

Potten End Primary School

Maths at home

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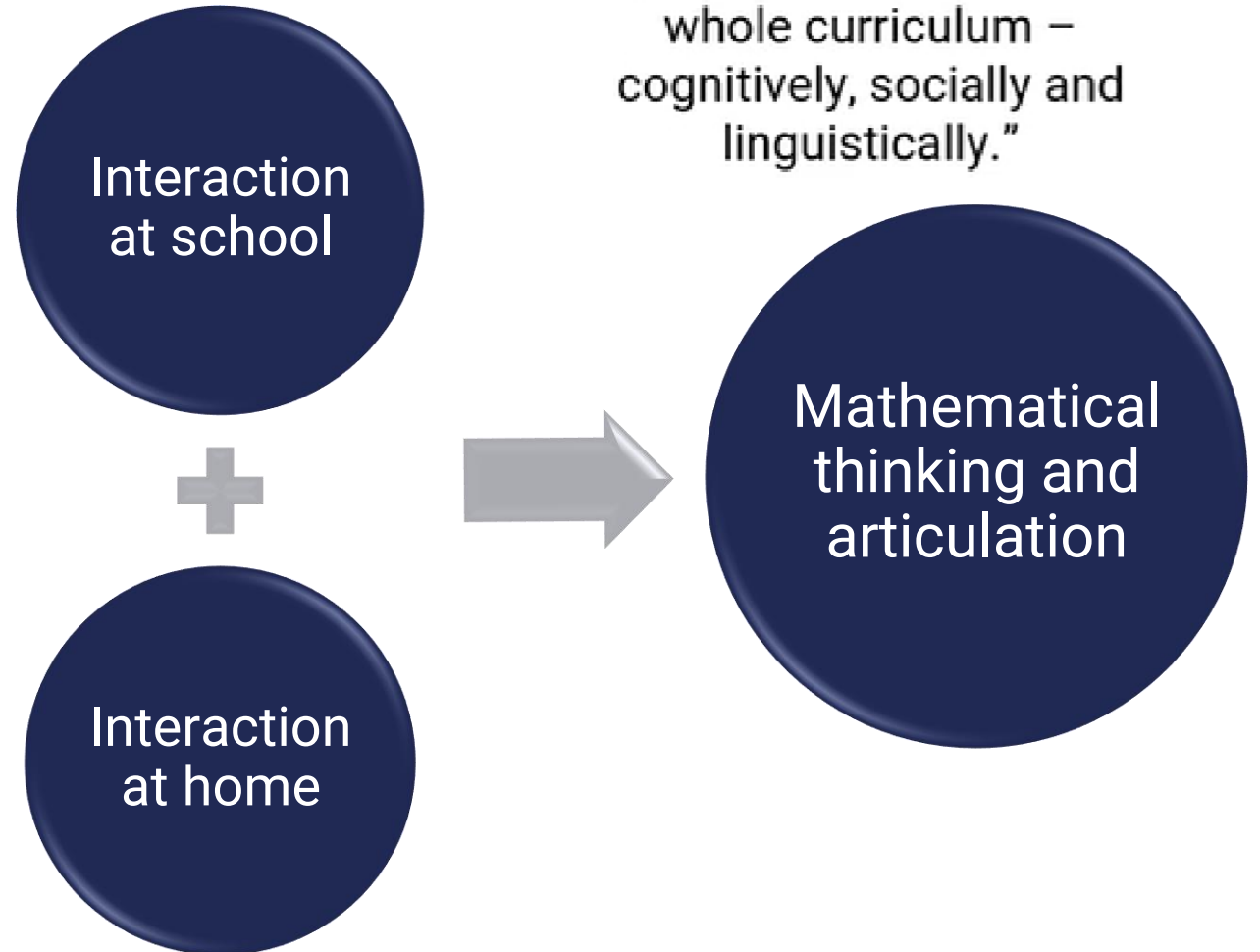
Maths Lead

