



***Enhanced Learning  
Educational Services***  
*"the study skills specialist"*

# MATHEMATICAL SKILLS



**Developing your Mathematical skills will help you not just with Mathematics as a subject for school but also your life and problem solving skills.**

- You should read each point and **highlight the key phrases** in that point.
- Discuss with a friend or parent as you read through the handout.
- You may like to work through this over a number of sessions.

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# 1. HABITS TO DEVELOP

- **BRING ALL EQUIPMENT TO CLASS:** Textbook, exercise book, workbook or paper, calculator (if your class is currently using calculators), computer, ruler, pen, pencil and eraser, geometric equipment (protractor, compass etc.) if relevant to the topic.
- **GET READY TO START WORK STRAIGHT AWAY:** This means as soon as you sit down even if the teacher has not arrived yet, take out your books and equipment, open to the right page and have everything ready to start work when they arrive.
- **LISTEN CAREFULLY TO YOUR TEACHER:** The way to keep your mind focused and prevent day-dreaming is to keep it occupied. You do this by asking yourself questions as opposed to just letting your mind roam free. Develop the habit of questioning as you listen:
  - 'What equipment will I need?'
  - 'Do I understand what we are expected to do?'
  - 'Do I understand this explanation?'
  - 'Do I need to ask any questions?'
- **USE CLASSTIME EFFECTIVELY:**
  - Don't sit next to someone who talks all the time.
  - Don't sit next to someone who you talk to all the time.
  - Get as much of the work done in class as you can so you have less to do at home.
  - Ask questions about anything you can't do or don't understand.
- **ASK LOTS AND LOTS OF QUESTIONS:** Students who get good marks ASK questions if they don't understand something. 'The only truly stupid question is the question not asked'. If you don't have time in class to get your questions answered, ask your teacher when you could see them outside of class.
- **USE CLEAR AND LOGICAL SETTING OUT SHOWING ALL WORKING:** Space problems out rather than crowd them up close. Use any guidelines your teacher provides. Look at the work of your friends and see which style is clearest and easiest to follow. In an exam it is essential to show all working as often marks are allocated not just to the solution but to the steps along the way. You need to practise doing this properly at all times and it is essential you do it with every single question in order to improve your speed and accuracy for a test situation.
- **USE THE ANSWERS TO CHECK YOUR WORK:** The best way to use the answers is to complete the questions first, then check that section, correct your work and redo the questions you got wrong.



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- Two poor ways of using answers are checking your work ages after you completed it so you are not getting immediate feedback, or looking at the answers too early (or even copying the answers) without giving yourself a real chance to think about the question and have a proper go at it.
- The purpose of correcting your work or checking the answers is not to find out which questions you got right – those ones don't really matter because if you know how to do them then you'll probably be fine with them in a test situation. The purpose of correcting your work is to locate the questions you got wrong so you can learn how to do these types of questions properly. If you just tick and pretend you have checked you have learnt nothing.

○ **COMPLETE ALL HOMEWORK:**

In Mathematics, there are a number of reasons as to why you might be given homework:

- there wasn't time to finish everything in class
- you need extra practice to help you understand the work or you have a test approaching and you need to revise
- to help you consolidate what you learnt in class – coming back to the work later that day, and by yourself, helps you reinforce the new concepts learnt and also tests your understanding.

To make the most of homework:

- complete it on time
- then correct it if possible
- try and redo or understand any questions that were incorrect
- on a post-it note write a list of the questions you need to ask your teacher about next lesson and stick it in your workbook or textbook.



- **KEEP A SUMMARY BOOK:** Your summary book can be an exercise book or a separate section in your folder or loose leaf paper that you put in a display folder. On a regular basis, look through the work you have done so far for Mathematics and in your summary book write down the main rules and formulas, and include examples of different types of questions. Studying Mathematics has two parts – learning the rules and content and practising the skills of the subject. A summary book helps you do the first stage most efficiently.
- **KEEP ALL SHEETS, PAST TESTS, ASSIGNMENTS:** In addition to your exercise books or folders for class, have a folder at home that you use to file sheets for Mathematics. Keep absolutely everything and use dividers to separate the different topics (label these clearly). When you next have a test that includes that topic, go back and redo any questions from your sheets that you got wrong in the past.
- **WORK ON AREAS YOU FIND DIFFICULT:** You have to expect that you will find some topics more difficult than others and so may need to do extra work for particular topics. If you find a particular section difficult, ask your teacher for some extra worksheets on this topic or see if

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