

*Presented by Specialist teacher
and SEN advisor Claire Ashton*



YCAT Parent CPD

**How to support your
child with math's
difficulties at home**



Wednesday 24th April 2024

via zoom link emailed to SENCo's

1pm - 1.30pm

4pm - 4.30pm

$$f(x) = ax^2 + bx + c$$



β $\sqrt{9}$

$$y = 3x + 6$$

$$\frac{a}{\sqrt{b}}$$

$$\frac{1}{5} + \frac{3}{6}$$



$$\frac{2}{3} + \frac{4}{6}$$

MATH

$$Y = x^2 - \frac{384}{153} \frac{231}{231}$$

$$X + Y = 3$$

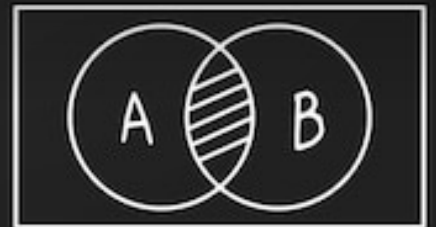
$$Y = \cos x - \sin x$$


$$Me = X + B \left[\frac{\frac{n}{2} - z}{g} \right]$$

ψ

$$\sin(-a) = -\sin a$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



designed by  freepik



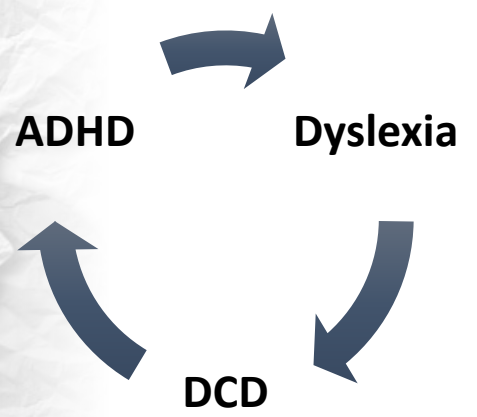


ADYS Specialist Ltd



www.adys.org

How maths difficulties can present in SPLDs



How do you know the difference between Dyscalculia and other maths difficulties?

Dyscalculia is a **specific and persistent difficulty in understanding numbers** which can lead to a diverse range of difficulties with mathematics. It will be **unexpected** in relation to **age, level of education and experience** and occurs across all ages and abilities.

Mathematics difficulties are best thought of as a **continuum**, not a distinct category, and they have **many causal factors**. **Dyscalculia falls at one end of the spectrum** and will be distinguishable from other mathematics issues due to the **severity of difficulties with number sense**, including subitising, symbolic and non-symbolic magnitude comparison, and ordering. It can occur singly but can also co-occur with other specific learning difficulties, mathematics anxiety and medical conditions.

SASC, BDA 2019

Subitising





8

5

Symbolic and Non Symbolic Magnitude

How to support maths difficulties: Number sense



Rounding Numbers
 5 or more, ↑
 let it soar.
 4 or less, ↓
 let it rest.

Name _____

make a 10 to add

Make a 10 to help you add.

$8 + 6 = 14$
 $7 + 5 = 12$
 $9 + 4 = 13$
 $6 + 7 = 13$
 $5 + 8 = 13$
 $4 + 9 = 13$

This was: Easy Just Right Hard



Estimate how many sticks there are...

Now count the sticks.
Was your estimate close?

base base

edge A cube has 12 edges.

face A cube has 6 square faces.

Drag the blue or black into the rectangles to make 10 partners. Start with 3 and 7. Write a story problem about the partners and the total. Make a fact family using the partners and the total.

Story Problem

There were 3 brown bunnies and 7 black bunnies. How many bunnies were there altogether?

Perry the Place Value Robot

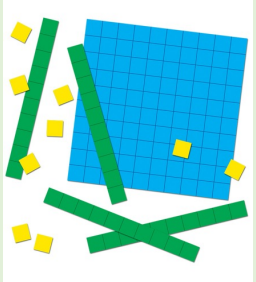
I can read and write numbers up to 1000.

