

Maths Key Considerations

Teachers will not be able to complete 18 months' worth of objectives when they return to school in one academic year. It is important that they, and SLT, see the catch up of maths as a 'long game' and not a 'quick fix'. This is more of a challenge for children currently in Y1 and Y5, as they will face statutory assessments when they return to school in 2021. The focus for both year groups should be on the fundamentals of mathematics and equipping them with firm foundations for learning in the future. For these children a focus on fluency and understanding of maths will be key.

1. Identify key National Curriculum maths objectives per year group and ensure that these are secure. Any objectives not taught will need to be taught; any not secure will need to be revisited.
2. As a school, decide whether to teach topics not covered at the start of the new academic year, or in more depth when they would normally be covered (this will involve tracking back into previous year group's objectives and teaching two years of objectives at the same time). For example, leave fractions for the current Y2 as it appears in Y3; and leave fractions for the current Y3 as the objectives in Y4 are very similar. Large numbers is taught in Y6, so this can be deferred for current Y5s. For Y5, decimals should be the main focus of place value teaching. Geometry can also be deferred from Y5 to Y6.
3. Assessment of where the children are needs to be planned carefully. We would recommend a daily revisit of previous year's objectives to identify gaps and teach/close gaps. For example this could involve giving the class 5 to 10 questions daily to assess objectives. Each day would have the same objectives, but different numbers (securing skills sheets are an example of what this could look like). Where there is a group with a gap – this can be addressed in an intervention, where it is a whole class – the objective needs to be retaught. This should be a short 10-15 minute task.

Assessment will need to be carefully planned and undertaken with small groups by teachers and or LSAs for KS1 and lower KS2 children. This will include individual conferencing and structured short written tasks. For upper KS2, larger groups or whole class assessment for learning methods can be employed.

4. Calculation policies and consistent use of this will be key to ensure progression across year groups. Teachers need to be aware that they will need to look back at the strategies for the previous year group when teaching.
5. It is essential that fluency is a focus when filling gaps. The children cannot reason and problem solve if they are not fluent and do not know their number facts. We would recommend a focus on +/- for KS1 and for KS2 we would suggest a focus on fraction knowledge in fluency learning. In Y3, after +/- is secured, times tables and X/\div work can begin.
6. It is essential that teachers continue to use CPA (concrete, pictorial, abstract) sequences when teaching the children, so that they have a good understanding of the maths taught.

These steps must not be missed out to achieve 'quick gains' as it will not be sustained as the children move through the school

7. Use starters in maths lessons to revisit learning from other areas of maths. For example when teaching place value, have times tables starters. This allows assessment and recap for those who are not secure. Alternatively, a daily fluency session could be provided, until children have caught up.
8. Link maths across topics – for example when teaching \times/\div by 10, 100, 1000 link to measures and conversion. This will enable smart coverage and recap of objectives. For example, division by an integer can be linked to finding a unit fraction of a quantity in KS2; or measuring in KS1 can be linked to place value.
9. Link maths to other areas of the curriculum explicitly. This is particularly useful for statistics where graphs, bar charts, pictograms etc. can be used in geography, history and science to show data.
10. Find opportunities to build maths into the school day. In KS1 in particular, daily routines provide an excellent opportunity to reinforce maths skills. (See: <https://researchschool.org.uk/news/mathematical-routines-in-year-one/>)

Over the last few weeks, for many children, there would have been a loss of routine, structure, friendship, opportunity and freedom. These need to be carefully rebuilt and the learning environment needs careful consideration to support this.

11. As lockdown measures begin to be eased, consider the key priorities for transitioning children back to school, to prepare them personally and academically for return. Does some specific work need to be set to support this as part of the transition from remote learning to school based learning? Can ICT support this, such as a Zoom lesson or a class quiz/challenge? This work may well need to focus around place value and/or mental arithmetic.
12. When schools return, it will be to a new normal, as we will be living with a virus rather than having been able to eliminate it through vaccine, appropriate treatment or effective and definitive testing for immunity. Social distancing and control over the spread of infection will significantly shape our pedagogical practices moving forwards. Consider how social distancing and infection control can be supported when teaching mathematics. The use of technology may play an important role here. Resources and equipment such as rulers, pencils, whiteboards etc. should not be used as sharing these risk the spread of infection.
13. Transition into the next year group will be key for progress to be made by children. Teaching and learning for the class will need to be discussed in detail by the current and new class teacher to ensure:
 - areas that were not covered are highlighted
 - topics that the class found challenging and were not 100% secure with are revisited

It is key that staff, and school leaders, do not make any assumptions about the children when they return to school. Some children will have done no formal maths learning while they have been at home and it is likely that these children will have 'lost' some of the knowledge that they had gained in the 6 months that they had in school.

Key Websites:

Video lessons: <https://www.ncetm.org.uk/resources/54454>

Learning activities and games: <https://www.ncetm.org.uk/resources/54452>

Hamilton: <https://www.hamilton-trust.org.uk/blog/learning-home-packs/>

Mathematics Mastery: <https://www.mathematicsmastery.org/free-resources>

Nrich: <https://nrich.maths.org/>

Numberblocks: <https://www.bbc.co.uk/cbeebies/grownups/help-your-child-with-maths>

Top Marks: <https://www.topmarks.co.uk/maths-games>

White Rose: <https://whiterosemaths.com/homelearning/>

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