

Counting On (1, 2, 3), Counting back (3, 2, 1)



- Count on or back by no more than three.
- If you count by more than three, you need a better strategy.
- Count the jumps, not the numbers.
- Visualise a number line.
- Always start from the larger number.
- Choose a number and practice counting on and back.

Example

$2 + 8$ (counting 9, 10)
 $7 - 3$ (counting 6, 5, 4)

Near Doubles



- A near double number sits between two double numbers.
- It is one more than the double number below it, and one more than the double number above it.
- The first four near double numbers are 3, 5, 7 and 9.
- Near double fact families can be used for solving basic addition and subtraction.
- Can you make fact families for each of the near double numbers?

Images created using free virtual manipulatives by Amplify are available at Polypad.com

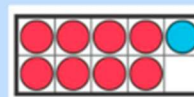
Doubles



- A double number is the result of adding a number to itself.
- The first five double numbers are 2, 4, 6, 8 and 10.
- For each double number, there is a fact family. Fact families can be used for solving basic addition and subtraction.
- Can you make fact families for each of the double numbers?

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Doubles + 1



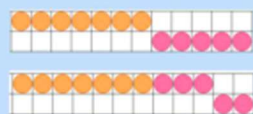
$$5 + 6 = 5 + 5 + 1 = 11$$

- When adding two consecutive numbers, adjust one number to make a double and then add one more.
- What other doubles + 1 numbers can you make?

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Bridging Forward Through 10

$$7 + 5 =$$

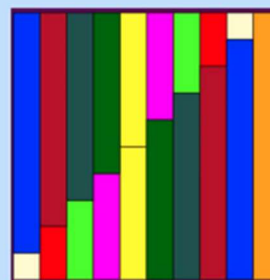


$$7 + 5 = 10 + 2 = 12$$

- Bridging through 10 is a useful addition strategy because 10 is an easy number to work with.
- Bridging through 10 involves adjusting numbers in a problem to create a sum of 10. This simplifies the calculation.

Images created using free virtual manipulatives available at mathslearningcenter.org and by Amplify are available at Polypad.com.

Number Bonds of 10



- Number bonds of 10 are two numbers that add to make 10.
- If you know your number bonds of 10, then you know lots of useful addition and subtraction facts.

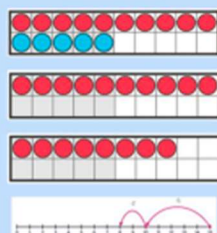
Example

$$1 + 9 = 10, 9 + 1 = 10, 10 - 1 = 9, 10 - 9 = 1$$

Images created using free virtual manipulatives available at Mathabot.com

Bridging Back Through 10

$$15 - 7 =$$



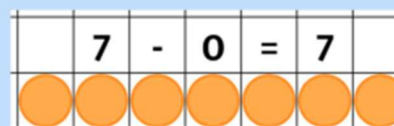
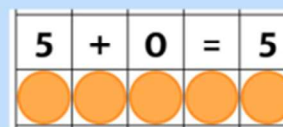
$$15 - 7 = (15 - 5) - 2 = 10 - 2 = 8$$

$$5 \quad 2$$

- Bridging back through 10 is a useful subtraction strategy because 10 is an easy number to work with.
- It involves subtracting to make 10 and then taking away whatever is left over.

Images created using free virtual manipulatives available at mathslearningcenter.org

Add / Subtract Zero



- When you add or subtract zero (0) to any number, the number does not change. It keeps the same value.
- Can you practice adding and subtracting zero with other numbers?

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Shopkeeper's Addition

$$15 - 9 =$$

What do I need to add to nine to get 15?
 $9 + ? = 15$



I add one to get to 10, then I add five more.



$$9 + 6 = 15, \text{ or} \\ 15 - 9 = 6$$

- **Shopkeeper's addition** is a mental math technique used to calculate change.
- Instead of subtracting the purchase amount from the customer's money, the shopkeeper would "add up" the purchase amount to the amount tendered.
- This method can be used to solve subtraction calculations by turning them into missing number addition problems.

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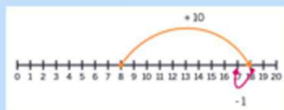
Add 9

$$8 + 9$$

Instead of adding nine, I add 10.



I added one too many, so I need to adjust my answer by subtracting one.



$$8 + 9 = (8 + 10) - 1 = 18 - 1 = 17$$

- Nine can be a difficult number to add, but if you use 10 to help, nine becomes much easier to add.

Images created using free virtual manipulatives by Amplify are available at Polypad.com.

Subtract 9

$$18 - 9$$



Instead of subtracting nine, I subtract 10



I subtracted one too many, so I need to adjust my answer by adding one.



$$18 - 9 = (18 - 10) + 1 = 8 + 1 = 9$$

- Nine can be a difficult number to subtract, but if you use 10 to help, nine becomes much easier to take away.

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