Our aims

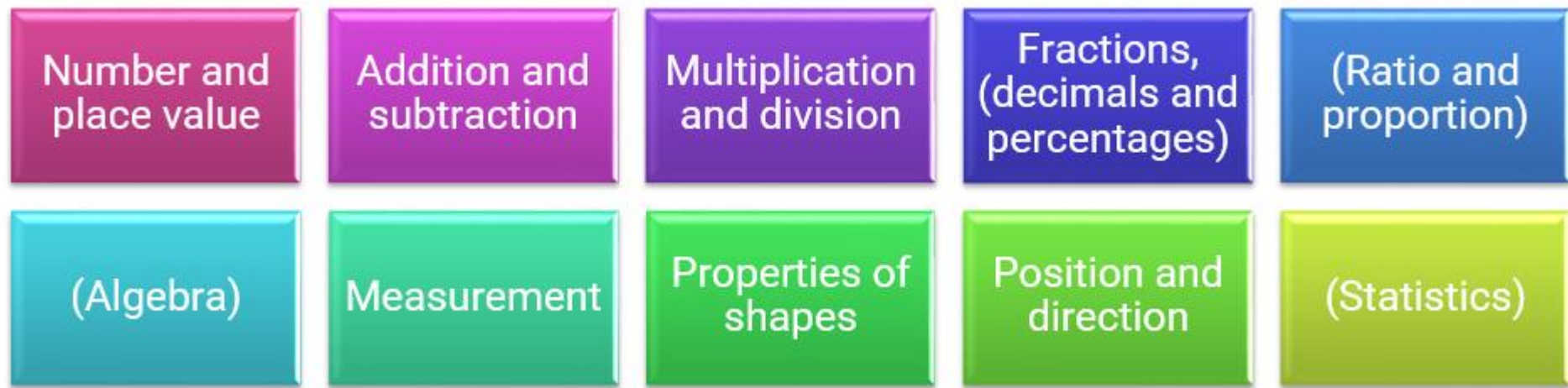
Why is parent partnership important?

It is important to focus on social interactions to develop maths skills at home.

The ways in which school and parents listen to and talk to children, can play a key role in developing their mathematical thinking.



“The national curriculum for mathematics reflects the importance of spoken language in pupils’ development across the whole curriculum – cognitively, socially and linguistically.”



Maths Curriculum

- Hertfordshire Essential maths is followed throughout the school.
- This a spiral curriculum which builds on learning from previous year groups.
- Each lesson will contain 'destination questions' which are targeted at children who are working at the expected level of development.
- Teachers adapt challenges 1, 2, 3 to support all children within the class.
- The focus in on 'mastery and depth' of each year groups objectives and not to move onto the next year group objectives.

So what is Mastery....?

- Teaching maths for mastery involves employing approaches that help pupils to develop a deep and secure knowledge and understanding of mathematics at each stage of their learning.
- By the end of every school year or Key Stage, pupils will have acquired a deeper understanding of the mathematical facts and concepts they've been exposed to, equipping them to move on confidently and securely to more advanced material.

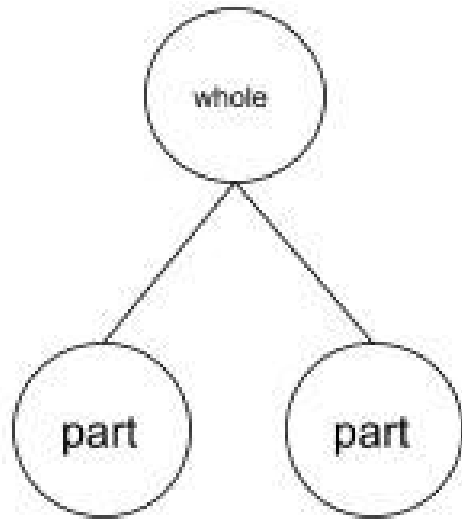


Pictorial

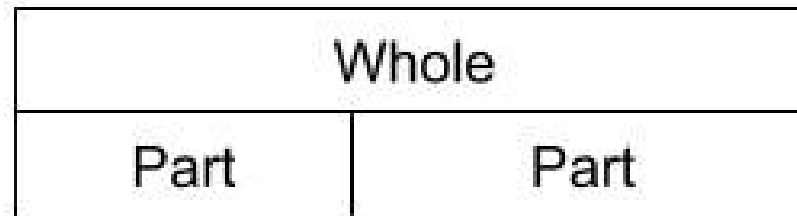
We use images to represent the part, whole model:

‘Susan had £46. She buys herself a new game. She has £27 left. How much was the game?’

