your learning diary, progress ladder and learning resource all in one. You can use it to assess your understanding, secure your learning and record your results throughout the year.

What you need to do to make progress



The largest impact on your **understanding** of Mathematics will be your engagement in lessons. However, what you do outside of lessons has a large influence on the progress you will make. It is not enough to simply understand what you are doing; you must **learn** thoroughly and retain how to do it.

	Understanding	Learning
Engagement in lessons	Listen to explanations, watch demonstrations and ask questions when you need to. Correct mistakes, but know why you were wrong. Be able to explain to others.	Solve questions in your exercise book (as many as you can) and care that you are correct. Every time a question is asked have an answer ready.
Outside of Lessons	Watch video tutorials, re-read notes and thinking back to the lesson perhaps add to them. Look at examples in text-books and try to follow each step.	Practise questions, quiz & test yourself, re-read notes, repeat and revisit older topics. Watch videos, pause at the question, have a go and then press play. Make your own (abridged) notes.

Overview Page

The topics for the whole year are listed here – click on any of them to take you to the page for that topic which contains more detailed information about what material is covered.

Enter your percentage scores for each section of your review tests - the cells are formatted to change colour depending on how well you have done to help you identify if you need to work on a particular style of question.

Click on a topic below to see the proficiency statements

Topic Review Results							
Term	Topic	My Rating	K (%)	U (%)	C (%)	Overall (%)	Progress
1	Logic	M	78	62	44	61	Orange - just below expected
1	Written Calculations		95	70	33	66	Green - On or above expected
1	Using a Calculator						
2	Angles						
2	Fractions						
2	Transformations						
3	Negative Numbers						
3	Algebra						
3	Solving Equations						
4	Ratio and Proportion						
4	Percentages						
5	Averages and Range						
5	Area and Perimeter						
6	Probability						
6	2D and 3D Shapes						
6	Handling Data						

AVERAGE (mean) 87 66 39 64

On this page you can enter your Topic Review Scores and progress indicator

Click here to see the areas you have identified as needing improvement

KEY	
Green	- on or above expected progress
Orange	- just below expected progress
Red	- below expected progress
T	- Totally understand
M	- Mostly understand
S	- Understand some of it
N	- Understand none of it

The test overall score is a mean average of the KUC scores and is calculated for you.

A mean average of all your results is calculated for you here.

Clicking on this box will take you to the targets for improvement section – use this page for revision and consolidation of topics.

Review test - KUC results

For each topic review test you will receive three scores which measure your proficiency in:

K – **KNOWING**...mathematical facts, formulae and strategies

U – **USING**... facts, formulae and strategies to process or solve straightforward problems

C – **CHOOSING**... appropriate facts, formulae, strategies and processes to solve a complex problem

TMSN Confidence Rating

For each section on the topic page you can enter one of T, M, S, or N. These stand for:

T – I **totally** understand this aspect of the topic and feel confident I would get any question related to it correct, provided I didn't make a mistake.

M – I **mostly** understand this aspect of the topic and feel confident I would get a question similar to those I have practiced correct.

S – I understand **some** aspects of the topic, I could start a question, but don't feel confident I would get it correct.

N – I understand **none** of this aspect of the topic and would not be able to answer a question.




Topic Pages

These pages contain the detail of what you will be taught in each topic. Assess your understanding using T,M,S or N. If having re-read your notes, looked at the examples in the textbook, watched the video tutorial and done the lesson on MyMaths, your understanding still isn't **T**, then identify what it is you don't understand, make a note of it in your exercise book and ask your teacher in the next lesson.

The content covered in each topic is listed here as "I can..." statements.

You can select your level of confidence for each statement either by typing in T, M, S, or N or selecting from the drop-down menu.

Click the symbol to take you to either: Kerboodle, MyMaths or the BGS Mathematics web-page

A7.1 LOGIC								
Statements	*TMSN*	1C	2B	2C	Video	Search No.	Section	
I can complete two-way tables and logic tables from a given problem including word problems	T	Use Class notes and worksheets					-	1
I understand how Venn diagrams work and can complete them by extracting the correct information from a worded problem.	T	16f Pg302	16e Pg294	16g Pg302	Invispen 471	1921	2	
I can remember the notation and symbols of Venn Diagrams and can link to the diagram	M	16f Pg302	16e Pg294	16g Pg302	Invispen 472, 473	1921	3	
I can solve Problems using Venn Diagrams and two way Tables	M	16f Pg303	16e Pg295	16g Pg303		1921	4	




My Rating

M

Use the drop-down list to select one of T, M, S or N to indicate how well the statement applies to you

This will calculate an "average" rating for this topic based on your choice of TMSN confidence levels. The letter here will automatically appear on the overview page.

