

Stage 2 (c 5-6)

MATHS

Number work

Aim 1: To count to 50, then to 100

This continues to be verbal: just count with him whenever you get the chance. It's likely that if you've been doing this all the way along, he'll already be counting to 100 by the time he's five (my almost-five year old has just reached 200 and is very pleased with himself! He likes to count the pages in my missal at Mass, which helps with number recognition as well).

Aim 2: To recognise and order digits to 50, then to 100

Recognition of numbers can still be done with cards. You're going to need those card from 1-100 a lot so make sure they are sturdy. You can buy a pack, but make sure you are getting 100 separate cards as some products have the numbers back to back – i.e. only 50 cards, which is no good. You can print a set for free [here](#).

Give the child a set of, say, five and have him sequence them. Do this in groups – so, five numbers from 1-10, then from 11-20, then from 21-30 etc.. When the child is really confident you can give a random set of numbers to sequence e.g. 23, 7, 19, 31, 50. Eventually, you should be able to give any random sequence of cards from 0-100 and have your child order them correctly.

Use a 100 square to make the patterns more obvious (you'll be using this a lot too so make sure it is sturdy, and also that it is plastic coated/laminated so it can be written on with a whiteboard marker).

Tens and Units for the keen child

If your child is keen and finds everything you give him easy, you might want to start explaining about tens and units more clearly. Your child already knows that all the numbers between 10 and 99 have two parts to them, or two 'digits'. Write a double digit number in two columns, and label the columns U for units and T for tens. Show what happens when the units column reaches 9: we cannot fit any more in so we need to write the '10' over both columns. Explain that '10' means one ten but no units. What if we add one to the units column – what do we get? '11'. Carry on showing the numbers up to 20 until your child grasps what is happening (i.e. he is seeing the sequence of numbers 10-20 appear).

It helps to show this operation with objects too so that the child really grasps it. Drawing an abacus on paper for each number also helps. You can show that each line can only reach up to nine, after that, you need to move to the next line.

This concept of tens and units is really fundamental to later learning so it makes things easier if your child understands it at this stage, though it is not essential as it can be covered later. One easy way to check if your child really 'gets it' is to give two numbers (making sure that the units on the lower number are higher than the units on the larger number: e.g. 32 and 29, 41 and 38, 17 and 23) and ask which is bigger. If your child is still simply looking for the biggest digit and not distinguishing tens and units, he's likely to say 29 is bigger than 32.

If he seems to be getting confused, it may be that he is not ready for this more abstract approach and needs to come back to it later.

Aim 3: To count to 100 in tens

This can be verbal at first. If you repeat it often enough, your child will soon pick it up.

To reinforce it visually, you can use a '100 square' to show this sequence of numbers. If your child is keen, extend this to show that he can add ten onto any number quite easily – use a whiteboard marker to mark on the pattern created when you progress in tens from, say, 3, 13, 23, 33, 43, 53, 63, 73, 83, 93.

Some children, when left with a 100 square and a whiteboard marker will happily sit for a long while discovering new patterns. If he wants to keep his patterns, just print out some 100 squares and let him mark on his patterns in different coloured pens.

Aim 4: Say one (or ten) more or less than a given number (to 50, then to 100)

Again, play this as a verbal game first. Call out a number and ask the child to name the number which is one more. When this is easy, use the cards to make sure he can recognise the written numbers. Start with numbers up to 50; when this is easy, use numbers all the way to 100.

When he can do this, repeat the game asking for the number one less than the given number.

Next, give a number from 1-50 and ask for the number which is TEN MORE. Start with rounded tens (so, 10, 20, 30 etc. rather than 13, 23, 33 etc) until he gets the hang of it. Gradually move up to number up to 100.

Finally, repeat the process asking for the number TEN LESS than your given number.

Use the 100 square to show the patterns, as above.

Aim 5: to add and subtract using objects, then when confident using symbols

A lot of workbooks dive straight in to simple maths problems ($2+2 = 4$) without using objects first. If you give your child buttons, shells or anything else you have to hand in large quantities (even pasta shells will do), he will be able to actually grasp the concept of what he is doing when he adds and takes away before he is asked to do this using abstract symbols. In other words, teach the concept first before you start to teach what the symbols mean!

Teach adding and subtracting together: if you give him 2 shells and ask him to add 3 more to give 5, ask him what will happen if he takes those 3 shells away again. Put them back together and ask what will happen if he takes the first 2 shells away. See if he can tell you before he actually does it.

If at this point your child is happy to write numbers, you can introduce 'real' sums with the +, - and = symbols. At first, use easy sums which you know he can do so that he is focussing on using the symbols rather than any complex maths. If he really doesn't like writing or finds forming the numbers too tricky, give him cut out numbers to place at the ends of the sums. This isn't 'cheating': the focus here is on maths, not writing. If he needs practice, give him number templates to copy in his writing lessons.

