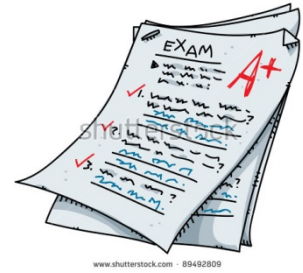


11 Plus Numerical Reasoning CEM Preparation Guide



Who is this guide for?

- Pupils in year 5 and year 6
- Those looking to improve their Maths skills for an 11 Plus exam
- Pupils sitting: CEM style 11 Plus Exam

It is quite important that before reading this preparation guide you also read [our preparation advice for all parents](#) (hold CTRL whilst clicking link to open in a new tab) which includes advice on what sort of difficulties you can expect and how to tackle them.

Organisation

As most parents have limited knowledge of the 11 Plus the organisation of exam preparation can become challenging. Common problems that many parents face include:

- Which books to use
- Which tests to use
- What to do and when to do it
- What a parent's role should be



This guide looks at how parents should tackle these problems. We have traditionally shown parents the solution to these problems in terms of books, however, we have begun to see a number of specialised structured course products being produced. We believe these courses, which combine many aspects of books into a pre-prepared course, offer a comparable alternative for parents to consider and are gaining popularity as an 11 Plus preparation technique.

Advantages of structured courses in comparison to books:

- Content is pre-organised saving a huge amount of time.
- Specialised courses for different exam boards, subjects and preparation lengths.
- No need to buy multiple books for revision and tests.
- Often cheaper, even taking into account printing costs.

If you wish to prepare using specialised courses we offer some advice below, however due to the complications and need for advice for preparation using books, this will form the bulk of the preparation guide.

Preparation for CEM Numerical Reasoning using structured courses.

If you have chosen to prepare using a structured course you won't need any further help from us on how to complete your course. But with a variety of courses available you may need some help choosing the correct one for your circumstances.

On our main [Maths year five papers and books page for CEM](#) we have recommend three different course options. Below we supply a little more detail to help parents choose the course which is most appropriate for their needs.

1. Full structured courses

We recommend [two full structured courses](#). The full courses offer Maths **alongside** the additional subjects (e.g. a non-verbal reasoning element and a verbal reasoning element etc.). For this reason they should only be purchased if you are proposing to use a structured course as your **Main** preparation.

- The main difference between the two courses is their length. The [Enhance Course](#) is 20 parts (about 1000 pages in total) whilst the [Boost Course](#) is 10 parts (about 650 pages in total).
- The Boost Course is recommended if you have less than 20 weeks for your preparation.
- In our opinion the courses cover all bases very well.
- However, if you are going to face an individual NVR (non-verbal reasoning) paper as part of your exams, you may benefit from a little more NVR coverage. This can easily be supplemented via an additional book (such as the one we suggest [here](#)).



If you finish the course early and like the format and want to do some more then they do produce a [Revision Course](#) which would be really useful to do over the summer holidays. Watch out though as these are **very intensive**, our advice would be to allow six weeks to complete it not the four weeks suggested.

2. Subject specific structured courses

If you are confident in your ability to help your child through literacy using books or they were already advanced in these, then we do recommend [a structured course](#) for its Maths element.

- The course we recommend contains Maths and NVR.
- The [Boost course](#) is ideal if you have less than 20 weeks to go.

Detailed advice for families using books (to be used with [our book recommendations](#))

If you want to use books what we have done is develop this guide which works with the book recommendations to take the pain away from deciding which books to use and how to structure a preparation plan properly.



Before beginning our advice please note the following:

1. Our recommendations are broken down by section: core skills assessment, maths skills development, exam technique development and full timed maths papers.
2. We very strongly recommend you do not leap forwards to doing papers before a child is ready as although they will develop exam technique they do not develop the core understanding required for some trickier questions. Focussing primarily on papers will not help your child to improve and they are likely to simply reach a plateau and not be able to progress further.
3. The advice below is designed for children with more than 30 weeks to go until the exam, if you have less time available then see our advice at the end of the sections.
4. The advice takes into account that children need spare time for other activities e.g. Verbal Reasoning.

Step One – Core skills assessment (Week 0)

- Every 11 Plus Grammar School test uses time and pressure to differentiate between children. It is vital that children have very sound core skills and can work accurately as this forms the basis for success in these tests.
- A common mistake that parents make is moving children on too quickly in terms of complexity meaning they fail to reach the right level and do not have the accuracy required.
- We have devised a test to assess whether your child's core skills are weak or strong. We urge every parent to [download the test](#) and take advantage of this free resource.
- If your child has weaker core skills they will not do well unless you work with them to help them improve these skills.



Step Two – Maths skills development phase (Weeks 1-15)

Our simple recommendation for developing skills is to regularly exercise them.

