

Mental Routines

If I know ..., then I also know ...

Eg

If I know **10 x 5 is 50** then ...

I also know **9 x 5, 11 x 5, 5 x 5, 10 x 50 10 x 0.5** and so on.

Explain why you know. Show how each calculation is related to the other.

I can see...

Eg **12 x 18**, I can see...

$$2 \times 6 \times 18$$

$$2 \times 6 \times 9 \times 2$$

$$4 \times 6 \times 9$$

$$4 \times 3 \times 2 \times 9$$

4 x 3 x 2 x 3 x 3 and so on

Are some of the calculations above easier to calculate than the original? Explain

That's Easy!

Think of calculation that looks difficult but really is easy to do in your head. Explain why the calculation looks difficult but why really it is easy.

Eg 3 x 2 x 7 x 5 x 5 x 2

That looks hard because there are so many numbers.

Really it is easy because when you multiply it does matter what order you do the multiplying so the question could be changed to look like this 2 x 5 (which is 10) multiplied by 2 x 5 or 10, 10 x 10 is 100. This only leaves the 3 x 7 part which is 21 and this is multiplied by 100 to produce an answer of 2100.

Take it Easy

If you had one wish and could change one number in the following question which one would you change? Explain why.

$$17 \times 9$$

I would change the nine to ten because it makes it much easier to multiply.
How could you use 17×10 to help calculate 17×9 ?

There are several formats contained in the publication “Think Mathematically” such as: ‘**Today’s Number Is**’ and ‘**How Did you Do it?**’ that also encourage children to explore and discuss mental strategies.

The ‘**Today’s Number Is**’ activity essentially asks children to list all they know about a particular number. After children become familiar with the format of this type of activity the teacher can encourage children along particular paths.

The ‘**How Did you Do It**’ activity involves presenting a calculation to be performed mentally and then asking the children to explain how they went about solving it.

A variation on the ‘How Did You do It?’ theme used in the following activity.

How would you do it?

- In your head
- on paper or
- with a calculator.

A question is presented and each child decides the method they would most be inclined to use to solve it. Children are then asked to explain why they chose a particular method.

Another approach involves asking children to list a calculation they would perform in the head, on paper or with a calculator and to explain why.

Where can I find out more?

I recommend reading

McIntosh, A., DeNardi, E., and Swan, P. (1994). *Think mathematically: How to teach mental maths in the primary classroom*. Melbourne: Longman Cheshire