Solutions Issues

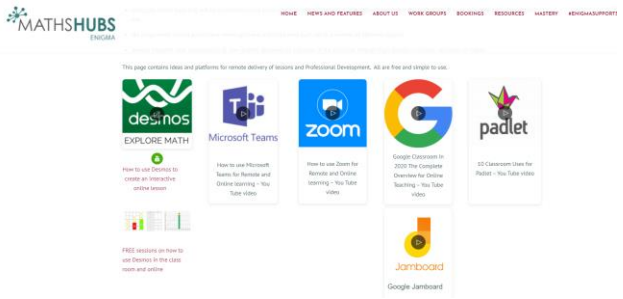
MATHSHUBS ENIGMA

Set within the current context of online learning with our schools, the Enigma Maths Hub specialists put together some solutions for potential challenges which might be helpful.

All of our schools are different but there may be something here which is a potential support / solution for you or your colleagues.

The Enigma Maths Hub website has a section about online learning which could be useful to see some of the online learning tools which our schools are using https://enigmamathshub.co.uk/remote-learning/

The Enigma website also includes some guidance about some online learning tools.



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If you have any further comments then do let us know –
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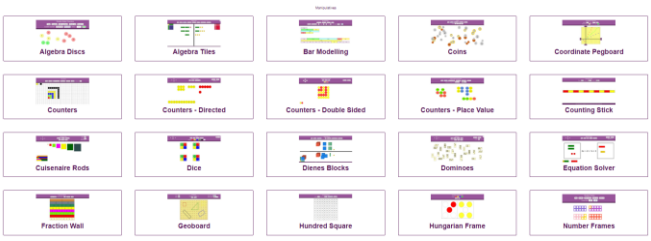
Issue	Solution to consider
Any suggestions to try to improve engagement during online lessons?	Make contact with parents/carers to discuss issues - It might not be they cannot do the work but may have other siblings who share the same device.
	Local software company has rebuilt donated laptops and given them to families who are struggling. Engagement followed up daily and shared weekly with SLT - support whenever we can.
	Engagement followed up weekly with SLT and calls home to check understanding and if any support is needed.
	Using tools such as Desmos and forms during online during lessons so every child is active within the lesson. Setting pre tasks to enhance discussions during the lessons. Allowing children to respond in different ways, such as via the chat, in person using whiteboards on zoom/ teams.
	Using Teams to deliver live lessons and having pupils practice the learning as we would in the classroom. We use the chat box, raise hand and cold-calling to engage lots of pupils and ensure maximum participation. Also mark learning submitted on the google classroom and return with a comment to the pupils so they can see learning is being checked and isn't being done for the sake of it. Pull out misconceptions / good work in the next live lesson.
	Make learning interactive. We have been using Jamboard - children love collaborating on the same document, forms, comments in the chat box, sharing links for the children to go to. We have been encouraging children to use mathsbot so that they can manipulate an electronic version of the concrete equipment. https://mathsbot.com/manipulativeMenu 

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Issue	Solution to consider
Any suggestions to help with pace of online learning / lessons?	Live lessons (recorded too so accessed anytime)
	Time given for pupils to discuss ideas with a partner (or teddy) each lesson to encourage the use of discussion. Opportunities for pupils to pause the video to jot down their findings or to complete a task. Pre-recorded lessons allow children to set their own pace.
	Have a clear outcome in mind. Keep them succinct and shorter than usual. Thinking of ways to keep the children active.
	Regular breaks or breakout rooms are beneficial too to allow some time away from the screen/time to talk and be active rather than just listening
	Pace is similar to school online. Children in younger years have been given manipulatives to support them-whiteboard, pen, tens frame, counters, multilink. Children are accessing well. Live lessons are active and children are completing 'my turn, your turn' and show. Children upload work at the end of a session. Children have time to work with teachers after session to follow up.
	Extended breaks prior to the session to ensure pupils are refreshed and ready to go to keep things moving. Using other adults to check chat/raised hands to avoid disruption to pace/flow of the lesson. Still consider small steps and pace needed to secure understanding.
	It can be harder to see when children are ready to move on in live lessons. We have been encouraging children to press the raise hand button to show that they are ready to help with this.

