## Year 4 Achievement Target

By the end of Year 4, students choose appropriate strategies for calculations involving multiplication and division. They recognise a common equivalent fraction in familiar contexts and make connections between fractions and decimals up to two decimal places. Students solve simple purchasing problems. They identify unknown quantities in number sentences. They describe number patterns resulting from multiplication. Students compare areas of regular and irregular shapes using informal units. They solve problems involving time duration.

They interpret information contained in maps. Students identify dependent and independent events. They describe different methods for data collection and representation, and evaluate their effectiveness. Students use the properties of odd and even numbers. They recall multiplication facts to 10 x 10 and related division facts. They locate familiar fractions on a number line. They continue number sequences involving multiples of single digit numbers. Students use scaled instruments to measure temperatures, lengths, masses, volumes and angles. They compare and contrast related ideas and explain their choices.

## ACTIVITIES

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<tr>
<td>Collect and Process Data Part A</td>
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<tr>
<td>Collect and Process Data Part B</td>
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<td>Interpret Data</td>
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## Proficiency Strands

### Understanding

Students build a useful knowledge of abstractions and translate mathematical concepts. They make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics. Students build understanding when they connect related ideas, when they represent concepts in different ways, when they identify commonalities and differences between related ideas, when they discuss their thinking mathematically and when they integrate mathematical ideas.

### Problem Solving

Students develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively. Students formulate and solve problems when they use mathematics to represent unfamiliar or meaningful situations, when they design investigations and plan their approaches, when they apply their existing strategies to seek solutions, and when they verify that their answers are reasonable.

### Fluency

Students develop skills in choosing appropriate procedures, carrying out procedures fluently, accurately and appropriately, and extending their knowledge and conceptual fluency. Students have fluent when they calculate answers efficiently, when they recognise visual ways of assessing quantities, when they choose appropriate methods and applications, when they recall definitions and properties and facts, and when they can manipulate expressions and equations to find solutions.

### Reasoning

Students develop an increasingly sophisticated capacity for logical thought and action, such as analysing, comparing, justifying, explaining, inferring, justifying and generalising. They are reasoning mathematically when they explore their thinking, when they deduce and justify strategies and draw conclusions reached, when they adopt the learner's role to the unknown, when they monitor their thinking and correct mistaken approaches, when they pursue an idea in one or more contexts, when they compare and contrast related ideas and explain their choices.