

Picking the Investigations you want to conduct in your class is easy with the *iMaths 4 Investigation Overview* document. Simply peruse the table below for a 'snapshot' of every Investigation in the year.

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 1 Ripper rides	This Investigation involves the design of a geometric pattern featuring triangles; horizontal, vertical, parallel and intersecting lines; angles and tessellating and transformed shapes. The Investigation is highly engaging as surfboards, skateboards and snowboards appeal to many students. Students will enjoy investigating various designs to produce a colourful model with a geometric pattern that ts the design brief.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • BLMs 1.1–1.3 – <i>Blank board shapes</i> • internet access • coloured pencils • paints • ruler • surf, skate or snowboard magazines 		The Arts	<ul style="list-style-type: none"> • Fractions and decimals • Patterns and algebra • Using units of measurement • Shape • Location and transformation • Geometric reasoning
Investigation 2 Keep the keys	In this Investigation, students will conceptualise and visualise numbers by making their own set of number keys. Students will be able to use these keys as a valuable resource and reference for the rest of the year. Many children are proud to use aids they have made themselves. A thorough investigation of the numbers 20 to 81 is undertaken by breaking each number into factors, representing each using dot arrays, and writing the inverse multiplication and division facts that apply to each number.	3 weeks	2 to 4 students	<ul style="list-style-type: none"> • BLM 2.1 – <i>Keys</i> • BLM 2.2 – <i>Key tags</i> • internet access • hole punch • string, cotton and wire • cardboard and paper • craft materials • rice, grains, beads, seeds 			<ul style="list-style-type: none"> • Number and place value • Patterns and algebra
Investigation 3 Plenty of pikelets	Traditionally, children have learned many maths concepts while cooking with a parent or grandparent. However, today's busy lifestyle often prevents children from having these great learning experiences. This Investigation allows children to budget, measure, halve and double quantities in a real life situation. Producing an edible result is an added bonus.	4 weeks	3 to 4 students	<ul style="list-style-type: none"> • Tear-out 1 – <i>Pikelet Day</i> • internet access • ingredients required to make pikelets: eggs, sugar, milk, self-raising our, salt, butter and toppings such as honey or jam • utensils required to make pikelets: frying pan, scales, measuring jug or cup, bowl, spoons, spatula, whisk and sifter 	Reinforcing social skills used when sharing a meal. Also an opportunity to invite family members to visit the school.	Financial Literacy	<ul style="list-style-type: none"> • Number and place value • Money and financial mathematics • Using units of measurement

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Investigation 4 The time of my life	Most children are fascinated by amazing facts about themselves. They will enjoy discovering such things as: the number of days they have lived, the number of meals they have eaten and the number of times their heart beats every day. This Investigation allows students to work with large numbers in a way they will find interesting and informative. They will also be able to practise collecting and recording data in a meaningful context. This Investigation could be linked to a getting to know you unit early in the year.	4 weeks	individuals	<ul style="list-style-type: none"> • Tear-out 2 – <i>The time of my life</i> • internet access • calculator • stopwatch • calendar 	At the start of the year to help students get to know one another.	HPE	<ul style="list-style-type: none"> • Number and place value
Investigation 5 Lengthy leaps	This Investigation gives students an opportunity to combine investigative skills with physical activity. In order to find the optimum run-up distance for long jump, students will need to use measurement skills and their knowledge of decimal place value to record distances accurately. Once they have analysed their data, their findings will have a practical application in sports lessons and long jump competitions.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • measuring tape • sandpit with suitable run-up • internet access 	School sports days or local competitions. Great for getting outside.	Science, HPE	<ul style="list-style-type: none"> • Fractions and decimals • Using units of measurement • Data representation and interpretation
Investigation 6 iFlicks movie marathon	In this Investigation, students use data, timetables and timelines to make decisions about how to spend a day at the movies. Relating maths to enjoyable activities helps give students motivation to learn. This Investigation requires reading and viewing skills linking numeracy with literacy.	2 weeks	individuals or pairs	<ul style="list-style-type: none"> • Data page 1 – <i>iFlicks guide</i> • Tear-out 3 – <i>My day at the movies</i> • internet access 	Linking to a school excursion to the movies or a school movie event.	Science	<ul style="list-style-type: none"> • Using units of measurement • Data representation and interpretation
Investigation 7 Aussie adventure	By embarking on a study of interesting places around Australia, students will develop a better understanding of the geography and history of the country. Some students may have visited at least one of the icons or landmarks; however others may have a limited knowledge of places outside their own community. This Investigation will broaden students' knowledge of Australia and also give them an opportunity to use number and measurement in a meaningful way.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> • BLM 7.1 – <i>Aussie adventure table</i> • BLM 7.2 – <i>Aussie adventure map</i> • internet access • map of Australia 	Learning about the geography and history of Australia.	History, Geography	<ul style="list-style-type: none"> • Number and place value • Location and transformation • Data representation and interpretation
Investigation 8 Super sports stadium	Many children enjoy playing sport and may have visited a number of sports stadiums. Using maths skills, such as estimation, multiplication and division to design a junior sports stadium gives maths a real life, practical context.	3 weeks	2 to 4 students	<ul style="list-style-type: none"> • internet access • A4 paper • craft materials • tape measure 	Any sports game in and around the local area, or on an international stage.	Technologies	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra

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Investigation 9 Marble mash	This Investigation lets students explore the relationship between net size and 3D objects, developing the early concept of volume. Students will use trial and error and deduction to create net designs that, when completed and constructed, will hold the maximum number of marbles.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> internet access coloured cardboard A4 paper craft materials (glue, scissors, tape) marbles 		Technologies	<ul style="list-style-type: none"> Using units of measurement Shape
Investigation 10 It's only natural	The natural world is fascinating. This Investigation demonstrates that maths exists outside the classroom in many plants and other natural phenomena, such as shells and snowflakes. Students explore the Topics of Number and Algebra, Measurement and Geometry as they investigate and display the pattern they discover in the natural world around them. This Investigation is closely linked to science.	4 weeks	individuals or pairs	<ul style="list-style-type: none"> BLM 10.1 – <i>Squared grid paper</i> internet access cardboard digital camera string and cotton collection of leaves and flowers, images of plants library craft materials 	Getting outside.	Science, The Arts	<ul style="list-style-type: none"> Number and place value Patterns and algebra Using units of measurement Shape Location and transformation
Investigation 11 Fraction fun	Food provides real-life, everyday opportunities to experience fractions and consolidate mathematical concepts. This Investigation gives students the opportunity to plan a fraction party. Students should reach a deeper understanding of the concept of fractions by looking at fractions as part of a whole and part of a set.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> BLM 11.1 – <i>Small food items</i> BLM 11.2 – <i>Large food items</i> internet access grocery and department store catalogues craft materials 		HPE	<ul style="list-style-type: none"> Number and place value Fractions and decimals
Investigation 12 Nice dice	This Investigation combines statistics and probability with the spatial concept of 3D dice to create non-traditional, fair dice with unique, interesting shapes. Students are required to design dice that have a fair chance of landing on any face and also have a fair representation of letters, colours or symbols on the faces.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> internet access cardboard craft materials 		English, Science, Technologies	<ul style="list-style-type: none"> Using units of measurement Shape Chance Data representation and interpretation