Issue	Solution to consider
Any suggestions to try to cater for all learners in online learning?	Superstar challenges set to extend the more able. Pupils are able to choose this optional task.
	During live lessons, send the rapid graspers/ quick learners off with a task / challenge to then come back, while the others stay on to clarify more understanding.
	TAs have live classroom to support same day intervention. Teacher online after input to support children who need it
	Like if you were in the classroom target questioning for specific children, allow for interaction during the session and discussion so all children can benefit from this. Use of clear representations that expose the mathematical structure.
	Questioning, spotters (TAs in live lesson to support target group follow up), interaction during session. Teachers staying on after lesson to work with children. Additional support session
	Scaffolded learning provided on Google Classroom for those who need it and toolkits/pre-recorded videos shared following the live lesson as visual reminders/scaffolds. Questioning during lessons for those who can be moved forwards and challenges given with independent practice to support the going deeper.
	Allocating tasks with different amounts of scaffolding to different learners on Google Classroom. More challenging problems after the core task to think about and be persistent with.

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Have you any suggestions for giving feedback as well as making this manageable?	Carefully consider what needs marking in how much detail. Efficient marking strategies - if its a simple mistake, point to it - do not have to give long winded responses to marking.
	Feedback can it be a blanket response to a class - "well done all" or record quick video of a misconception if most pupils had this which you can then deliver before the next session.
	Verbal feedback given through Mote when using Google Classrooms. This saves lots of time when feeding back on submitted work.
	Children submit work - only feedback given is to move learning on. Otherwise quick acknowledgement.
	Allow for a range so workload isn't too high. Verbal feedback, recorded whole class address of a misconception, self assessment (providing an answer sheet).
	Children complete some marking with teacher, questions and answers on platform. Children upload work to platform for teacher's to assess. Follow up target children.
	Feedback given during live lessons - shout outs/misconceptions addressed/WAGOLLs shared on screen. WAGOLL – What a good one looks like
	Using the comment bank in Google Classroom to record key feedback that can be quickly copied and adapted for children's personal comments.
	Feedback and marking - this needs to be considered carefully. Only needed to move learning on. Each day feels like an open classroom with parents observing but feedback overwhelmingly positive.
	Marking and feedback as above to adopt a range of appropriate measures to focus on progression of children's learning.
	Mark online with children in live lessons. Some year groups have whole year group live sessions dependent on cohort. Uploaded work follow up at set time.
	There has been an increase of workload but consider scheduling work prior to lesson on

	Google classroom so this doesn't have to be done on the day. Also, deliver live lessons with feedback throughout to support the need to then check learning on Google classroom. Assessment for learning - put 3 answers in the chat box and ask pupils to like the one they had; provide the pre-empted misconceptions as possibilities too

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Have you any suggestions for helping less confident learners with online learning?	Give children a helping hand task if they struggled during the input to support them to then move onto the same starting point as others – structured / scaffolded representations, variations.
	Record a short video showing how to calculate the mathematics/use the written method or possibly a very short drop-in session
	With a slightly more detailed description, pupils can gain that better understanding.. Helpful hints given and tips to remember during the lesson.
	Available in classroom for children to chat to teacher after the live session
	Using any adults at home to offer pre/ post teach interventions. Showing the tasks before a live/ pre recorded lesson so they have some time to increase their understanding. Use the prerequisites to secure prior learning.
	Keeping some children on at the end of the call (giving them the option to stay) to discuss their ideas and ask if they are unsure of anything has worked quite well
	Being available at end of session. Monitor progression and follow up. Work with identified children in smaller classes

