

Picking the Investigations you want to conduct in your class is easy with the *iMaths F 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 Goodnight, sleep tight	In this Investigation, students will explore and compare daytime and night-time activities, before investigating the bedtimes and routines of their classmates. Familiar points in time, telling time, sequencing events, sorting and classifying are some of the mathematical concepts explored. By the end of this Investigation, students will have made their own clocks and put together a book about their bedtime routines.	2 weeks	N/A	<ul style="list-style-type: none"> • BLMs 1.1–1.5 • Tear-out 1 – <i>Time for bed</i> • variety of props and reading books 	Learning about time and what activities occur at certain times.	English, The Arts, Technologies	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Using units of measurement • Data representation and interpretation
Investigation 2 Oz-animal Olympics	Fun and learning abound, as students become involved with an Oz-animal Olympics. Students will apply the concepts of counting, ordinal numbers, positional language and graphing as they negotiate, plan, participate in and collect and record data for their Oz-animal Olympics. This Investigation provides a perfect platform for students to explore and experience team sports, the concept of sportsmanship and to celebrate achievements in competitive events.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 2.1–2.7 • Tear-out 2 – <i>Name tag</i> • variety of props 	The Olympics, or a more local sporting event e.g. regional sporting final or school sports day. Great for getting outdoors.	English, HPE	<ul style="list-style-type: none"> • Number and place value • Using units of measurement • Data representation and interpretation
Investigation 3 Happy Birthday Humpty	Birthdays are a special day for everyone and Humpty Dumpty's birthday is sure to be a great deal of fun. Students will explore, practise and consolidate early mathematical concepts of sequencing, time, and chance and data, as they help plan and host a birthday party at the King's request.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 3.1–3.5 • Tear-out 3 – <i>Humpty Dumpty sequence</i> • Tear-out 4 – <i>Time of day 1</i> • Tear-out 5 – <i>Time of day 2</i> • variety of props 	The start of the year and learning the birthdays of other students.		<ul style="list-style-type: none"> • Number and place value • Using units of measurement • Data representation and interpretation
Investigation 4 Goldilocks	The classic fairytale, <i>Goldilocks and the Three Bears</i> , provides the context for an Investigation into how Goldilocks makes amends for her bad behaviour by inviting the Three Bears to a special morning tea. Students will practise and consolidate many early mathematical concepts, including matching, ordering, sequencing, collecting data, fractions and sharing as they re-enact the story, make sandwiches and work out how to share them equally.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 4.1–4.5 • Tear-outs 6 and 7 – <i>Sort and match</i> • Tear-out 8 – <i>Goldilocks sequence</i> • Tear-out 9 – <i>Halves</i> • variety of props 	Learning about other classic nursery rhymes. Great for encouraging collaboration between students and reinforcing the importance of sharing.	English	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Fractions and decimals • Using units of measurement • Shape • Data representation and interpretation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 5 Hopscotch	Students explore 2D shapes and number sequences as they play hopscotch and its many variations. Then, they will plan and create a hopscotch design of their own. Students' favourite designs will be drawn on cement and trialled by the class. This Investigation provides the perfect platform for students to practise gross motor skills in a collaborative manner.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 5.1–5.2 • Tear-out 10 – <i>Missing numbers hopscotch</i> • Tear-out 11 – <i>Hopscotch</i> • variety of props 	The start of the year, learning to work with others, and for getting students outside the classroom.	HPE, Technologies	<ul style="list-style-type: none"> • Number and place value • Shape • Data representation and interpretation
Investigation 6 Take Ten	Students become artists and designers as they create a variety of 2D or 3D artworks for the Take Ten art exhibition. Key numeracy and geometry concepts are practised as students arrange, print or join 10 objects in different and creative ways.	3 weeks	N/A	<ul style="list-style-type: none"> • variety of props 	Any construction/ renovation work going on locally.	The Arts, Technologies	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Shape
Investigation 7 The Wheels on the bus	Buses, trucks, cars and other vehicles are the context for this Investigation. Students will practise early numeracy concepts relating to counting, sorting collecting data and problem solving. Students compare vehicles and choose appropriate information in order to determine the best vehicle in different circumstances, and then explain their choices.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 7.1–7.9 • variety of props 	Car and other vehicle shows/races. Learning about how cars/other vehicles are able to move.		<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Shape • Data representation and interpretation