‘Susan has 15 sweets. She gives 7 to her friend, how many are left?’



cherry diagram



Bar model

Abstract

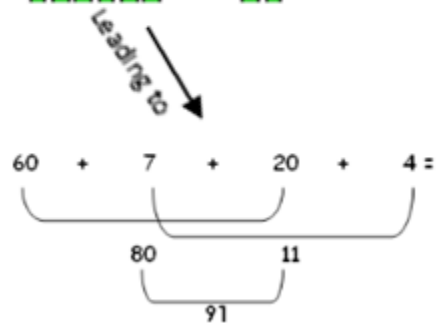
- We teach children written calculations in line with our School Calculation Policy, which is available on our website.

Expanded Vertical Method (optional)

Children are then introduced to the expanded vertical method to ensure that they make the link between using Base 10 equipment, partitioning and recording using this expanded vertical method.

Base 10 equipment:

$$67 + 24 = 91$$



Base 10 equipment:

$$91 - 67 = 24$$



$$\begin{array}{rcl}
 80 & 11 & \\
 90 & + & 1 \\
 - 60 & + & 7 \\
 \hline
 20 & + & 4
 \end{array}$$

Maths teaching and learning in school

- Daily maths lessons
- Adult-led learning (guided opportunities or small group work)
- Child-led learning (independent/paired work)
- Fluency sessions 2/3 times per week
- Times table fluency session 2 times per week
- Maths games
- Online platforms- Numbots, TT Rock Stars, maths.co.uk

Example linked to class learning, language and speaking frames

Example:



I have noticed that the digits used in this order give the number four hundred and seventy-two.

I know that if the 7 was the hundreds digit and the 2 was the tens digit, the number would be 724.

I know that the smallest number I could make using all the digits would be 247.

I know that I could make two numbers between 200 and 300 (247 and 274).

hundreds tens ones digit order smallest greatest between

'Your turn'

Your turn:



The numbers I can make using these digits are:

The **smallest** number I can make is:

The **greatest** number I can make is:

The numbers I can make that are **between** 550 and 650 are:

Progression using specific language



The numbers I can make using these digits are:

The numbers **less than** 750 that I can make are:

The numbers **greater than** 785 that I can make are:

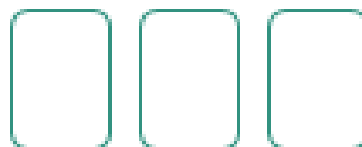
The numbers **between** 170 and 770 are:

Complete the sentences using a number you have made from the digits 1, 8 and 7.

183 > _____ _____ > 860 710 > _____ _____ > 717

Development with scaffolding for reasoning mathematically

Use these digit cards to build **3-digit** numbers.



Use the number you have created, to make the sentences true.

A number with 7 tens is _____.

The numbers with 8 hundreds and 4 ones are _____.

The numbers with 4 ones which are less than 400 are _____.

A number greater than 850 is _____.

A number less than 350 is _____.

A number between 480 and 490 is _____.

The smallest number which is greater than 700 is _____.

Add a sentence of your own with the answer.

Development with 'faded' scaffolding

4 3 8 7

Choose **six** of your **3-digit** numbers. Look at the range from smallest to greatest.

Choose your own start and end numbers for your number line and add your own benchmarks to help. Place them in the correct position on the number line below.



Noticing and talking about maths

I notice that ...
...is the same as ...
...is different to ...
It reminds me of ...
I think that ...
I know that ...