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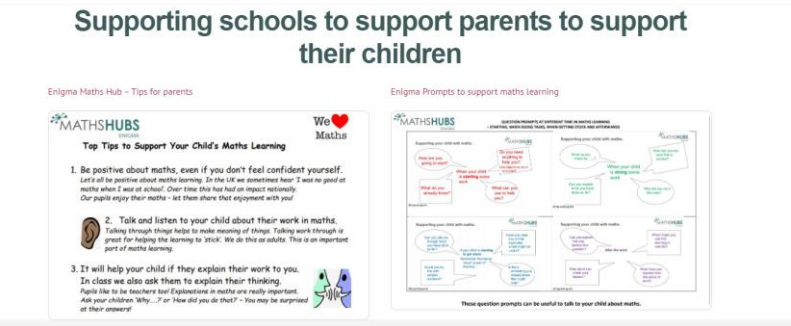
Issue	Solution to consider
Any suggestions to help to improve some children's focus during online learning?	Ask the children to have all the resources there ready in preparation for the activity. Clear structured tasks that don't allow for deviation.
	Timetable published Friday afternoon for the following week with links to any resources needed. Telephone parents if children not participating/engaged.
	Be prepared (resources). Short manageable chunks. Independent practice time. Self marking time.
	Keep it as active as possible - things for them to do/reply using chat box or verbally so they are active learners
	Lesson ready, remote learning contract with children, follow school expectations in live lessons. Time for a wiggle (younger children), time to talk through and share thinking … show me / choose children to explain what they have done. Can X build on it. Monitor engagement of children in sessions. All children camera on and mute until invited. High expectation of engagement.

Solutions Issues

Issue	Solution to consider
Any suggestions how to support parents' to support their children with online learning?	Share these leaflets with parents to emphasise the importance of assisting with children's learning rather than giving the answers if they are struggling. https://enigmamathshub.co.uk/enigmasupports/ 
	During online sessions, supporting children who are not sure of the answer to model to parents how to support their children.
	Offer a platform/ open communication where support can be requested and given when needed.
	Parent guidelines on platform for support. Requested support followed up. Parent questionnaire (high level of response) followed up with tweaks where appropriate. Open communication with families. High level of response from parents saying they have a great understanding of expectation (most noted in EYFS / KS1

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Issue	Solution to consider
Any suggestions how to scaffold learning using concrete resources?	Send home packs for particular children if possible. Model DIY options e.g dried pasta as counters. Use online manipulatives.
	Ask children a week in advance to find the things around their homes that they will need. Allow children to be inventive with creating their own concrete materials. Make it part of a fun task. Online manipulatives Eg Mathsbot https://mathsbot.com/manipulativeMenu
	Use lego for bar modelling, teacher models with concrete - children use alternatives whenever possible.
	As above, adapt to things the children can find at home: dice, money etc.
	Use of maths bot for manipulatives regularly - https://mathsbot.com/manipulativeMenu
	Packs sent home for younger children, creative with resources needed. Additional resources sent home as required.

Issue	Solution to consider
Any suggestions how to support SEN pupils with online learning?	Arrange for additional resources to be collected where appropriate. Check in calls, interventions, virtual meets in line with class teacher and SENDCO.
	We have set up intervention calls with the 1:1 adult and this child to do some focused work and discuss how the child has been getting on at home Send home paper based packs which are accessible for their learning - short chunks of learning
	Additional time at the end of the lesson to go through practice that is more scaffolded yet within the same concept - welfare calls made to pupils. Where possible, our SEND pupils are attending school full time or part time.
	Additional resources, opportunity to work with teacher / TA additional time. Intervention contact where appropriate. Smaller group contact where appropriate

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Issue	Solution to consider
Any suggestions to try to improve engagement during online professional development sessions?	Participants engaging in lesson journey, following on from this participants work together in break out rooms using Desmos with prompted questions to support discussion
	Breakout rooms using Desmos is really useful as it gives the participants time to talk and share their ideas - if the breakout rooms are small, it gives more time for each person to discuss. I have asked people by name to share too so this encourages participation

Issue	Solution to consider
Any suggestions to improve accessibility to technology?	Identify barriers and remove if at all possible e.g. expectation that older children should participate without parental support.
	Technology - consider alternative options such as paper packs, platforms that children can use a range of devices on.
	Paper packs sent home and all pupils have been provided with devices. Lots of parent support videos have been created and shared on twitter as well to support access/ check on weekly calls home
	Identified barriers removed, timetable to reflect larger families' needs and technology available. Resources sent home to support (manipulatives / packs / workbooks) Additional technology loaned to families gifted to school. Family follow up / check ins