Investigation 8 Animal rescue	Students answer a call for help from Australian animals who have lost their homes in a bushfire, creating a new bush habitat in their classroom for them. Early mapping skills are practised, as students mark out a track and describe the location of new bush home for an Aussie animal.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 8.1–8.7 • Tear-out 12 – <i>We're going for a bushwalk</i> • Tear-out 13 – <i>Aussie animal sort</i> • Tear-out 14 – <i>Wildfire park</i> • variety of props 	Learning about Australian culture. In line with a trip to a local zoo. Also ideal for learning about seasons and Australian fauna.	Science, Geography, Technologies	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Using units of measurement • Location and transformation
Investigation 9 Sandcastles	Students practise early concepts of mass and capacity as they work in pairs to build sandcastles and create a digital picture page for a class book. They will explore and play with a variety of containers and materials, using comparative and positional language. As this investigation is collaborative in nature, it also provides a natural setting in which to develop and practise social skills.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 9.1–9.6 • Tear-out 15 – <i>Empty to full</i> • variety of props 	Getting to know people in the class at the start of the year, as the task is collaborative in nature.	Technologies	<ul style="list-style-type: none"> • Using units of measurement • Shape • Location and transformation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 10 Zoo escape	Students create a miniature zoo and participate in creating a large class display of zoo animals. Identifying, sorting and labelling animal features are required for students to solve this Investigation. There are many opportunities for counting and problem solving activities throughout.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 10.1–10.7 • variety of props 	Any trips to a local zoo. Significant animal shows etc.	English, Science	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Using units of measurement • Data representation and interpretation
Investigation 11 Three Billy Goats Gruff	The classic fairytale, <i>Three Billy Goats Gruff</i> , provides a platform to explore and practise a variety of numeracy concepts, including ordinal numbers, comparing size, and early multiplication and division. Students investigate how the Three Billy Goats Gruff and their cousins – Bertie, Bobby and Buster – can equally share the delicious cabbages they find in the veggie patch on the other side of the bridge.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 11.1–11.9 • variety of props 	Learning about other classic nursery rhymes, as well as equal sharing of resources.	English	<ul style="list-style-type: none"> • Number and place value • Using units of measurement • Location and transformation
Investigation 12 Froggy pond	Exploring pond life, and in particular frogs, provides a fun and fascinating context in which to practise sorting, measurement, addition and subtraction. Students also begin to develop early area concepts as they compare sizes of pond animals and calculate the number that could live in a given pond. Science and maths integrate perfectly in this investigation.	3 weeks	N/A	<ul style="list-style-type: none"> • BLMs 12.1–12.5 • variety of props 	Learning about comparative sizes of objects and things. Also great for learning about the life cycle of a frog.	Science	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Using units of measurement • Data representation and interpretation

Picking the Investigations you want to conduct in your class is easy with the *iMaths 1 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 All about birthdays	This Investigation is an ideal way to start the year when students get to know each other. Birthdays provide the context as students conduct surveys, collect data and explore calendars, compiling a class calendar to keep track of up-and-coming birthdays.	3 weeks	individuals or small groups	<ul style="list-style-type: none"> internet access BLMs 1.1–1.3 coloured pencils glue general paper and chart paper variety of calendars gift box containing birthday party related items 	The start of the year to help students get to know each other and their birthdays. Also ideal for discussing upcoming school events and setting timeframes for student goals.	Science, History	<ul style="list-style-type: none"> Number and place value Using units of measurement Chance Data representation and interpretation