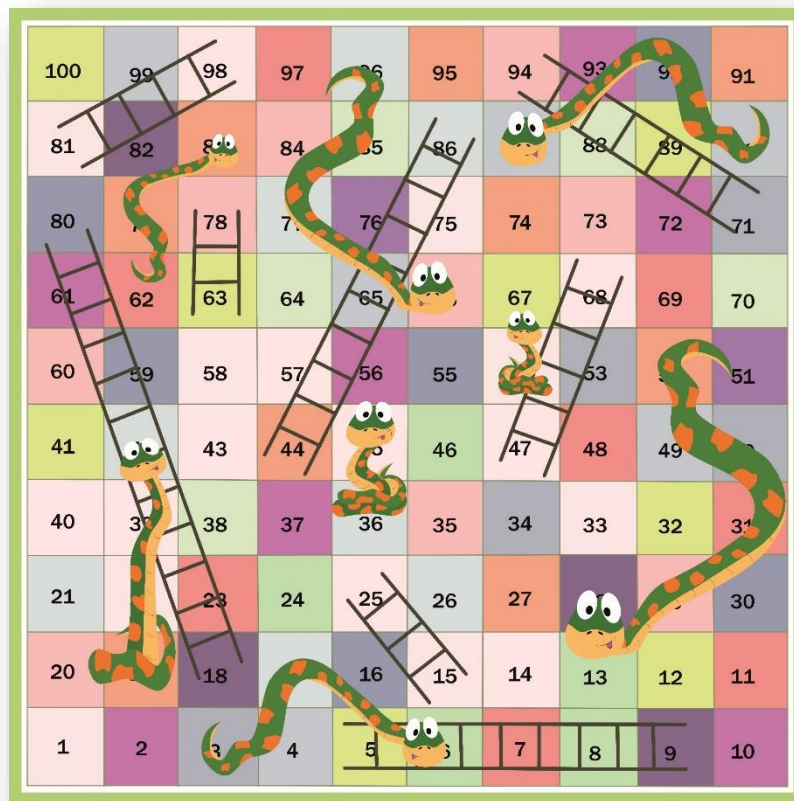
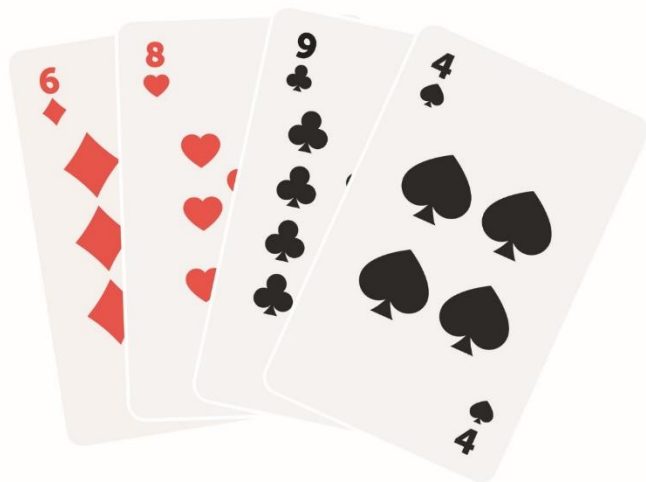
What do you notice?

What does that remind you of?

Its important to recognise that maths is not only about finding a single answer.

Describing, comparing, classification including sorting, looking for patterns and recognising groups, interpret numbers in context and recognising the value of numbers are key areas and can be so easily supported through talk.

Playing games



Try this game

<https://www.youtube.com/c/HertsforLearningESSENTIALmaths/videos>

You will need:

- Paper, pens, dice

How to play:

- Draw 4 tens frames
- Roll the dice and choose where to place your dots
- You can't split the number across the tens frame
- First to fill the tens frame wins that frame

