Learning to write and understand numbers

Children learn to recognize and write their numbers in kindergarten and should be proficient by pre primary. The ability to write and form numbers is an important step in learning to form any symbols, and there are many parallels with the ease of writing numbers and later letters. One important thing to note is that numbers frequently can be reversed when the child forms them until they become more practiced and skilled. Whilst we need to promote the correct formation it is not uncommon for some numbers to " bump the other way" and be reversed even up to the end of year 1. Left-handers often have a little more difficulty with this directionality aspect of writing numbers. Numbers 2, 3, 5 and 7 are most commonly reversed.

Before a child is ready to write numbers, numbers need to have a meaning for them. Most children learn to rote count to 10 before they actually work out the number association of how "many" these make. Knowing their age, counting small groups and then seeing the number shape and being confident that the shape is a 4 or a 6 are all vital steps of learning numbers.
Our brain perceives numbers as an image or a symbol that we then attach meaning to, just like sounds to letters. If your child can't work out what that number shape is: then as a parent play lots of games where you recognize and point out all the 3's one day or week or as long as it takes for them to consistently recognize the shape as a 3. Then you can introduce another number and teach that shape and number name e.g. find all the 6's.
After the child understands the connection between the number shape and the number they develop increased comprehension of how to group clusters of objects to reflect that number amount. E.g. "show me four cars" or ' Can you give mum 6 apples".

Mastering writing numbers is tricky if the child does not understand the link between the numerical symbol and the number of objects, so always write numbers with some meaning/ counting/ patterning or ordering.
Numbers have a clear starting point and a direction of pencil movement the same as letters. Some numbers push to the left such as 5,6,8,9 and some push to the right as 2,3,7, Children in kindergarten and beginning of pre primary don't have any sense of left and right and the spatial planning to use left and right as a prompt or clue with any success. It is better to start with a lot of tracing numbers and the easier ones of 1, 4, 9 and 10 when getting them to write. Use visual prompts first but the goal is to be able to write numbers quickly and efficiently from their internal motor / perceptual memory and **without a visual prompt. When this occurs the learning is crystalized and cemented.**

Being good at "numbers" and Math's at school is strengthened by; patterning, lots of sequential ordering and lots of hands on exploration of objects for weight, size, dimension etc. Numbers and Math's are learnt through play, good practical tasks such as setting the table, cooking and through body to environment games. It can be supported by technology and apps but is best learnt through object manipulation.

Skill Progression.

1. Child rote counts usually in a sing song pattern
2. Child can recognize certain symbols represent a number. At this stage it is great to go on a number hunt with car number plates in car parks or letterbox spy games when walking to the park.
3. Child can attach the correct number symbol to items. Usually starts 1 – 5 and then progresses to 1 -10 and higher.
4. A child should be able to put numbers in the correct order as number patterning is vital.
5. Child can attempt to copy a number and only through repetition and practice does the motor plan become more automatic and fluent. Children often know which numbers they can form and which ones are tricky. They may prefer to trace over numbers or use number gutters to practice the formation.
6. Children can count up to 20 but when they write they]may find it difficult to get the sequential order correct and may write 01 for 10 or 51 for 15.
7. As soon as your child has mastered basic numbers try to extend to seeing a number of objects and working out how many they total. You can even make number stories so they can work out if one gets taken away how many are left. Numbers are patterns and they go up and down.
8. Being able to see that a small number is 4 without counting one by one is another skill progression. Usually children have to learn first to count by pointing one by one but they can soon see groups of two or three equals 2 or 3 without touching each one.

The writing of numbers is made more successful for children who can see shapes and copy them and for those who engage in a lot of drawing, as these also use elements of visual motor planning. Think of writing numbers as a series of motor plans of pencil direction changes. IE *"starts at the top pulls down and stops for a 1".*

Try:

- If your child is finding it tricky start teaching the easier ones first till they master those and then move to the more challenging. Start with 1,4, 7 and 10.
- Always use the same verbal prompts for teaching the letters and say the words with the action or the rhyme with the action. This way we use the right brain to help the left brain.
- If they get stuck help them feel the movement by putting your hand over theirs and doing the first one together. Its better to repeat forming one number a few times when learning then writing many different plans and numbers. Try then to get them to form one with your verbal prompts.
- Use a texta or a highlighter so they can trace over your numbers to feel the plan before trying one on their own. Usually try three trace numbers before their independent go.

- If they make a "bump" or the number" Bumps the other way" try to correct. We always use a pencil so we rub out bumps or use a whiteboard as well. This way the child sees the correct formation.
- Immerse in number games and counting in Kindy and pre primary. Children who can form numbers just by seeing the shape and then copying are more likely to be able to do the same with letters. If your child is struggling with writing numbers we need to switch on the motor planning part of their writing brain by lots of fun, frequent and not too boringly long practice. Don't think boot camp think interval training.
- Apps such as Number School (Letter School) are great for teaching the formations. Use a thick stylus as well as fingers.
- Some i pad apps have good early maths concepts and are designed for some fine motor manipulation skills without having to use a stylus such as:
  # Bugs and Numbers
  #Bugs and Buttons
  Counting Together
  Counting Bees
  Motion Math – Hungry Fish

Verbal prompts For Numbers

1. A straight line down for number one. Its lots of fun. (Starts at the top pulls down and stops)
2. Around and back on the railway track....Two Two.... (Pushes back one bump and a stick)
3. Around a tree, around a tree, that's how you make a number 3. (Pushes back one bump, two bumps)
4. Down and across and down once more, That's how you make a number 4 (Starts at the top pulls down and sideways. Put the wings on.)
5. Fat old five goes down and around, he puts on his hat when he goes to town. (Down then a big fat belly. Put on his hat).
6. Down to a loop. A six rolls a hoop. (Like a circle goes down, stops and then back into his belly button).
7. A line across and down from heaven that's how you make a number 7. (Pushes back and down)
8. Make an S but do not wait go back up and make number 8. (Starts like an s but closes up)
9. A balloon and a line make number 9 (a circle with a big stick)
10. Write a one and a zero with a pen and you have made a number 10. (A one and then a circle)