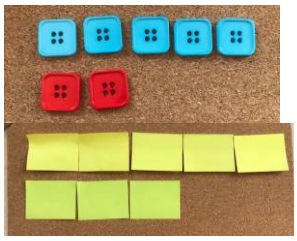
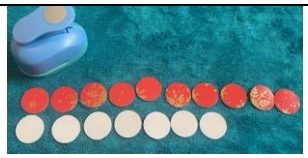
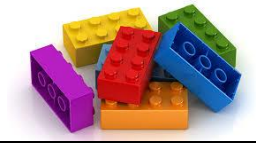
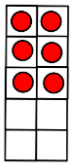
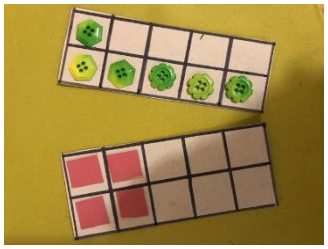
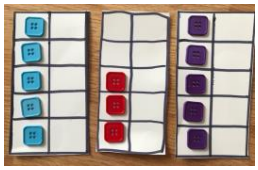
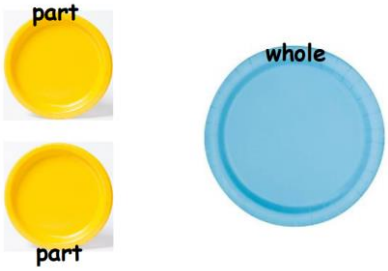
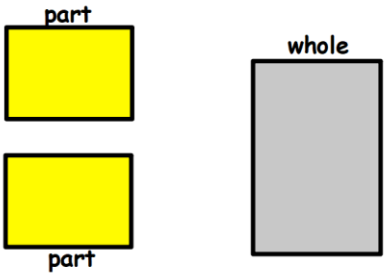
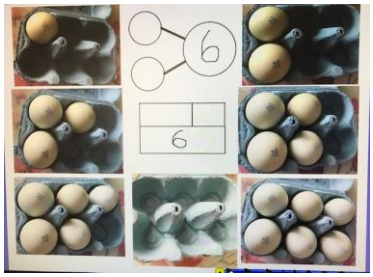
Maths resources in school/at home ideas

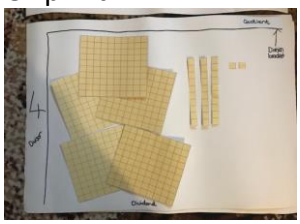
Learning mathematics requires the handling of carefully selected manipulatives and it requires communication and collaboration with others. Whilst preparing lessons for home learning consider in advance the resources children will need – the list below may help by giving ideas of substitutes for what you'd use in school. Remember, making the resources are part of the learning itself, so encourage children and parents to see it that way. And try to think of a simple bank of resources which could be used over and over again, rather than just for one lesson.

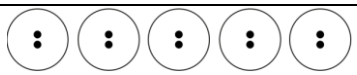
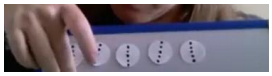
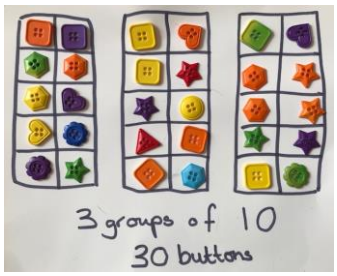
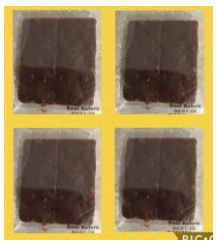
Useful websites for representations (accessible free from home):
Toy Theatre
Teacher Tools » Toy Theater | Learn • Create • Play
(see Teacher tools for reps but also 'math' for online interactive games for practice)
MathsBot Manipulatives
Manipulatives - MathsBot.com
Maths No Problem App (for iPads and mobile devices)
Maths No Problem support for home learning (for parents with practice activities):
School at Home : Maths — No Problem!

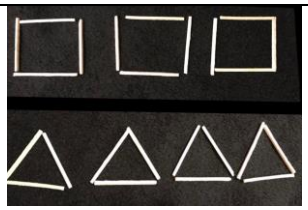
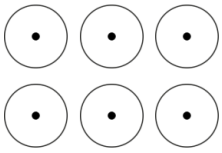
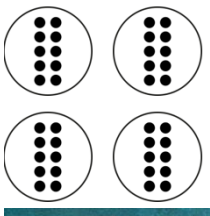
Resource	In school it looks like:	At home it could look like:
Double sided counters		Buttons Post-it notes Lego/Duplo bricks Pasta   Xmas cards make great double-sided counters as they have colour on one side and are often a different colour inside (could be squares if they're easier to cut).