Once he starts learning number bonds to ten (the next exercise) you can use these as practice for his 'sums'.

Aim 6: to know all number bonds to 10

Use whatever objects you have been playing with to show the various sets of numbers make 10.

Reinforce this with a new game: cut ten strips of card, a different colour on each side. Lay them out, all with the same colour upwards, showing the child there are 10 and you are not going to take any away. Then turn over one strip so that it changes colour. Have the child count the remaining strips – he will see that there are nine. Repeat this, turning over one strip at the time until he has grasped the concept. Now repeat this 'backwards' with the other coloured side.

When you've done this several times, have him close his eyes while you turn over a certain number of strips. Let him count the turned over strips and see if he can work out what is left without having to count them.

A nice twist on this is the 'objects in the box' game. Start with ten of anything small on the table – make sure he can see there are ten. Have him close his eyes while you put some of the objects in a small box. Let him count how many are left on the table, and see if he can work out how many are in the box. Little children love getting this right as it seems very clever and almost magical to them to work out the number before the box is opened (especially if they have younger siblings to impress with their 'magic!').

Once he's done this enough, aim to be able to call out a number up to ten and have him give you the matching number which would make ten. There are lots of places online where you can download endless worksheets to practice these 'number bonds'. I've used this one, [snappymaths](#), which has printable sheets for almost everything you are teaching at this age in a nice sequential order, and also [primary worksheets](#) which is a very useful site as it allows you to randomly generate any number of pages for such things as number bonds.

Note: When introducing symbols for addition and subtraction, you could start with the number bonds up to 10 as your child already knows these and so will be able to focus more on using the operations and signs without having to work out tricky sums too.

Aim 7: To count in 2's (and possibly 5's)

This can be mainly verbal at this point, but you could also give 100 square, or a number line (or a segmented snake which is more fun) and have him colour every other number, and then again every fifth number – in a different colour of course!

He may notice the pattern of the ending digits (i.e. that evens always end in 0,2,4,6,8 while odds always end in 1,3,5,7,9). If he does, you might want to teach evens and odds now (see Maths age 6-7).

Aim 8: To sequence numbers in 2's, 5's and 10's

You don't strictly speaking need to do this now, but if your child found the last exercise easy, you might want to. Go back to giving the number cards for sequencing, but this time instead of straightforward sequencing, ask him to place the numbers you give him in a sequence going up by 2 each time. He'll probably quickly figure out that he just needs to skip a number each time! Children love making huge long lines of these...let him go on as long as he likes.

If he's keen, try this with sequencing 5's. Here, the important thing he should spot is that all the numbers end in either 5 or 0. You can have him sequence in tens in the same way.

Shape

Aim: To know some 3D shapes

It's good to have some real 3D shapes which the child can handle. This way, terms like face, side, point, corner etc. will mean something to him. Having said that, I wouldn't invest too much money in an expensive set as you don't use them that often. There's a nice wooden set [here](#), but you might find a cheaper plastic one.

At this point, you're not trying to cover more than cube, cylinder, cone and pyramid unless he is keen. The idea is simply to gain the vocabulary to identify these shapes: later he'll be investigating their geometrical properties. Just discuss the way some have straight/round edges/same number of faces, points, edges etc. Look for objects around the house and outside with these shapes.

Aim 2: To know left and right

This is verbal again – if your child hasn't quite got this concept yet, try labelling shoes, or remembering we write with the right hand (if he/she does!).

To practice, try a treasure hunt: hide something then call out directions to it – forward, backwards, left and right. You can play this on paper too, or use it when out walking a familiar route: ask him which direction you need to turn next to get to where you are going.

Time

Aim 1: To know there are 7 days in a week and 12 months in a year and name and order them.

The best way to teach this is still to make up a rhyme and sing it. Later your child will need to learn the '*30 days hath September*' rhyme, but you don't need it at this stage.

Talk about what happens on each day – relate it to his everyday life and he'll soon be able to distinguish which day is which. With the months, you could start with months with significant dates in (his birthday. Christmas et.c) or link the names of the months to the seasons. Again, a silly song is always helpful.

Aim 2: Time: 24 hours in a day; 60 mins in an hour; 60 seconds in a minute

Try to use a clock with a second hand to help get this idea across. There are lots of games you can play to show seconds and minutes (e.g. races with a stopwatch).

To get the idea of how the hours of the day progress, you could make or buy a chart of the day and night divided into hours and what happens in each. I haven't often done this: I tend to find that if you use the vocabulary regularly enough your child picks it up.