Number Form: 386

Base 10 Form:

Expanded Form: $300 + 80 + 6$

Word Form: three hundred eighty-six

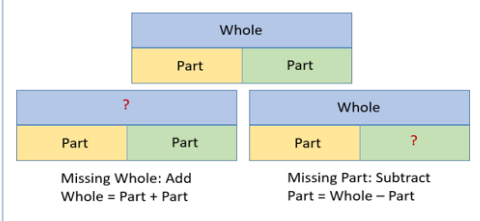


Billions			Millions			Thousands			Ones	.	Decimals						
Hundred billions	Ten billions	billions	Hundred millions	Ten millions	millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths	Ten thousandths	Hundred thousandths	millionths

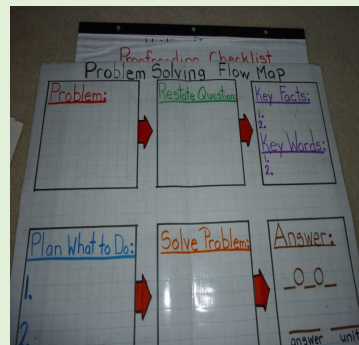
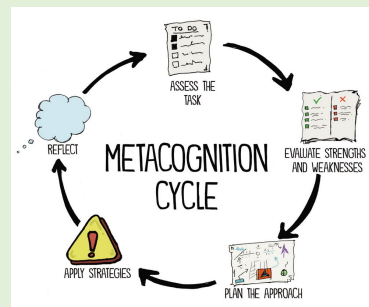
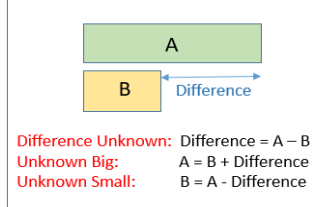
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Addition and Subtraction Models

Part-Part-Whole Model

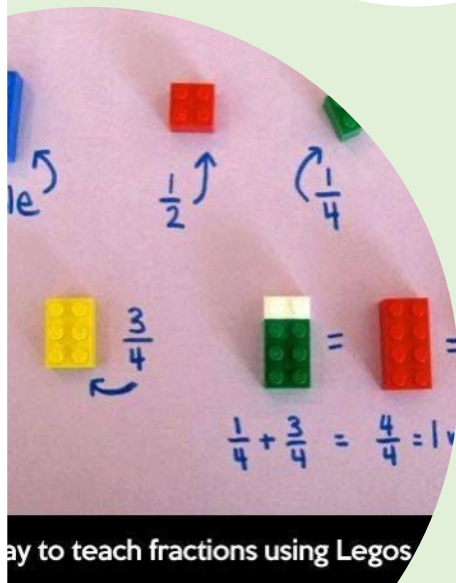


Comparison Model



How to support maths difficulties: Reasoning

highlighting text feels good. You can mention of people to a word or person to a whole sentence that spans multiple lines in such a way that lines are not affected.

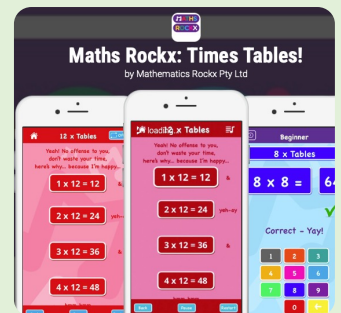


How to support maths difficulties: Memory



Games

- Maths Rockx app – create a playlist for your child to listen to
- Squeebles Number bonds app (cost) – great for everything
- Playing board games – great for concentration and dice patterns
- Bingo
- Rummikub for juniors
- Shut the box game



Make 10 game



Money

- Orchard toys – money match cafe
- Create a shop at home
- <https://www.topmarks.co.uk/maths-games/5-7-years/money> – they also have money games for 3-5 yr olds, 7 -11 yr olds and 11-14 yr olds
- Thinking about something they would like to buy and then working out what jobs they can do at home to earn the money or through tokens
- When out shopping compare prices together – get them to choose the cheapest
- Using coins build up piles to show the different amounts eg a pile of 10x 1ps next to 1x 10p coin and 2x 5p coins and 5x 2p coins



Time

- <https://ictgames.com/mobilePage/hickoryDickory/> - different levels
- <https://www.teachingtime.co.uk> – a range of games to play online – I like the I have.... Who has? Game
- Important to teach the concept of time – visual schedule of the day with times next to each
- Teach the vocabulary of time





I have... Who has?

Telling the Time

Work around the class to make a loop.
There are 3 rounds to complete.