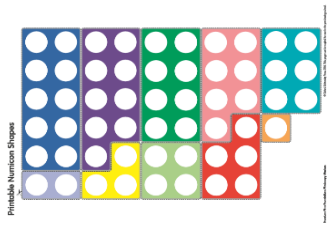
		
Unifix cubes		 Paperclips that attach as above. Lego/Duplo bricks of the same size. 
Tens frames	 	 Lots of families don't have a supply of stationery at home such as paper and card, but show how to recycle things they may have into maths resources as the tens frames and counters below.   

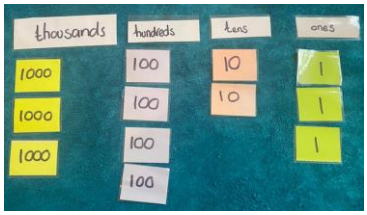
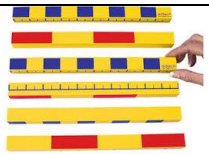
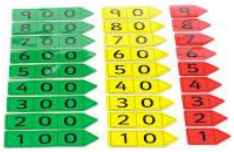
		
Part-whole diagram mats		Use plates … small for the parts and a larger one for the whole.  Use paper, small for the parts, one larger piece for the whole.  

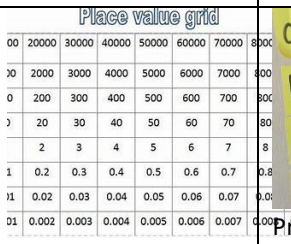
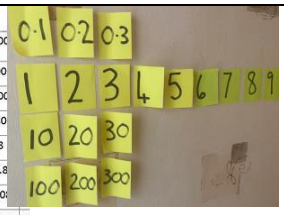
		 The whole is 7, I can see four, what's the missing part hidden in the pot? Lots of homes may have empty containers from xmas … empty chocolate/sweet containers, xmas cards etc to recycle.
Base 10		Make from something that can be bundled and taped together, eg straws and masking tape (available cheaply from supermarket). Or print:  Or create by cutting card into small squares, longs, flats etc. 
Bead string		 Coloured paperclips are great for creating an alterative to a bead string. Arranged in fives of one colour reveal the five and a bit structure. Good for number sense and fact fluency.

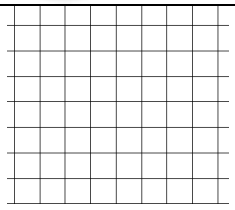
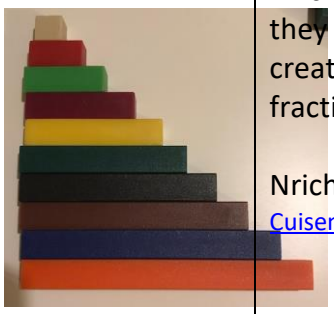
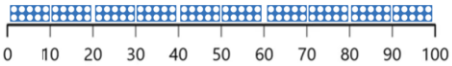
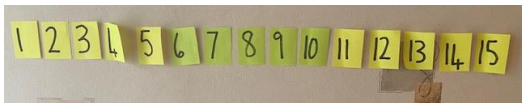
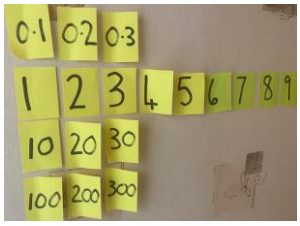
Counters and resources for multiplication, counting in equal groups and arrays		 Cut out counters from paper or card …. These are in circles, but children may struggle to cut a circle and find a square shape easier to make.   Children may have counters at home. Lego/Duplo bricks (of the same size) could be used. The reverse side of playing cards. Post it notes.     

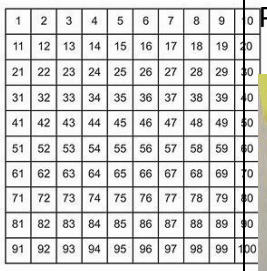
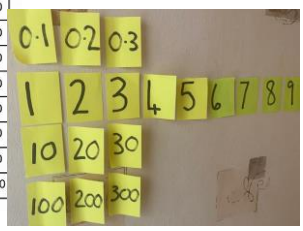
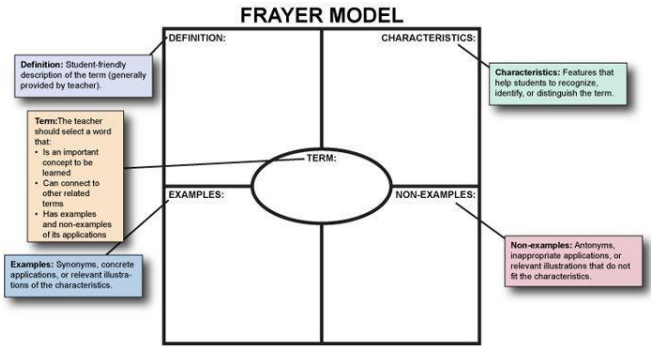
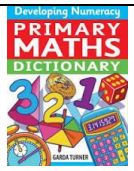
		 Match sticks and paperclips etc are cheap to purchase in supermarkets and have many uses. 
Place value counters		   