Click here to go back to the overview page

	Your Kerboodle account for Mathematics will have digital versions of KS3 textbooks (1A through to 3C). The exercise and page numbers of questions that link to the statements are listed, as are the video Invispen clips that can be accessed from the books.
	In your MyMaths account you can find both lessons and questions that will be marked instantly. Type the number listed into the MyMaths search bar.
	On the learning resource page, you can find a pdf document that contains pages of questions (and full solutions) compiled by the Mathematics department. Go to the sections that match the statements.

This is a list of the Topics and specific statements that you need to revisit in order to improve.

Areas for Improvement	
1	Logic: I understand how Venn diagrams work and can complete them by extracting the correct information from a worded problem.
2	Logic: I can solve Problems using Venn Diagrams and two way Tables
3	Logic: I can remember the notation and symbols of Venn Diagrams and can link to the diagram
4	
5	
6	
7	
8	
9	
10	

Click on a statement and it will take you back to the topic page.

Click here to go back to the overview page

The areas for improvement page will automatically generate up to 10 "I can..." statements for you to work on based on your TMSN confidence selections on the topic pages. Statements will appear in reverse order of confidence (ie. N statements first then S etc.) and statements with the same confidence level will appear in the order they were taught. As you improve your understanding you can go back to the topic pages and change your TMSN confidence level and the list will update itself.

Don't forget there is Mathematics support in M5 every lunchtime where Sixth Form Subject Prefects and teachers will help you on a first-come first-served basis. Just bring your specific question/problem and we will do our best to help you.

$$|D(\bar{T}, e, a, b)| \leq 2$$

$$\varphi(\bar{5}a, \bar{6}) \varphi(\bar{5}i, \bar{6}) = \varphi(\bar{5}a + \bar{5}i, \bar{6})$$

$$\rho(u) = \frac{\sum_{k=1}^u p_k \log \frac{1}{p_k}}{\sum_{k=1}^u p_k}$$

$$S_n = A_n U_n A_n$$

$$|A_n| = \frac{1}{2} \int_{|u|>A} f(x)$$

$$\int_{-a}^a d\bar{a}_k(x) \geq \frac{1}{2} a$$

$$\int_{-a}^a f_{n-1}(u) = \int_{-a}^a f_n(u) f$$

$$\int_{-\infty}^{\infty} e^{-\frac{x^2}{2}} dx = \sqrt{2\pi}$$

$$\int_{-\infty}^{\infty} f(x) dx = \int_{-\infty}^{\infty} f(x) dx$$

$$|X \cup Y| = |X| + |Y|$$

$$f: X \rightarrow$$


$$Q(A) = \int_A f(x) dx$$

$$f(x) = \sqrt{\frac{1-x}{1+x}}$$

$$\lim_{N \rightarrow \infty} \int_{-N}^N f(x) dx$$

$$D^2(\bar{J}_n) \leq \frac{1}{2N} \sum_{k=1}^N \frac{1}{k^2}$$

MATHEMATICS



Every lunchtime (Mon-Fri) in M5
Sixth form Mathematics Prefects and Teachers are waiting to help you with your mathematics problems.

$$A(x) = \sum_{a=1}^x b_e \varphi^e(k_{a,b})$$

$$\lim_{k \rightarrow \infty} \frac{(2k)}{(k)} = e^{-2k^2}$$

$$\frac{d^2}{dx^2} \left(\frac{1}{x^2} \right) = \frac{2}{x^3}$$

$$\Delta N = \sum_{k=1}^N \frac{1}{k}$$

$$v = (2u) - (2u - c)$$

$$\int_{-\infty}^{\infty} \varphi(x) e^{-ix} + \varphi(x) e^i$$

$$\varphi(x) = \varphi\left(\frac{x}{a}\right) e$$

$$f(x) = \frac{f(x)}{f(x)}$$

$$1 - (x-1) = 1 - e^{-x}$$

$$k) \left(\frac{2k}{2k} \right) \approx \frac{1}{\sqrt{2k}}$$

$$\int_{-\infty}^{\infty} e^{-i(x)} dx$$

$$f(x) = \frac{C}{x}$$

$$\frac{dx}{dx} = \frac{2u}{(u+c)} = \frac{2u}{(u-c)}$$