

Addition Prior Test: Questions 1 and 2

Objective: I have mental strategies to add sets of numbers together.

NC NASMD4: I can perform mental calculations.

Teacher Input Ideas:

Refer to question 1 and 2 in the prior assessment. Discuss with the children that they may have answered the question correctly however they used a written method. Discuss with the children when is appropriate to use a written strategy and when we might need to work things out mentally. Pose the question: Why do we need to learn mental methods?

Place the following sums on the board and encourage children to work these out mentally.

$12 + 50 + 8$

$78 + 30 + 2$

$80 + 45 + 80$

$40 + 100 + 99$

$748 + 301$

Discuss that some children may still need to make jottings but a formal method will not be needed. When the child has an answer, ask them to place their hand on their head and then try the next question. How quickly did they answer them? Discuss how the children attempted these questions. You will find that children will have worked these out differently so allow time for children to show and share ideas with other children so that efficient methods can be selected in the lesson.

Model using number bonds, changing the order of the numbers, rounding to the nearest 10/100, partitioning and using relationships such as doubles or near doubles. Encourage the children to notice that some methods are more efficient than others dependent on the sum.

Practice Activities

Purple Practice: Most suited for children that made errors in **Question 1 and 2 of the Addition Prior Assessment Task** or relied on a written strategy.

The questions in this activity are grouped to help children explore a variety of mental methods they could use. Such as using number bonds, partitioning, doubling and rounding. However, encourage children to share an alternative way if more efficient.

Green Practice: Most suited for children that rely on written methods and need to further explore mental strategies. This activity requires the children to decide which method would be best to use and select efficient strategies. Encourage children to talk about their choice of strategies with other children.

Yellow Practice Most suited for children who demonstrated a **good understanding** in **Question 1 and 2** in the Prior Assessment and use a variety of strategies dependent on the calculation they face.

This activity provides the children with the opportunity to apply mental addition strategies including adding decimals.

Mastery

This activity provides the opportunity for the children to reason their understanding of using the Commutative Law to help with addition and multiplication. Encourage children to support their explanation with examples of sums that show changing the order of an addition or multiplication can be efficient especially for mental methods.

Answers: encourage children to talk about their answers and share the different mental strategies that they have used.

Purple

- a) 2032
- b) 60
- c) 10258
- d) 780
- e) 989
- f) 185
- g) 3017
- h) 7900
- i) 32
- j) 691
- k) 109
- l) 53
- m) 920
- n) 170
- o) 9800
- p) 499
- q) 866
- r) 7301
- s) 87
- t) 8000

Green

- a) 2048
- b) 280
- c) 406
- d) 74
- e) 780
- f) 749
- g) 1100
- h) 554
- i) 2740
- j) 3300
- k) 920
- l) 87
- m) 10258
- n) 7900
- o) 866

Yellow

- a) 8
- b) 31
- c) 19.5
- d) 5.97
- e) 7.12
- f) 20
- g) 18.98
- h) 10,230
- i) 300
- j) 854
- k) 22.2
- l) 30.75

Mastery

You are looking for the children to be able to explain that commutative means that the sum can be done in any order (to move around) and that this helps as numbers could be rearranged to help recognise patterns such as number bonds and doubles etc.

Children should further explain by giving examples of addition and multiplication which support the point of view.

Children should also show understanding that the Commutative Law cannot be applied to subtraction or division and they may show examples of these calculations.

Lo: I can use mental strategies to add numbers together.

Work out the answers to these sums using mental methods to help you.

Number bonds

- a) $200 + 32 + 1800 =$
- b) $35 + 12 + 5 + 8 =$
- c) $3000 + 58 + 7000 + 200 =$
- d) $672 + 90 + 8 + 10 =$
- e) $789 + 90 + 110 =$

Doubling

- f) $80 + 25 + 80 =$
- g) $1500 + 12 + 5 + 1500 =$
- h) $3000 + 4000 + 900 =$
- i) $8 + 16 + 8 =$
- j) $20 + 21 + 650 =$

Partitioning

- k) $57 + 31 + 21 =$
- l) $35 + 12 + 6 =$
- m) $450 + 270 + 200 =$
- n) $89 + 30 + 51 =$
- o) $4500 + 2200 + 3100 =$

Rounding

- p) $199 + 300 =$
- q) $499 + 367 =$
- r) $101 + 7000 + 200 =$
- s) $76 + 9 + 2 =$
- t) $2900 + 3000 + 2100 =$

Work out the answers to these sums using mental methods to help you.

a) $200 + 32 + 1800 + 16 =$

b) $35 + 125 + 70 + 50 =$

c) $150 + 50 + 56 + 150 =$

d) $32 + 17 + 25 =$

e) $672 + 90 + 8 + 10 =$

f) $299 + 350 + 100 =$

g) $789 + 90 + 110 + 111 =$

h) $101 + 453 =$

i) $567 + 1200 + 173 + 800 =$

j) $1500 + 300 + 1500 =$

k) $450 + 270 + 200 =$

l) $76 + 9 + 2 =$

m) $3000 + 58 + 7000 + 200 =$

n) $3000 + 4000 + 900 =$

o) $499 + 367 =$

Strategies:

Rounding
Partitioning
Number bonds
Doubling

Work out the answer to the following sums using mental strategies.

a) $0.2 + 1 + 1.8 + 5 =$

b) $4 + 12.5 + 6.5 + 8 =$

c) $6.7 + 8.5 + 4 + 0.3 =$

d) $1.99 + 1.99 + 1.99 =$

e) $1.98 + 2.12 + 3.02 =$

f) $6.5 + 7 + 6.5 =$

g) $12.99 + 5.99 =$

h) $9082 + 1000 + 28 + 120 =$

i) $78.9 + 90 + 110 + 21.1 =$

j) $201 + 352 + 301 =$

k) $5.01 + 5.01 + 6 + 6 =$

l) $2.13 + 25.50 + 3.12 =$

Strategies:

Rounding

Partitioning

Number bonds

Doubling

Discuss with a partner how you answered each question. Did you use the same methods? Which method was the most efficient to use for each question? Have you learnt a new method today that has helped you?

Mastery

Lo: I reason and explain using examples to support point of view.

Ben believes that:

When working out addition and multiplication calculations mentally the commutative law can really help to work out a sum quickly.

Explain what Ben means here. Can you give examples to help you to explain? When can you **not** use the commutative law?