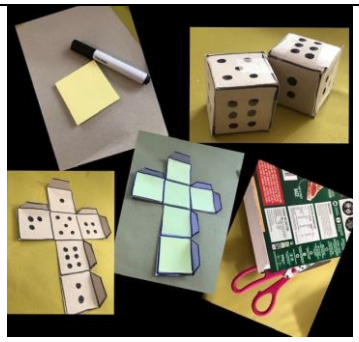
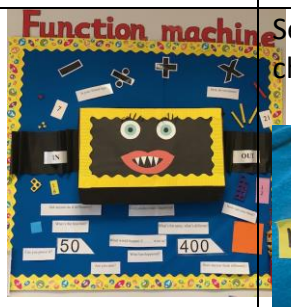
		
Numicon		 Provide a sheet which can be printed at home.  Wrapping paper left over from xmas can be great for cutting out and creating Numicon patterns.
Numicon balance scale		

		 Many ways of exploring equality at home using resources such as pegs on coat hangers ….. also some homes may have a balance scale which they use when cooking.
Place value charts (*appropriate to year group – each pair)* *Include on working wall/whiteboard to match colours etc.*		Provide one to print, or show how to create headings. 
Calculation mat		See above. Consider offering printed versions.
Counting stick		Creating one from rolled up card, left over card roll from wrapping paper, broomstick handle …. Using masking tape or coloured pens to mark divisions.
Arrow cards		Could provide to print out. Available as Word document on OneDrive, see also Springboard resources for ideas/activities at home.
Digit cards		 Make on digit cards …. Use scrap paper, recycle xmas cards, or Post It notes. Good practice at numeral formation. Younger children, those struggling with the basics can write the numeral and draw a representation of the quantity.

		Xmas/new year cards can be recycled in many ways:  From the above, to the digit cards below:   Pound shops and supermarkets sell playing cards, usually two packs for £1 …. And these can be used as digit cards, but also for a huge range of maths games and investigations for fluency and deep problem solving and reasoning.
Gattegno grids		 Provide one on screen during a lesson which children can point to, or provide one to print out. Alternatively …. Children could create one, see above how to start ….. creating one helps them to delve deeper into the place value structure.
Teaching clock		Encourage parents to discuss time and look for time around the house and in TV magazines, on the TV, computers, microwave etc. Learning to tell the time whilst at home would be a really useful skill parents can help with.

Large Thermometer		Interest children in weather and temperature to introduce negative numbers. Some homes have thermometers in the fridge, freezer, for cooking or in the garden. Supermarkets and garden centres often sell these for around a £1 sold as garden thermometers.
Squared flip chart paper		Modelling on squared paper is a useful scaffold for children, especially when teaching formal written methods. Children are unlikely to have squared paper at home, so either offer to provide some, or make suggestions to help them set digits out correctly using headings etc.
Cuisenaire rods		Nrich have a set of Cuisenaire rods available to print, or they could just create them from cutting coloured card ….. creation of them would be great lesson in itself, linked to fractions, ration, etc. Nrich have an online Cuisenaire environment here: Cuisenaire Environment (maths.org)
Numbertracks and Numberlines		Provide ones which can be printed at home, or show how to make one.   Post It notes are great as they stick easily onto walls …. And they can be blank or represent different numbers.  100 squares could be created in the same way.

		Creating these and having them available to see, helps children to understand the quantity and develops number sense. They could also be used for investigation of number patterns.
100 Squares	 	Creating one from squared paper, or squares of paper or Post It notes.
Key mathematical vocabulary		Provide a list of key vocabulary in advance that will be used that week. Remember to continue to use vocabulary they already know. Consider using the Frayer model:  Children could create these themselves …. Good assessment task and allows for lots of creativity, eg provide the word ‘multiplication’ and you will see how much they understand.
Maths Dictionaries	 	Make use of the Maths Dictionary and Concept Search on Mathletics …. This could be set for learning beyond the lesson. Mathletics works on mobile devices such as phones. Consider providing a sheet of key vocabulary for the current topic and making this available online for pupils.

		Could they make their own dictionary pages?
Dice		 Use either a cube box and turn inside out, or cover … or make a net and dice from that …. All use lots of maths skills to create and can then be used for lots of fact fluency practice games.  
Bookmarks for workbooks		Remind children what to do when stuck, how to challenge themselves etc.
Function machine		See my guide to function machines and for further, more challenging activities, see Nrich.  Easy to make at home …. Great for assessment, great for reasoning.

Tangrams		 Nrich provide Tangrams to print, or give instructions how to create.