Parent's Corner

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Basic Numbers - Games and Activities for learning Family of Ten

When learning numbers and maths concepts students need to have good number sense. Number sense is an innate awareness of numbers, how to use them and how they are affected by mathematical operations. Students with good number sense can estimate, compare, rank, sequence, and see relationships between numbers. In order for students to become numerate, they need to be able to count accurately, remember key facts, reason logically and apply knowledge to develop new information.

Games to develop number sense

Students need to develop good number sense, knowing numbers follow a pattern and order. They need to develop an understanding that symbols, quantities and words have a correspondence, e.g. five dots are the same as the number five which is the same as the word five.

When working with students who have difficulties, information presented should be at the student's ability, only 3 or 4 facts, working for short periods of time (10 to 15 minutes). Several quality lessons are better than one long session. Progress is made when a good understanding has been reached of these 3 or 4 facts. New information can then be presented together with the mastered facts.

Game 1- Family Dice Game

Equipment: 4 to 10 dice

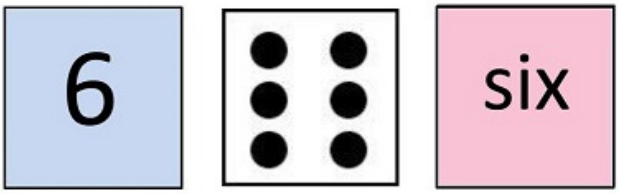
Use 4 to 10 dice to add up combinations of 10 (either pattern or number faces)

Option 1- Throw two dice and add the numbers on the faces. Continue throwing one dice at a time until the combined total of dice equals ten. Discard any dice that causes the total number to go over ten.

Option 2- Throw 4 to 10 dice at once and look for combinations of dice that add up to ten, e.g. Ten dice thrown together, groups made include: Two dice (5 + 5), Three dice (1 + 3 + 6), Four dice (2 + 1 + 3 + 4), One dice discarded.

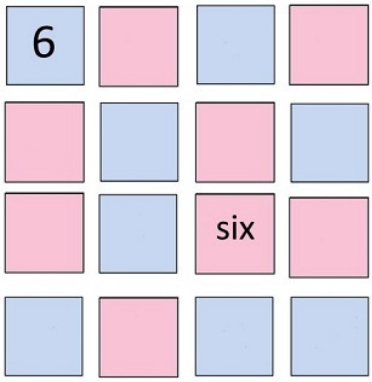
Game 2- Pattern Pairs
This game is a matching memory game, aimed at developing instant recognition of number facts by linking symbols, words and/or numbers.

Equipment- three sets of cards, each set a different colour.
Set 1 Number 1 – 10
Set 2 Pattern cards 1 – 10
Set 3 Word cards one – ten



Rules- Alternating between the three sets of cards select two sets of cards for each game. Using the two sets, place each card face down on a table in random order. Players select a card and read the number on the card aloud. They then choose another card, reading that number aloud. If the numbers match they keep the pair of cards. If there is no match the cards are turned back and placed in the same position.

The game finishes when all pairs are matched and the winner is the person with the most pairs.



Game 3- Big Idea- Equality
Equipment- Three paddle pop sticks and a selection of small objects.
Explain that 'equals' means 'the same as'. Two paddle pop sticks are laid on a table to represent an equal sign. Place several objects either side of the equal sign. Ask the student if the number of objects match on each side. If they do then the sides are equal. If the sides are different then place the other paddle pop stick across the equal sign to create unequal sign. Continue changing the quantities of objects on each side to continue the practice.

Game 4- Number lines

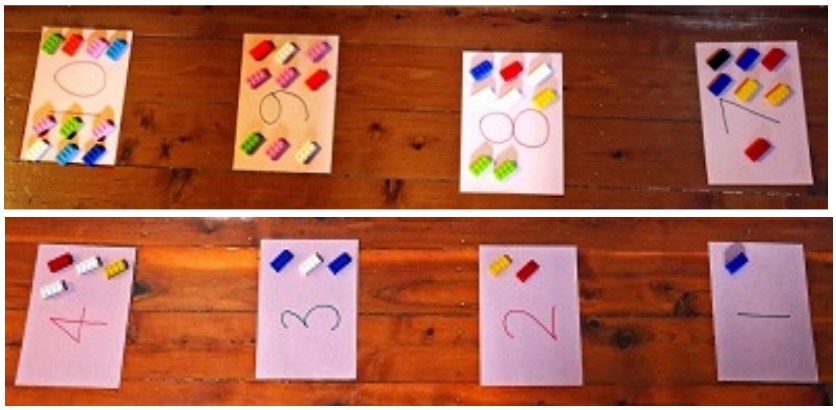
Students can have difficulties understanding the order of numbers; their relationships to one another. This activity allows the child to physically see and move to understand which numbers are close to one another or further away.