Investigation 2 Let's Roll	Dice combinations are the focus of this Investigation as students roll dice, record addition facts and explore all possible combinations and their totals. Partitioning of numbers to 12 is practised as students solve problems. The foundational skill of subitising is further consolidated through manipulating and playing with dice, and becoming familiar with dot patterns.	2 weeks	individuals, pairs or small groups	<ul style="list-style-type: none"> Tear-out 2.1 BLM 2.1 – <i>Shark addition jigsaw</i> board games using dice variety of dice concrete materials – blocks, counters, unifix cubes snap lock bags or envelopes scissors coloured pencils 	Learning about how different board games work and how to play them.	The Arts	<ul style="list-style-type: none"> Number and place value
Investigation 3 Biggest drink	In this Investigation, students will explore the very real and current issue of water conservation. They will be empowered and made aware that we are all responsible and accountable for our water use, and that we can make a positive difference to our world. Working collaboratively, students will estimate, measure, record, compare and order capacity of containers using non-standard units. Students will test and observe, then infer and justify what type of container is best to water the garden.	2 weeks	individuals, pairs or small groups	<ul style="list-style-type: none"> Tear-out 3.1 – <i>Container table</i> internet access variety of containers (labelled) – large and small buckets, watering cans of different shapes and sizes, yoghurt/ice-cream containers, butter containers, empty juice bottles, milk bottles/cartons, soft drink bottles, pots and pans, baking trays and bowls funnel masking tape or sticky labels plastic cups coloured pencils 	Learning about the environment and the different risks we face (e.g. excessive water usage). Links in well with days of note such as World Water Day, World Environment Day etc.	Science, Geography	<ul style="list-style-type: none"> Using units of measurement Data representation and interpretation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 4 Number fact blast off	Explore the wonders of space through this Investigation, which offers opportunities to integrate with science and the arts as students work cooperatively to sort and classify, match and calculate number facts to 20.	3 weeks	individuals, pairs or small groups	<ul style="list-style-type: none"> • BLMs 4.1–4.15 • internet access • books about space • craft materials • number line strip • ten frames • Unifix cubes and other concrete materials 	Learning about space e.g. planets, moons.	Science, The Arts	<ul style="list-style-type: none"> • Number and place value
Investigation 5 Ramp champ	Length and measurement using informal units are the key themes in this scientific investigation, which looks at ways of making toy cars move faster and therefore travel further when placed on a ramp. This process will include trial and error and manipulating variables that affect the distance the car will travel, such as the inclination of the ramp, mass of the car, and type and size of wheels.	3 weeks	small groups	<ul style="list-style-type: none"> • BLMs 5.1–5.2 – <i>Car distance tables</i> • internet access • coins or washers • toy cars • materials to make car ramps • craft materials 	Learning about how cars and other vehicles are able to move.	Science	<ul style="list-style-type: none"> • Number and place value • Using units of measurement
Investigation 6 Hungry spiders	Students immerse themselves in an insect's world as they explore the key concepts of addition and subtraction, using information from the food diaries of Sammy and Susy, the very hungry spiders. This Investigation also provides opportunities for students to represent and interpret data through a variety of individual and collaborative experiences.	3 weeks	individuals, pairs or whole class	<ul style="list-style-type: none"> • Tear-outs 6.1–6.3 • BLMs 6.1–6.4 • number line strip • coloured counters • blocks • scissors • plastic spider • coloured pencils 	Learning about the anatomy of animals (in this case, the spider).	Science	<ul style="list-style-type: none"> • Number and place value • Using units of measurement • Data representation and interpretation
Investigation 7 Treasure hunt	In this Investigation students embark on a treasure hunt as they apply their knowledge of number patterns with two-digit numbers, addition and subtraction, to reveal the mystery treasure. Students then create their own number pattern for their classmates to decode.	3 weeks	individuals	<ul style="list-style-type: none"> • Tear-outs 7.1–7.3 • BLMs 7.1–7.2 • craft materials – glue, scissors, coloured pencils • number line strip • hundred board 	Building teamwork between students as they try to find the hidden treasure.		<ul style="list-style-type: none"> • Number and place value • Patterns and algebra

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 8 Message in a bottle	Everyone loves a mystery. The initial stimulus for this fun Investigation is a message in a bottle, while codes and secret puzzles provide the context. Students are required to solve addition and subtraction number stories to decode the secret message. Then, they will formulate their own secret code. Now, let's get cracking.	3 weeks	individuals or groups	<ul style="list-style-type: none"> • Tear-outs 8.1–8.3 • internet access • kids' magazines and a variety of puzzle and maze books • craft materials – scissors, glue, pencils and crayons • concrete materials – counters, MABs, number line strips, ten frames • bottle to hold secret message (optional) • chart paper 	Building teamwork between students as they try to decode the hidden message.		<ul style="list-style-type: none"> • Number and place value