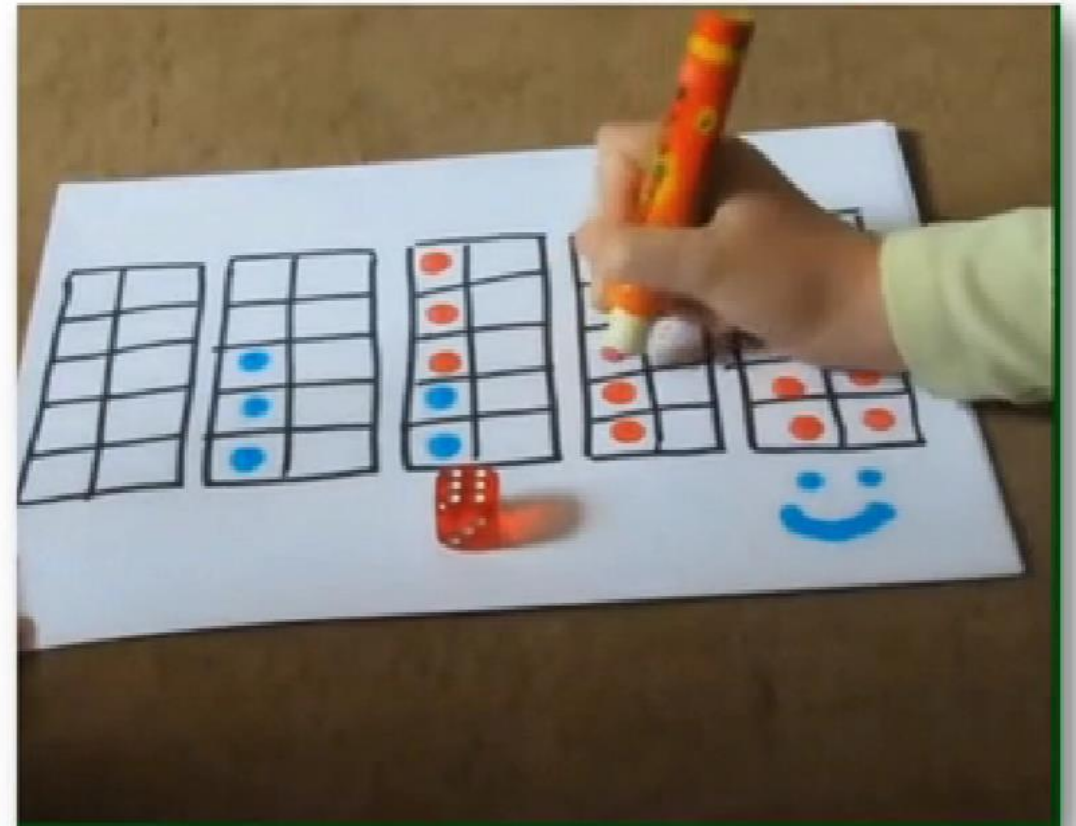
This game rehearses:

- Subitising, number recognition, pattern, number bonds,

Adaptations:

Taking away, 10p's to make a £1, tenths to make whole ones in the frames.

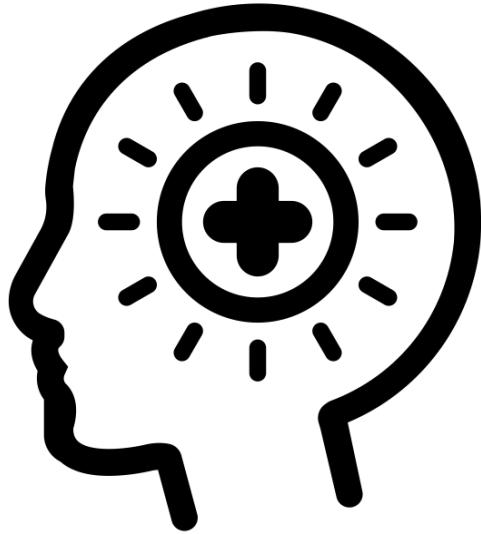
Games to play – Make 10



Maths online

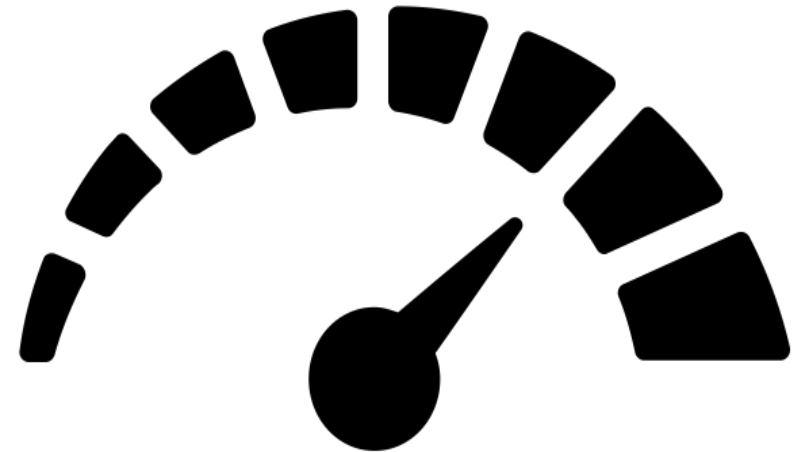
- Numbots
- TT Rock Stars
- Maths.co.uk (Year 5 and 6 only)
- <https://www.youtube.com/c/HertsforLearningESSENTIALmaths/videos>

