

Picking the Investigations you want to conduct in your class is easy with the *iMaths 5 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 Race around Australia	This Investigation develops simple mapping skills and familiarises students with our states and territories, and their capital cities. Students must attempt to fly around Australia in less than 24 hours. They will be amazed at the time it takes to fly the vast distances between some cities in Australia. The real-life skill of planning and coordinating flights tests students' organisational skills and stimulates their imagination.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • Tear-out 1 – <i>Grid map of Australia</i> • atlas • internet access 	The time before the the school holidays, when many students fly interstate or internationally.	Geography	<ul style="list-style-type: none"> • Using units of measurement • Location and transformation • Geometric reasoning
Investigation 2 Dynamic dominoes	This Investigation has students plan and design an educational game of dominoes. Many students will be familiar with the game of dominoes and will think this task appears less complicated than it actually is. The facts students will write on their domino tiles are from Topics covering concepts in the Number and Algebra content strand. However, students also need to work logically through patterns to design a workable set of domino tiles.	2 weeks	individuals or pairs	<ul style="list-style-type: none"> • BLM 2.1 – <i>Domino matching facts</i> • domino sets • cardboard • internet access • craft materials 	Learning about playing different games, following rules and healthy competition.		<ul style="list-style-type: none"> • Fractions and decimals
Investigation 3 Down the drain	This Investigation gives a real and meaningful context for students to learn about volume, capacity and calibrated scales. Water conservation is an ongoing concern. In many urban areas water restrictions are permanently in place. It is easy to be mindful of conserving water on a large scale. However, as they investigate, students will discover how much water is wasted over time from something as insignificant as a dripping tap, or as careless as leaving the tap running while brushing one's teeth.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • internet access • measuring cups/jugs • stopwatch • 10 L bucket 	Learning about the environment and the different risks we face (e.g. excessive water usage). Ties in with days of note such as World Water Day or World Environment Day etc.	Science, Geography	<ul style="list-style-type: none"> • Using units of measurement • Data representation and interpretation
Investigation 4 Twinkle twinkle	Students must devise a way of using estimation to find how many grains of glitter cover a star. This Investigation shows students that there are many acceptable ways to get to a reasonable answer when estimation is the only option. Students will enjoy making and displaying their sparkly creations as well as the challenge of seeing if they can offer the best initial estimate.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> • A3 paper or card • a pair of compasses • protractor • ruler • craft materials • glitter • magnifying glass 	Any ongoing science unit that relates to space. Stars could also be displayed in the classroom to tie in with the learning.		<ul style="list-style-type: none"> • Number and place value • Fractions and decimals • Geometric reasoning

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Investigation 5 iFlakes	This Investigation presents a great opportunity to promote healthy eating and teaches students about the careful selection of food groups in their diets. Students must analyse the nutritional content of seven cereals, then choose the best three to serve at a breakfast club. Students will be amazed to discover what some of their favourite breakfast cereals contain as they analyse and interpret the nutritional information on the packaging.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> • Data Page 1 – <i>iFlakes nutritional values</i> • calculator • internet access • graph paper • 6 different cereal boxes per group 	Learning about healthy eating and a balanced diet.	English, Science, HPE	<ul style="list-style-type: none"> • Fractions and decimals • Chance • Data representation and interpretation
Investigation 6 Never a cross word	Multiplication and division questions can become repetitive and dull if they are done without a context. This Investigation gives students an opportunity to work through these concepts in a challenging and interesting way as they produce a maths crossword. In order to write equations for the crossword, students need to have a good understanding of multiplication and division concepts. Problem solving and organisational skills can be taught and enhanced throughout the Investigation.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> • Tear-out 2 – <i>Crossword grid paper</i> • BLM 6.1 • internet access • calculator • examples of crosswords 			<ul style="list-style-type: none"> • Number and place value • Patterns and algebra
Investigation 7 Finals fever	This Investigation is based on events that bring joy and excitement to many students' lives – sport Grand Finals! In order to support their favourite team, students will enthusiastically explore costs and travel options to attend the match. They will need to refer to airline, bus and train timetables to ensure a successful round trip.	3 weeks	1 to 3 students	<ul style="list-style-type: none"> • internet access 	Any finals sporting event, whether it be local or international.	Economics and Business	<ul style="list-style-type: none"> • Fractions and decimals • Money and financial mathematics • Using units of measurement
Investigation 8 Balancing act	This hands-on Investigation encourages the students to challenge mathematical information presented to them by teachers. Students will test the theory that 1000 mL of water weighs 1000 grams and has a volume of 1000 cubic centimetres. Students will have fun designing and testing a container to use in order to prove or disprove this theory, then investigating whether the same applies for substances other than water.	2 weeks	3 to 4 students	<ul style="list-style-type: none"> • internet access • measuring jug • kitchen scales • 1-litre container (10 cm x 10 cm x 10 cm if possible) • materials suitable for construction of waterproof containers • other substances to compare, such as sugar or rice 		Science, Technologies	<ul style="list-style-type: none"> • Number and place value • Using units of measurement • Shape • Location and transformation

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Investigation 9 Fair weather	The local show is an annual highlight in the lives of many children. This Investigation gives them a real-life opportunity to study the importance of weather patterns in the planning of a special event and leads to an awareness of the weather patterns in their own area. Making decisions based on data is an important scientific and mathematical skill that students will develop during the Investigation.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> internet access graph paper newspapers weather reports thermometer calculator 	Any of the state show days e.g. Royal Queensland Show.	English, Geography	<ul style="list-style-type: none"> Using units of measurement Data representation and interpretation
Investigation 10 Radical renovation	This Investigation allows students to demonstrate their creativity using colours, lines and shapes. Working in the areas of measurement and geometry, students will create their very own bedroom design using geometric elements.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> BLM 10.1 paper or card for frieze craft materials ruler internet access 	Any local or school renovations that may be going on.	The Arts, Technologies	<ul style="list-style-type: none"> Number and place value Using units of measurement Location and transformation
Investigation 11 Score a duck	Sideshow alley is a real-life setting familiar to, and popular with, most children. Designing their own sideshow alley game gives students the opportunity to explore probability and likelihood. Students are also given further understanding of how games of chance work, enabling them to make more informed choices in their lives. Measuring and drawing the pond leads to a better understanding of perimeter. This Investigation includes all 3 of the content strands – Number and Algebra, Statistics and Probability and Measurement and Geometry.	3 weeks	1 to 3 students	<ul style="list-style-type: none"> a pair of compasses paper pencil 	Any of the state show days e.g. Royal Queensland Show.		<ul style="list-style-type: none"> Fractions and decimals Patterns and algebra Using units of measurement Chance
Investigation 12 If I were a Martian	This Investigation will engage students in exploring some interesting facts about planets. Students have to research the distances of other planets from the sun and write about what their life would be like if they lived on Mercury, Venus, Mars or Jupiter. It gives students an insight into the vast distances between planets and encourages them to use maths to help understand these big ideas. It challenges students to explore the scientific concepts of how gravity affects weight on earth versus weight on other planets.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> internet access bathroom scales calculator A3 paper or cardboard coloured pencils 	Any ongoing science unit that relates to space.	Science	<ul style="list-style-type: none"> Number and place value Fractions and decimals