Investigation 9 Fruit cup morning tea	Bring out the chef in students as they plan and prepare a morning tea for their buddies. Students experience maths in a real life context as they work together to prioritise tasks, calculate how much food is needed, create a shopping list and follow a recipe to make fruit cups for the morning tea. Students use the key concepts of addition, multiplication, division and fractions as they calculate the fruit needed to follow a specified recipe. Clock time to the hour and half hour is used as students plan and follow a timetable of what needs to be done.	3 weeks	individuals or small groups	<ul style="list-style-type: none"> • Tear-outs 9.1–9.3 • cutting boards • plastic cups for fruit • plastic spoons and knives • pieces of fruit – apples, bananas, grapes, mandarins, strawberries, watermelon • craft materials – paper, card, scissors, coloured pens and pencils • chart paper for recipe (optional) 	Learning about clocks and how to plan in accordance with the time that you have allocated. Great for tying in with school morning tea events or Australia's Biggest Morning Tea etc.	HPE	<ul style="list-style-type: none"> • Number and place value • Fractions and decimals • Using units of measurement
Investigation 10 It's my town	Would you live here? Students take on the role of a town planner as they design and construct the perfect town. Aspects of infrastructure and community needs are considered as they work in groups to plan, design and construct a 3D model. This hands-on Investigation allows students to explore and apply their knowledge of 2D shapes and 3D objects as they negotiate and complete the project.	3 weeks	pairs or small groups	<ul style="list-style-type: none"> • internet access • BLMs 10.1–10.2 • a variety of small recycled boxes such as small grocery and toiletry packaging, e.g. toothpaste, band-aids, muesli bars, cereal boxes, cracker boxes, sultana packets, tape rolls, cardboard tubes • strong card for baseboards – cartons are ideal • craft materials – scissors, glue, tape • coloured card and paper • popsticks, matchsticks, cellophane, modelling clay and Blu-Tack • map of local community • digital camera (recommended) 	Any big construction works happening within the school or in the community.	English, Geography, Technologies	<ul style="list-style-type: none"> • Shape • Location and transformation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 11 How does your garden grow?	In this Investigation students explore and apply concepts of skip counting, measuring length, 2D shape and sharing equally while they plan a small vegetable garden. In groups, students design a full-size model vegetable garden and, if time and resources permit, choose the class favourite to create a real garden in the schoolyard.	3 weeks	small groups or whole class	<ul style="list-style-type: none"> internet access gardening tools gloves seedlings paper counters metre rulers chalk, masking tape, string, scissors popsticks 	Any local ongoing agricultural projects or getting outdoors and working in the school's kitchen garden (note some schools have Stephanie Alexander kitchen gardens which they use to grow food for their tuck shop/canteen).	Science, Technologies	<ul style="list-style-type: none"> Number and place value Using units of measurement Shape
Investigation 12 Go, go breakfast bar	Startling statistics reveal that about 25% of Australian school children are overweight or obese, so it is more important than ever to promote healthy eating habits. Setting up a class breakfast bar provides students with the context in which to consider and make informed decisions about healthy food choices, which can develop into lifelong habits. Students will apply their knowledge and understanding of currency and transactions involving addition and subtraction, problem solving and early multiplication to real-life situations.	3 weeks	pairs or small groups	<ul style="list-style-type: none"> BLMs 12.1–12.4 craft materials – felt pens, coloured pencils, glue, scissors paper and plastic cups, bowls or plates and cutlery empty food containers or packets (e.g. egg cartons, juice containers), large sturdy boxes calculator purse or wallet, play money, play cash register or money tray coloured card magazines, grocery catalogues white paper circles (side-plate size) 	Learning about healthy eating decisions and what makes a balanced diet.	HPE, Financial Literacy	<ul style="list-style-type: none"> Number and place value Money and financial mathematics

