St Joseph's Numeracy Parent Workshop

At Home Practise

- Encourage students to solve problems mentally as their **first** resort. Use jottings only if necessary.
- Encourage students to develop strategies for working out facts before developing recall. This will help them make generalisations about facts and extend the strategy to include larger numbers.
- Demonstrate ways of adjusting numbers to make them more manageable. Sensible adjustments include:
  - rounding e.g. for 39 x 4, round to 40 x 4, then take 4
  - adding to one number and subtracting from another e.g. 27 + 34 = 30 + 31
  - doubling and halving e.g. 15 x 4 = 30 x 2
- Use concrete materials, hundred boards and number lines to help students make connections and identify patterns.
- When students are solving subtraction facts, remind them to use the addition fact to help them find the answer.
  E.g. for 9 – 6, students think '6 + □ = 9'
- When students are solving division facts, remind them to use the multiplication fact to help them find the answer.
  E.g. for 9 ÷ 3, students think '3 x □ = 9'
- Discuss whether answers will be bigger or smaller than the number students start with.
- Say or write random facts and ask students to explain which strategy they would use to solve them. There is often more than one strategy.
  E.g. 9 + 3 could be solved using the count on, make to 10, near 10 or adding 9 strategy; students may even have a self-generated strategy
- Write the (count on addition) facts in order (e.g. 0 + 3, 1 + 3, 2 + 3, 3 + 3, 4 + 3) and look for facts that are already known or ones that can be solved using a different strategy.
  E.g. 2 + 3 is a count on fact and a double + 1 fact
- Make up problems that involve basic facts. Ask students to solve the problems and explain the strategy they used.
- Give an answer and ask students to say a fact.
- Throw two 10-sided dice (concrete or onscreen). Ask students to add, subtract or multiply the numbers rolled and explain the strategy they used.
- Place beads in zip-lock bags. Hold up two bags and discuss which strategy could be used to add them.
- Use dominoes to represent count on 0, 1, 2 and 3, rainbow 10, doubles and doubles + 1 addition facts.
- Jump along a number line, starting at the larger number and jumping forward the smaller number. A long rope can be knotted at even intervals to make a portable number line, or numbers can be attached to the rope by pegs or a chalk number line drawn on paving.
- Show a fact using counters. Say the fact, then say or show the next fact in the sequence.
  E.g. show 3 rows of 4; students say *3 x 4 is 12* and *4 x 4 is 16*

• Highlight a random number on a hundred board and ask students to tell you a fact about the number.
  e.g. 10 is: 10 + 0, 9 + 1, double 5, 5 x 2, and 13 – 3, half of 20

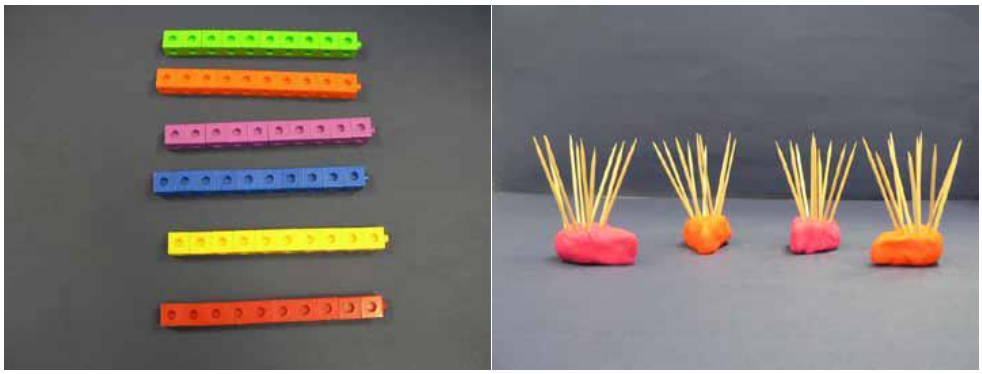
• Use a number track, number line or ruler to find the answers.
  e.g. for 5 + 2, start at 5 and count on 2; for double 6, jump 6 then jump 6 more; for 10 – 7, start at 7 and count up 10; for 3 x 4, make 3 jumps of 4