Tell the time:

to the hour (o'clock)

to the hour (digital)

Time me



Begin



How to teach your child the time

https://www.youtube.com/watch?v=XJqbhP_glsk

Teach the hour hand separately to the minute hand – don't move onto the minute hand until the hour hand is secure

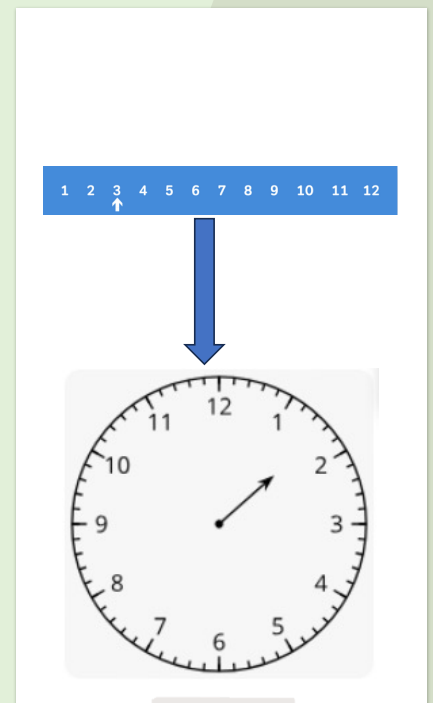
An analogue clock face is a special kind of number line – write numbers on post it notes and display horizontally

When you get to 12 and ask what time it is one hour later, explain that instead of going up to 13, we put the numbers in a circle and start back at 1

Then move your post its into a circle, in familiar clock face style with the arrow in the middle

Then include questions such as 'if it is 4 o'clock now, what time was it 2 hours earlier?' And 'I left home at 10 o'clock and got to the shops at 12 o'clock, how long did it take me?'

Go back to the number line to demonstrate half past and work through the steps again before moving the post its into a circle again



Teaching Time KS1

Teaching Time Year 1 (5 and 6 year olds)

- Pupils should be taught to tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
- Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.

Teaching Time Year 2 (6 and 7 year olds)

- Pupils should be taught to
 - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
 - know the number of minutes in an hour and the number of hours in a day.
- Pupils should become fluent in telling the time on analogue clocks and recording it.

Teaching Time KS2

Teaching Time Year 3 (7 and 8 year olds)

- Pupils should be taught to:
 - tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
 - estimate and read time with increasing accuracy to the nearest minute; record and
 - compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
- Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in year 4

Teaching Time Year 4 (8 and 9 year olds)

- Pupils should be taught to read, write and convert time between analogue and digital 12- and 24-hour clocks

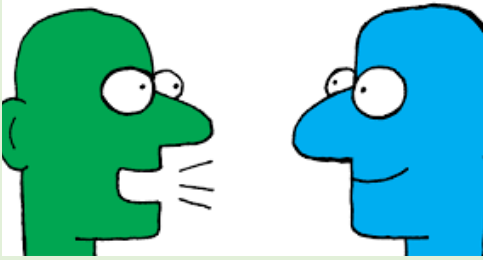
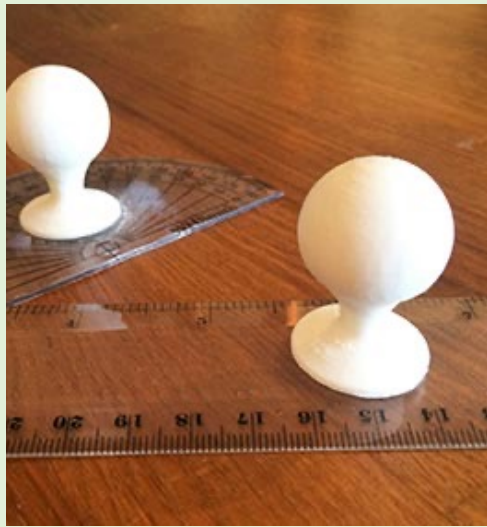
like his it me cat him ball can will we with jump hill old yes love his
 it we hill with jump can ball yes like with old will cat him ball jump

The Eye Level reading guide
 by Paula Strickland M.A.

me him old love can like it with hill ball will old yes love yes his me
 it him cat ball like old love will jump hill me with can his it old him
 cat love yes jump like yes it love like his we him cat will with him
 we love yes hill old jump me ball can me it old like yes hill ball cat
 we with his



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How to support maths difficulties:
 Visual/ Spatial



How to support Maths Anxiety



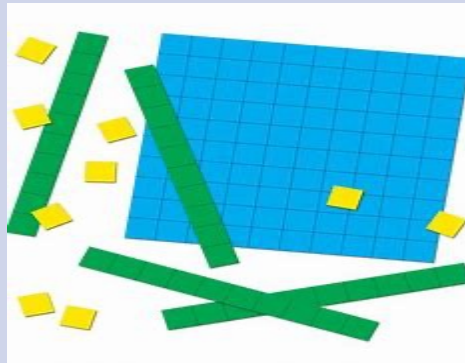
Concrete Manipulatives

Discrete Materials



Continuous Materials

<http://nlum.usu.edu/en/nav/vlibrary.html>



Abstract Models