Picking the Investigations you want to conduct in your class is easy with the *iMaths 2 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 Marble ramp	Maths, technology and science come together as students plan, sketch and construct a ramp that will allow a marble to travel more than two metres. Students will select suitable resources and techniques, using trial and error and manipulating variables to improve their ramp design and outcome.	3 weeks	pairs or small groups	<ul style="list-style-type: none"> internet access Tear-out 1 – <i>Column graph</i> coloured card and paper craft materials – cardboard tubes, cereal boxes, plastic hose, lunch wrap boxes, fabric rolls, glue, masking tape, sticky tape, scissors marbles metre rulers, trundle wheel, tape measures 		Science, Technologies	<ul style="list-style-type: none"> Using units of measurement Shape Location and transformation Data representation and interpretation
Investigation 2 Show time	Show day is here again with fairy floss, rides and show bags galore. Students will use a show guide to negotiate and make choices about spending money. The number concepts of addition and subtraction are practised in calculating a \$60 budget. This Investigation is best done at the time of your local show.	3 weeks	pairs	<ul style="list-style-type: none"> internet access Tear-out 2 – <i>Show guide</i> Tear-out 3 – <i>My plan for a day at the show</i> Tear-out 4 – <i>Wish list</i> Tear-out 5 – <i>Final budget</i> BLM 2.1 – <i>Australian notes</i> BLM 2.2 – <i>Australian coins</i> play money (notes and coins) A3 paper calculator 	Any of the state show days e.g. Royal Queensland Show.	English	<ul style="list-style-type: none"> Number and place value Money and financial mathematics Using units of measurement
Investigation 3 Quizit	In this Investigation students work in teams to compete in the Quizit maths quiz. Students test their skill and knowledge in a variety of number concepts including probability, place value, number lines and growing and repeating patterns. Positive social interaction skills are encouraged as students work cooperatively and effectively to solve each quiz question in the given time.	3 weeks	small groups of 4 or 5 students	<ul style="list-style-type: none"> internet access BLM 3.1 – <i>Chance cards</i> BLM 3.2 – <i>Chance card labels</i> BLMs 3.3–3.12 – <i>Quiz questions</i> stopwatch prizes (such as a trophy, certificate or voucher) craft materials 	Working as a team to solve a quiz, as this is a collaborative investigation.		<ul style="list-style-type: none"> Number and place value Patterns and algebra Chance

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 4 Gone fishing	Where is everybody? Gone fishing! Students will read for important information, work backwards and practise mental computation strategies to evenly distribute a catch of fish between friends. This Investigation can also be used to raise student's awareness of sustaining healthy waterways, fish habitats and the environmental impact of fishing.	3 weeks	3 students	<ul style="list-style-type: none"> internet access Data page 1 – <i>Fisherman's guide</i> Tear-out 6 – <i>The catch</i> BLMs 4.1–4.3 – <i>Fish cards</i> paper, calculators, pencils and ruler magnets string and paperclips sticks, lengths of dowel or rulers 	Learning about the environment and the different risks we face (e.g. environmental impacts of fishing). Links in well with days of note such as, World Environment Day etc.		<ul style="list-style-type: none"> Number and place value Patterns and algebra Using units of measurement
Investigation 5 Once upon a castle	This hands-on Investigation allows students to explore and apply their knowledge of 2D shapes and 3D objects as they work in groups to design and construct a model castle. Communication skills are practised as students work cooperatively and interact effectively in order to complete their project.	3 weeks	individuals, pairs or small groups	<ul style="list-style-type: none"> internet access Tear-out 7 – <i>Castle diagram</i> BLMs 5.1–5.7 – <i>Castle nets</i> (multiple copies to card) BLM 5.8 – <i>Tally table</i> craft materials – popsticks, straws, string, matchsticks, coloured card and paper, sticky tape, scissors, glue Everyday 3D objects, e.g. party hats, small sultana box, cereal box, cardboard tube 	Any big construction works going on around the area. Could also link to learning about fairytales that feature castles.	History, The Arts, Technologies	<ul style="list-style-type: none"> Shape Location and transformation Data representation and interpretation