Our role



Be positive

Everyone should be positive about maths
Negative attitudes towards maths stemming from our own schooling can impact our children
It is something that can be learnt rather than something we are born with or without



Value thought over speed

Recalling quickly doesn't mean better
Focus on slowing down and focus on how things are connected

Mathematical interactions at home

- Notice- everyday situations, independent play and games
- Clarify- before jumping in- they may be on a different line of enquiry
- Ask questions – open and closed
- Give time to think – at least 15 seconds to think about an answer
- Take time to listen – fascinating answers! Develop mathematical thinking over time.



A focus on

Times Tables

Times tables

Year 1:

- count in multiples of twos, fives and tens
- solve simple multiplication and division using objects, pictures and arrays with support

Year 2:

- count in steps of 2, 3, 5 and 10
- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables

Year 3:

- count from 0 in multiples of 4, 8, 50 and 100
- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

Year 4:

- count in multiples of 6, 7, 9, 25 and 1000
- recall multiplication and division facts for multiplication tables up to 12×12

Why the Y4 check?

The multiplication check is set by the government to take place in June in the summer term of year 4.

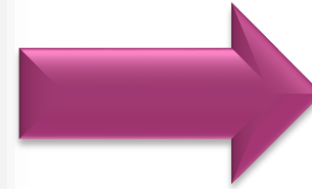
The children have 6 seconds per question.

Multiplication tables check

- The MTC is an online assessment, designed to determine whether pupils are able to fluently recall their multiplication tables up to 12, through a set of 25 timed questions. It will identify pupils who have not yet mastered this mathematical skill so schools can give them additional support.
- A range of access arrangements will be available to support pupils with particular needs.

Learning a times table

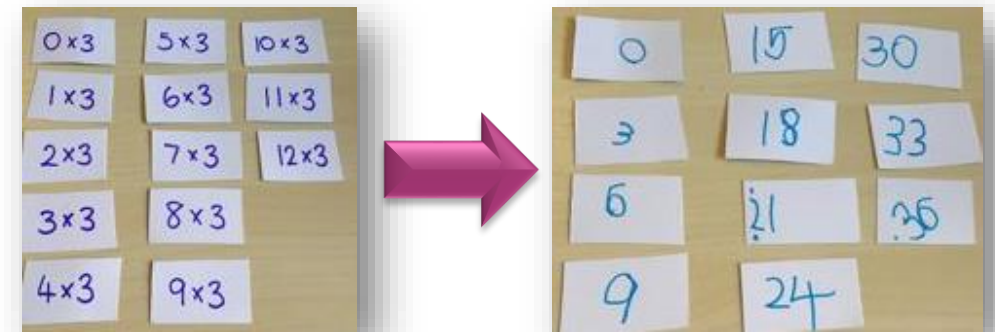
$1 \times 3 = 3$
 $2 \times 3 = 6$
 $3 \times 3 = 9$
 $4 \times 3 = 12$
 $5 \times 3 = 15$
 $6 \times 3 = 18$
 $7 \times 3 = 21$
 $8 \times 3 = 24$
 $9 \times 3 = 27$
 $10 \times 3 = 30$
 $11 \times 3 = 33$
 $12 \times 3 = 36$



Games with the cards

On your own or with an adult...

- In order first, with the list still visible
- In order, without the list
- Starting with the product, give the fact
- Out of order – choose 'easiest' first
- Out of order – less choice of order
- Speed round



Three in a row

x0	x1	x2	x3	x4	x5	x6	x7	x8	x9
0			15	20	25				

- Different coloured pencil each
- 0-9 digit cards



Write the answer in the correct square.

The winner is the person who gets 3 in a row first.