Equipment- On separate pieces of paper write the numbers 0 to 10. Objects are optional.

Place the sheets in a line along the floor. Ask the child to 'walk' the number line as they say the number. Discussion can relate to the relationship the numbers have with each other.

* Stand at '0' where is the number '10'? It is the furthest number away so it is the biggest number. Step through the number line to get to ten.
* Standing at '2' what number do I get if I add '4'?
* Standing at '6' what number do I get if I take '4' away?

Variations- Depending on the difficulties the student has -
Place objects matching the written number on the sheet so there is a visual representation of the number, the word e.g. 'ten' can be written below the number.
To help the child understand odd and even numbers write even number in one colour, odd numbers in another colour and zero in a third colour.



Game 5- Coat Hanger

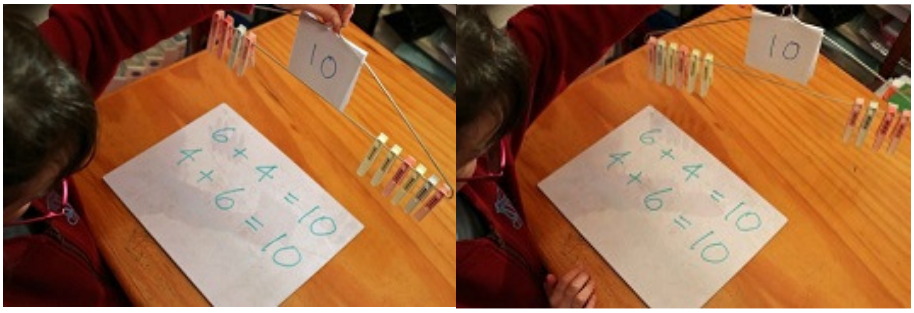
Equipment- A coat hanger, ten pegs and post-it notes.

This activity helps students gain an understanding of number relationships and trust that when two numbers are added together they will always give the same answer regardless of which order the numbers are placed.

Write the number ten on a post-it note and tape it to the middle of a coat hanger. Using ten pegs hang several pegs on one side of the hanger and hang the remaining pegs on the other side. Write the maths sum on a piece of paper, saying the numbers and signs as they are written. Turn the hanger around 180 degrees and note that the numbers have now changed but they still add up to ten. Continue changing the combination of pegs on each side of the hanger while writing, saying and turning the hanger.

Variations-

- The number on the post-it note can be changed to any other number with the number of pegs matching.
  e.g. Total number of pegs 8 and '8' written on the post-it note.
- Once addition is mastered, then this activity could be re-worded to make the maths equations a subtraction.
- e.g. 4 + 6 = 10 and 6 + 4 = 10 could become 10 – 6 = 4 and 10 – 4 = 6.



Game 6- Folding Cards

Equipment- A set of folded paper cards for the family of 10.
Cut cards based on the adjacent template (approximate size 4 x 9cm)
Write the family number at the top e.g.10. Write two numbers that add together to give 10 in the boxes below. Fold the lower flap so these two numbers can be covered.
The student holds the card with one number covered and states the other number required to equal 10.
Variations- Other family numbers can be used e.g. Family of '4'.as shown below.

Remember-

Make it, Say it, Draw it, Write it
Students will learn and make connections with maths concepts more easily if they are engaging several of their senses at the same time.
Make it- Use movement and concrete objects like counters, to physically work through the problem.
Say it- Say the numbers and maths signs while making it will link words and movement with visual images.
Draw it- Draw the number patterns as individual numbers and totals.
Write it- Write the numbers and maths signs.

References:
Emerson E and Babtie P (2013) *The Dyscalculia Assessment 2nd Edition*

Meeks L and Chin A (2013) *Mathematics Course Notes for Speld NSW Certificate Course for Teachers of Students with Specific Learning Difficulties*

Ants in the Apples *Numeracy Teaching Kit - 10 Family* SPELD NSW

Family of Ten Maths Pack

Sold by SPELD NSW
Contains instructions and practice activities for Family of Tens.

To order Maths Kits and for more info, go to our website –
http://www.speldnsw.org.au/images/uploads/Maths_Kits.pdf