

6. Extending and applying addition and subtraction using basic, derived and intuitive strategies

Given a range of tasks (including multi digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts.

a. Top Table

Materials: None

Group size: Whole class

This activity assumes that the students sit in table groups.

Appoint (or ask the students to appoint) a recorder for each table. This person then records the street number of the home of each student. Working as a team, each table group sums the street numbers, using an appropriate strategy. Class discussion can follow about the highest table total in the class. Is there a highest possible total? Is there a lowest possible total? How can they be sure?

Variation: Students find the average street number for their table.

b. Three Digit Throw

Adapted from Race to 1000 – Shuffling into Maths pg 3 -7

Materials: three dice for each pair

Group size: Pairs

Students draw a table with a hundreds, tens and ones column. They then take turns to roll the three dice. Make and record the highest possible number, and the lowest possible number using the three dice. Find the difference between these two numbers.

Students keep a running total of their differences and progressively add these together. The first student to reach a total score of 1 000, wins.

c. I Went Shopping and I Bought ...

Materials: cards made from junk mail brochures with priced items

Group size: Small Group

Place the cards face down in the centre of the table. Students take turns to turn one card face up and see what they bought when they went shopping. Students need to keep an exact total of what they spent, until they reach their "limit".

Once their "limit" is reached, students continue to turn the top card over, and they may trade one (or more) already purchased item for the new one, provided they remain under their limit. After each purchase, or trade, they must re-establish their total spending.

NB. The students' "limit" will depend upon the type of junk mail brochures used. eg. Supermarket items may produce a limit of \$25, whereas Hi-Fi equipment may need to have a \$5000 limit.

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d. Race to the Edge (Worksheet 42)

Materials: one game card per pair, one dice labelled +8, -8, +12, -12, +16, -16, coloured pencil for each student

Group size: Pairs

Each student begins the game in the centre of the board, on the square marked 50. Students take turns to roll the dice, and calculate their new total. i.e. Start at 50, roll + 8, student can move to square marked 58. However, students can only move to this total if it is adjacent (in any direction) to the square that they are currently in. If there is not an adjacent square with this total, play passes to the partner.

Students track their progress across the game card by colouring the squares they land in. The aim of the game is to be the first student to reach an edge of the square.

Variation: Students can move from an edge back into the centre 50 square.

e. Heads High, Tails Low

Materials: 2 dice, 1 coin, paper to record scores

Group size: Small Group

Each student commences this game with a score of 250. Students then take turns to roll the two dice, and use the numbers to make a two digit number. i.e. If roll 2 and 5, can opt to make 25 or 52. Once this two digit number is determined, students then toss the coin. If it lands Heads – they add this two digit number to their total, if it lands Tails – they must subtract it.

The aim of this game is to be the first to reach either 0 or 500.