MULTIPLICATION FACTS

GENERAL INFORMATION

Background
According to the Australian Curriculum by the end of Year 4 students should be able to recall their multiplication facts up to 10 x 10. This is often an area of much concern for students, parents and teachers. The following materials have been developed to support students with this integral skill.

Australian Curriculum Link(s):
- Recall multiplication facts of two, three, five and ten and related division facts (ACMNA056)
- Recall multiplication facts up to 10 × 10 and related division facts (ACMNA075)

Year Level(s): 3 – 5

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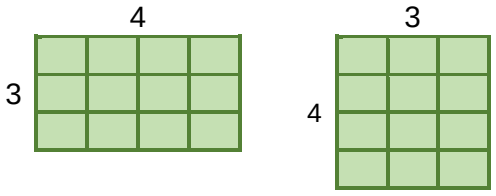
Details:
- Count by twos, threes, fives or tens using skip counting then extend to other numbers
- Use mental strategies to recall multiplication facts for multiples of two, three, five and ten then extend to other numbers
- Relate 'doubling' to multiplication facts for multiples of two, e.g. 'Double three is six'
- Recognise and use the symbols for multiplied by (×), divided by (÷) and equals (=)
- Model and apply the commutative property of multiplication, e.g. 5 × 8 = 8 × 5

POSSIBLE ACTIVITIES

Getting started
Initially, the idea of recalling all 100 multiplication facts can be a seemingly daunting prospect for students. The key, like many things in mathematics, is to focus on what the students do know, not what the students have difficulty recalling. It is important to remember that multiplication is commutative, e.g. 3 x 4 = 4 x 3. This means that we do not need to learn 100 facts, but only 55 (45 commutative facts plus the 10 doubles). At schools, commutativity is often referred to as turn around facts, flip facts or reverse facts. This relationship between these facts can be modelled using an array.

For example:

Show that 3 x 4 = 4 x 3



By Year 3, many students will be familiar with their ones and tens facts. This leaves only another 36 facts to learn. The use a 10 x 10 multiplication grid may assist students to keep track of what facts they are able to confidently recall.

To learn more about the possible sequence for learning the multiplication facts and to access a multiplication grid, check out our AMSI Schools Multiplication Strategies:
https://calculate.org.au/2020/02/19/multiplication-strategies/

Questions

- What facts do you know?
- What facts are you less confident with?
- What facts do you feel you still need to practice?
- What about turn around facts?
- How can we show the relationship between turn around facts?
- How can we partition numbers? e.g. 7 = 5 + 2
- How can we use partitioning to help us calculate less familiar facts? e.g. 7 x 8 = 5 x 8 + 2 x 8

Games

The following games may help students to practise their skip counting skills and knowledge of the number sequence:

- Number Trails: https://calculate.org.au/2020/03/04/number-trails-2/
- Pass the Count: https://calculate.org.au/2018/09/26/pass-the-count/
- Whisper, Whisper, Loud: https://calculate.org.au/2020/03/04/whisper-whisper-loud/

Once students are more familiar with their facts, the following games may assist students to consolidate their learning:

- MULTO (Multiplication Bingo): https://calculate.org.au/2020/04/20/multo-multiplication-bingo/
- Multiplication Toss (Area Dice Game): https://calculate.org.au/2020/04/20/multiplication-toss-area-dice-game/

Additional Resources

The Math Learning Center has an interactive tool called *Partial Product Finder* that will assist students to develop their ability to represent and understand arrays and relationship between different numbers.
https://apps.mathlearningcenter.org/partial-product-finder/

Top Marks *Hit the Button* game allows students to practice their multiplication facts, doubles, halves, related division facts and square numbers. Students can select their difficulty level and the focus is on improving your own score.
https://www.topmarks.co.uk/maths-games/hit-the-button

Toy Theater has several engaging games related to multiplication.
https://toytheater.com/category/math-games/multiplication/

Listen to our AMSI Schools Multiplication Matters MathsTalk podcasts**:** https://calculate.org.au/mathstalk-podcast/

FURTHER INFORMATION

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