- For Mental Maths - do two pages every week ([Schofield and Sims - Mental Arithmetic Books](#))
- For Maths problem solving - do two pages every week ([Heinemann - Maths Word Problems Books](#))

- Maths skills development - do two topic areas every week. Ideally use the [CGP Maths study book](#) and then also do one test from the [CGP 11+ ten minute tests book](#) every week.
- Remember other areas like NVR and VR need to have enough focus as well. Please do not make the mistake of doing too much numerical reasoning.

Step Three - Exam skills Development (Weeks 15-30)

Once you have completed the prescribed core skills work then you can start on exam papers.

We'd suggest doing the following:

- Finish the CGP ten minute tests book if you have not done so already.
- Finish the [CGP CEM Practice Papers Books](#) by doing one test every week.
- Do one full timed paper every week. Don't be tempted to do too many because you need to balance this work alongside the other areas of preparation.



Problems with timing during papers and what to do about them

- The solution to timing issues is simply to help children pace themselves effectively.
- Issues with timing can be caused by: fear of getting a question wrong, slow reading, lack of timing experience, tension and stress, amongst others.
- We believe dividing up a paper beforehand using lines to indicate time divisions and allocating a set reading time for any text, is a useful technique to help children work through papers at the right pace.
- Set a time period for each division (e.g. three minutes per six questions) and indicate when the set period has elapsed whilst going through the paper.
- This should give the child an indicator of the speed they need to be working towards.

Problems with accuracy

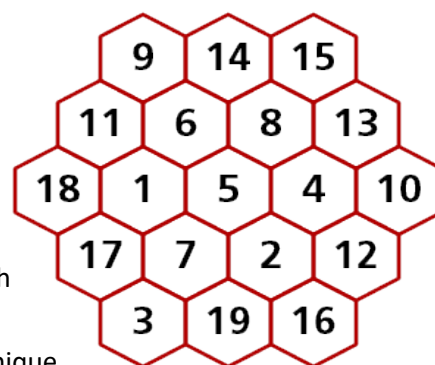
- Problems attributed to accuracy are caused by two main reasons: sloppy working or problems with how to tackle questions.
- 'Silly' mistakes are more often than not caused by weak core skills such as times tables that can weaken under time pressure.
- It is important that children understand why working accurately is so important or they may get stuck in the lower score percentiles.



- Going over mistakes in detail allows you to identify where your child has gone wrong and the solution to the issue can be identified.
- If a child does not understand a topic then go back to the study book and do some more focussed questions on the topic.
- If they struggle with times tables then focussing on the specific calculations is most helpful (most children have problems with the inter-relationships involving 6,7,8,9- often a child will have one they just can't get e.g. 7x6).
- If your child continues to struggle to focus on accuracy then sometimes 'bribery' works - rather than rewarding higher scores, reward accuracy. They get £5 if they make zero mistakes on questions they should have got right, take £1 away for each mistake they know they shouldn't have made.

How to deal with full timed tests

- Always set a room aside for this work, it must be done under exam conditions to get most benefit from it.
- Always try to mark work quickly and then spend enough time going through the answers.
- If timing is still an issue keep using the separation technique to set up time blocks and help children work to pace through the whole test.
- If accuracy is still an issue keep talking about it and perhaps keep the accuracy rewards system going.
- Keep encouraging your child - their confidence will be a crucial factor in the test, if they are confident they will do better.
- Keep things light-hearted and don't overwork - children who are tired and or stressed or worried will underperform, better to stop work altogether than have a worried child go into an exam and underperform by 30%.
- Keep focussing on accuracy as that will be the key differentiator in the exam.



Finally, try to understand the structure of your child's test. Most CEM tests use two mixed papers, one of which will contain the numerical reasoning element. Understanding this format means that the test environment can be replicated at home and helps you understand the stamina required on the day. We recommend occasionally doing two papers with a break of half an hour in between. Expect a child's scores to dip a little when doing papers back to back, once they have done two or three their scores should normalise.

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What happens if you have more or less than 30 weeks for preparation?



If you have more than 30 weeks the temptation is to do more papers at the end. We'd suggest that the more successful approach is to spend longer on core skills work (Steps 1-2). If you do finish early and have used books then you may want to consider using a [structured revision course](#) at the end for variety. Otherwise just doing some more papers can help although you will need to really focus on the feedback and marking to ensure you are not just going through the motions and scores haven't just reached a plateau.

N.B. This guide has been developed recognising that most students will need to spend time on other areas of preparation. Please ensure you read our general guide and our guides on Verbal Reasoning, English and Non-Verbal before proceeding. They will all work together to give you one unified approach whether you are using books or the new structured course approach.

If you want to stretch yourself

Some parents have children who are very mathematically able and want to stretch their child's ability. If this is you then firstly think about taking advantage of their strength in maths and spend more time on other areas of work that are less developed. Whilst you are developing other areas, it is still important to add in maths revision exercises to continue to revise core maths skills. We recommend this [structured revision course](#) as it focusses on accuracy, timed tests and adds some advanced scholarship style questions to stretch a child's ability.