20	25			40
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Multiplication Duel

https://www.youtube.com/watch?v=UNTh_6rVsKo&t=22s

You will need:

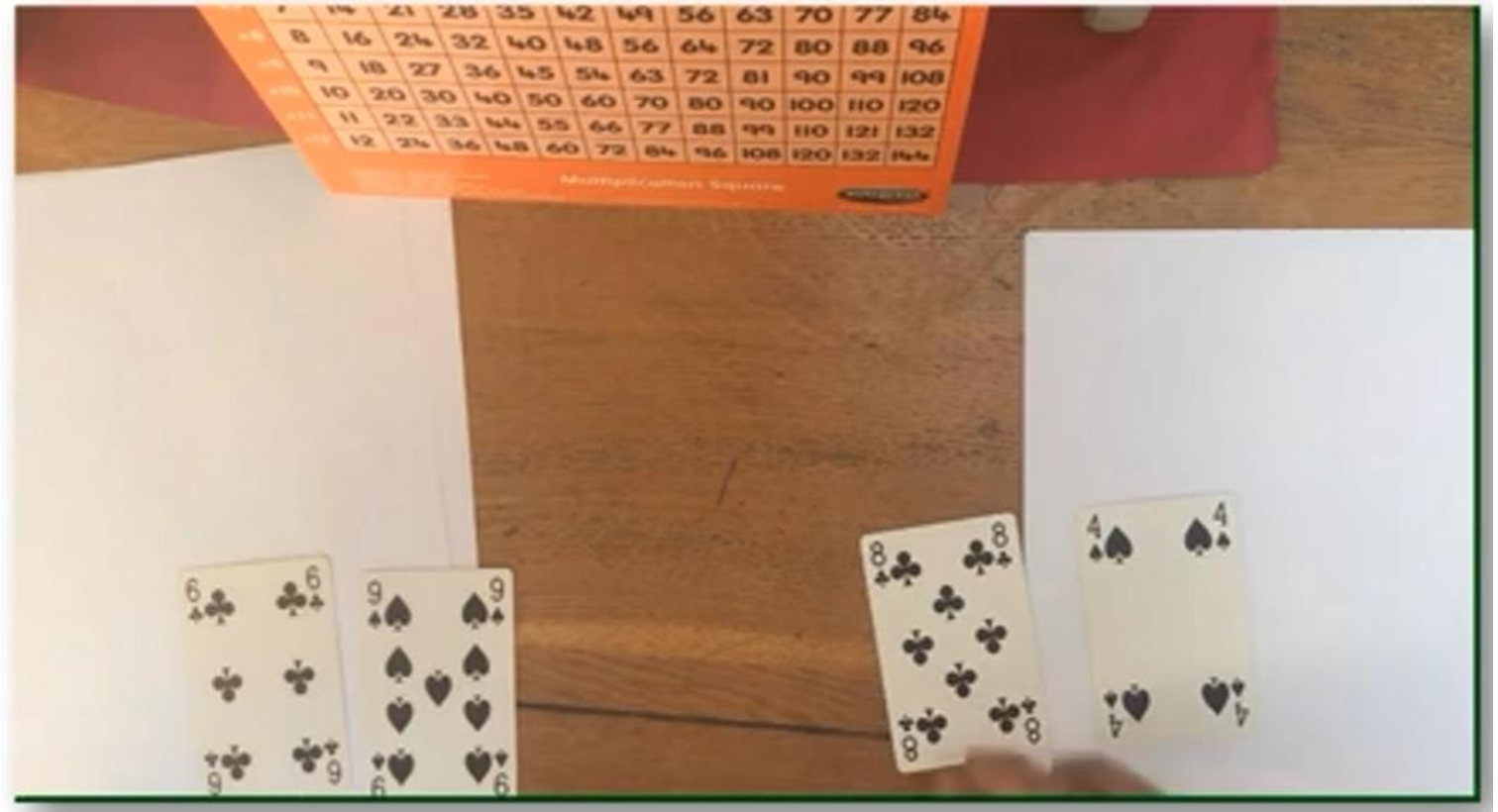
- Paper, pens, pack of cards

How to play:

- Turn over two cards each, highest value wins a point

This game rehearses:

- Multiplication tables





Thank you

References

- Department for Education (2021) *Statutory framework for the early years foundation stage: setting the standards for learning, development and care for children from birth to five*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974907/EYFS_framework_-_March_2021.pdf (Accessed: 09 August 2021)
- Department for Education (2014) *The national curriculum in England: mathematics programmes of study: key stages 1 and 2*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf (Accessed: 04 August 2021)