Investigation 6 Treasure trove	Students take on the role of a game designer as they work in teams to complete and test a pirate board game. In this game of chance, students roll the dice and use map references to move about the game board. Addition and subtraction concepts are practised as they play the game and keep a tally of their winnings.	3 weeks	2 or 3 students	<ul style="list-style-type: none"> internet access Tear-out 8 – <i>Game grid</i> Tear-out 9 – <i>Board game tokens</i> BLM 6.1 – <i>Chance cards</i> BLM 6.2 – <i>Dice nets</i> play money calculators snap lock bags counters 	Learning about how different board games work and how to play them.	Geography	<ul style="list-style-type: none"> Number and place value Money and financial mathematics Patterns and algebra Location and transformation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 7 Up, up and away	Why not have paper planes flying around the classroom? Your students won't even realise they are learning about measurement, data collecting and recording, as they will be too busy having fun! Include the friendly element of competition and social interaction and you will have them hooked and flying high in no time.	3 weeks	individuals and pairs	<ul style="list-style-type: none"> internet access Data page 2 – <i>Paper dart</i> Data page 3 – <i>Paper glider</i> BLM 7.1 – <i>Area of wings</i> BLM 7.2 – <i>Flight distances table</i> BLM 7.3 – <i>Column graph – distance travelled</i> A4 paper trundle wheel, tape measures, metre rulers craft materials – scissors, stapler, paper clips, Blu-tack 	Any sporting competition as it feeds into the competitive aspect of a paper planes challenge.	Science	<ul style="list-style-type: none"> Using units of measurement Data representation and interpretation
Investigation 8 Pizza party	This Investigation immerses students in the familiar and fun context of ordering pizzas. Fractions, division and collecting and representing data are the focus as students explore, identify and practice sharing of whole parts and collections.	3 weeks	4 or 5 students	<ul style="list-style-type: none"> internet access Data page 4 – <i>Pizza Pantry</i> Tear-out 10 – <i>Favourite pizza</i> Tear-out 11 – <i>Pizza planner</i> craft materials – coloured pencils, scissors, glue 	Goes hand in hand with learning about what comes from different cultures (e.g. Italian). Also great for class/school celebrations (some schools reward students with pizza at the end of each semester or at the end of the year.	Science	<ul style="list-style-type: none"> Number and place value Fractions and decimals Data representation and interpretation
Investigation 9 Waterwise me	This Investigation takes students from the classroom to their home, as they work with family members to collect and record data on shower water usage. Students will perform calculations using litres and the four operations to explore information, analyse, hypothesise and think about how their household can more efficiently use water.	3 weeks	individuals and small groups	<ul style="list-style-type: none"> calculators 10 litre buckets 1 litre measuring jugs 	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.	Geography	<ul style="list-style-type: none"> Number and place value Fractions and decimals Using units of measurement Data representation and interpretation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 10 The big squeeze	In this Investigation, students will discover whether it is more economical to squeeze or buy orange juice. Understanding of multiplication, division, kilograms, litres and money are developed as students roll up their sleeves to organise a morning tea with fresh orange juice on the menu.	3 weeks	pairs, small groups and whole class	<ul style="list-style-type: none"> internet access Tear-out 12 – <i>The big squeeze planner</i> grocery catalogues balance scales calculators 1 kg masses Litre jugs, empty juice containers, buckets with litre measurements, breadboards, citrus juicers oranges plastic cups 	An excursion to a local markets that may sell oranges or other elements for the morning tea. Also a good opportunity to learn about healthy eating.	Science	<ul style="list-style-type: none"> Number and place value Money and financial mathematics Using units of measurement Data representation and interpretation
Investigation 11 Dog tales	This Investigation reflects a real-life scenario where pocket money is earned in exchange for services in the community. Students will discover that being responsible for the neighbour's pets and garden is more than they bargained for. Number and measurement concepts are applied as they identify relevant information, represent data and use a range of strategies to solve a number of everyday problems.	3 weeks	individuals	<ul style="list-style-type: none"> internet access BLM 11.1 – <i>Dog food visual calculator</i> 2 litre ice-cream containers and watering can highlighter pens 	Learning about how to manage pocket money, and the responsibilities that come with it.	HPE, Financial Literacy	<ul style="list-style-type: none"> Number and place value Fractions and decimals Using units of measurement
Investigation 12 Paint it!	Working to a budget and charging by the hour, this Investigation introduces students to early lessons in finding important information, forward planning and earning wages. Numerous Number and Algebra Topics are practised and revised as students work step-by-step to find out how to paint a fence within a given budget.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> internet access BLM 12.1 – <i>Australian notes</i> highlighter pens 	Learning about how budgets work for different local projects e.g. the local park, shopping centre or perhaps the class budget for resources.	Financial Literacy	<ul style="list-style-type: none"> Number and place value Money and financial mathematics Patterns and algebra Using units of measurement