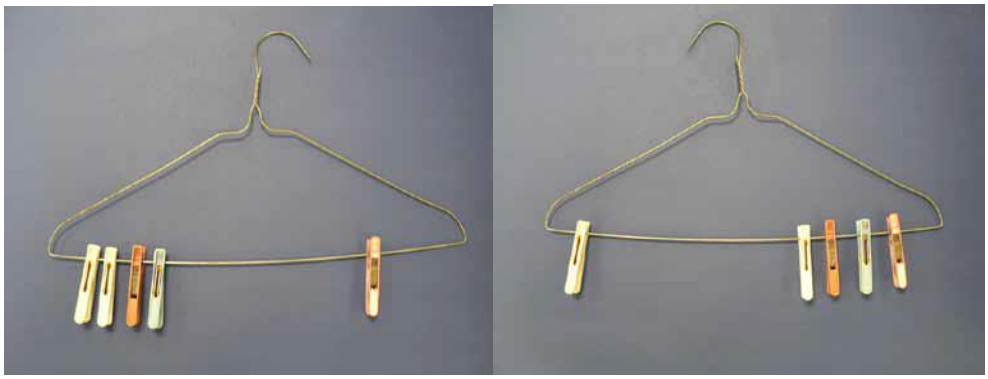
• Place concrete materials on either side of a set of balance scales to show a fact.
  e.g. 3 lots of 3 on one side and 9 on the other; 3 blue cubes and 2 red cubes on one side, and 5 yellow on the other

Extension tips

Many of the tips above can also be used to practise extensions of basic facts. Other ideas:

• Use bundling material to represent addition of multiples of 10.





• Represent addition facts on a number line to 100 (or 1 000 in Year 3).

• Use a hundred board to count in multiples of 10 (in rows).

At Home Maths Games

The games described below can be used for practising addition, subtraction, multiplication and division facts.

Decide which strategies or facts are being practised before the game begins and provide a suitable range of answers or resources.

Each game is suitable for two or more players.

Throw the dice

Find or make two dice showing numbers up to 10. Throw both dice and decide which strategy would be best for adding, subtracting or multiplying the two numbers. Score one point for each correct answer.

Suggested resource: Learning object, Double dice

Bingo

Ask students to write six numbers within an appropriate range. Say a fact. Players cross out the answer to that fact. The first player to cross out all six numbers is the winner.

Beat the calculator

Work in pairs. One player uses a calculator and the other uses mental computation to answer each fact. Partners compete to answer the fact first.

Card game

Remove the picture cards from a deck of playing cards. Place the remaining cards in a pile. Take turns to turn over the top two cards. Players add, subtract or multiply. The first player to give the correct answer keeps the cards. The player with the most cards at the end of the game is the winner.

Snap

Provide a set of playing cards into a pile. Share the cards equally between the players. Players take turns to turn over their top card. If the cards are a match (e.g. a rainbow 10 fact and '10'), players 'snap' by placing their hand on top of the pile of cards. The player with the most cards at the end of the game is the winner.

Concentration

Provide a set of playing cards. Place the cards face down in rows. Players take turns to turn over two cards to try to match a fact card with an answer card. They keep matching pairs. The player with the most pairs when all the cards have been matched is the winner.

Go fish

Provide a set of playing cards. Deal five cards to each player. Players take turns to ask each other for a matching card. The player with the most pairs at the end of the game is the winner.

Strategy dice

Roll two 10-sided dice. Score one point for each time the designated strategy is rolled.
E.g. If 'rainbow 10 facts' is the designated strategy, a player who rolls a two and an eight scores a point. If the strategy is 'double doubles', a player who rolls a four and any other number scores a point.

Suggested resource: Learning object, Double dice

Race around the hundred board

Players choose a marker and place it on the 0 square of a hundred board. Players take turns to throw two dice (concrete or onscreen), say the associated fact and then move that many squares. The winner is the first player to reach 100.
E.g. If players are practising the count on addition strategy and player 1 throws a 5 and a 1, they say, *Five… six. 5 add 1 is 6*, and move forward six spaces, counting to six as they move around the board.

Note: The game can be made more complex by adding rules.
E.g. if a player lands on a number ending in 0, they have to go back two squares

Show me the money

This game gives the opportunity to answer facts and practise swapping $2 coins for the equivalent amount of $1 coins.

Find $10 in coins ($1 and $2) for each player and place in a 'bank'. Find and shuffle the cards for the facts that are being practised and place them face down in a pile. Players take turns to turn over the top card and answer the fact. They take $1 from the bank each time they answer a fact correctly. Players may need to swap two $1 coins for a $2 coin to do this. Discuss with players how to solve this problem. The winner is the player with the most money at the end of the game.

Target practice

The number of rounds and how the winner is chosen should be decided before the game begins. E.g. the player with the largest score after five rounds is the winner

Create a large target showing numbers to 10 (e.g. draw a target on large sheets of paper/draw in chalk on cement/modify a commercially produced target). Throw two small soft markers onto the target and add, subtract or multiply the two numbers. The answer is that player's score for that round.

Note: If one marker doesn't land on a number, throw again. If both markers land on the same number, the answer will be zero.

Number facts competition with dominoes

Each player places half a set of dominoes face down in front of them. One student acts as referee. Players take turns to turn one of their dominoes face up so other players can see it. They add/subtract/multiply the number of spots on each end of the domino together. The first player to say the correct answer keeps the domino. If the referee decides it was a tie, the domino is removed from play. The player with the most dominoes at the end of the game is the winner.