Picking the Investigations you want to conduct in your class is easy with the *iMaths 3 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 How do I measure up?	Children enjoy collecting data and information about themselves. This Investigation requires students to collect and compare their own body measurements in order to find relationships between various body parts, such as, 'my arm span equals my height.' Students will write comparative statements about their own body measurements. This activity reinforces literacy skills and integrates well with a Getting to Know You unit.	3 weeks	pairs	<ul style="list-style-type: none"> internet access Tear-out 1 – <i>My data</i> coloured pencils calculator digital camera tape measure, ruler craft materials – string and rolls of paper, butcher's paper, glue, scissors, sticky tape 	Works well with a 'getting to know you and your classmates' unit towards the start of a school year.	English, Science, HPE	<ul style="list-style-type: none"> Using units of measure Chance Data representation and interpretation
Investigation 2 It's on the cards	In this Investigation, students will invent their own clever card game. Card games offer an entertaining way to practise the social skills of following rules, taking turns, and healthy competitive interaction. This Investigation gives students experience in giving and receiving positive, constructive criticism. In order to create their own card game, students must make cards, matching analogue and digital times to daily activities.	2 weeks	small groups	<ul style="list-style-type: none"> internet access BLM 2.1 – <i>Activity time sheet</i> BLM 2.2 – <i>Blank card shapes</i> BLM 2.3 – <i>Analogue clocks</i> BLM 2.4 – <i>Card box net</i> card card games clocks scissors 	Any local sporting games in which people must follow rules, have healthy competition etc.	Technologies	<ul style="list-style-type: none"> Using units of measurement Shape
Investigation 3 Kilogram quest	This Investigation asks students to find 12 everyday objects around the classroom that have a combined total mass of 1000 g (1 kg). This requires thorough investigating and calls on problem solving skills in order to get as close as possible to the total mass. Students will enjoy weighing objects, and the challenge of seeing who can get closest to the total.	3 weeks	2 or 3 students	<ul style="list-style-type: none"> internet access Tear-out 2 – <i>Kilogram quest table</i> calculator 12 counters per student gram and kilogram masses kitchen scales or other devices to measure mass 	Learning about requirements for meeting a goal as it relates to construction parts needing to be a certain mass, length etc.		<ul style="list-style-type: none"> Number and place value Using units of measurement
Investigation 4 Slide show	This Investigation allows students to develop a thorough understanding of fractions. By making a slide show and investigating a single fraction in depth, students should reach a deeper understanding of the concept of a fraction as a part of a whole and a part of a set or group.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> BLM 4.1 – <i>Slide show storyboard</i> internet access digital camera program to create a slide show 	Learning how to use appropriate computer software to create a successful slideshow.	The Arts, Technologies	<ul style="list-style-type: none"> Fractions and decimals

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 5 Smarty pants	Year 3 students enjoy the challenge of competing against older students or adults, particularly if they believe they have the ability to prove their skills are superior. This Investigation requires students to set maths tests for people in various age groups, then mark and record the results. The maths tests will focus on multiplication, providing very good motivation for students to master this concept.	4 weeks	pairs	<ul style="list-style-type: none"> • BLM 5.1 – <i>Group scores</i> • internet access • paper • coloured pencils • scissors 	Learning about competition relating to local sporting games etc.	Science	<ul style="list-style-type: none"> • Number and place value • Chance • Data representation and interpretation
Investigation 6 Trash or treasure	In this Investigation, students will set up a class market stall, giving them the opportunity to practise money concepts, both as buyers and sellers. Many Year 3 students will have had some experience buying things, but very few will have had much selling experience. Setting reasonable prices, establishing attractive displays and giving the correct change are all sales skills that students will practise during the course of this Investigation.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • BLM 6.1 – <i>Buying record sheet</i> • internet access • magazines, catalogues, shopping brochures • play money (Australian notes and coins) • money tray • products to sell 	Local markets that involve the buying/selling dynamic or a school car boot sale.	Technologies, Financial Literacy	<ul style="list-style-type: none"> • Number and place value • Money and financial mathematics
Investigation 7 What's in 1000 words?	This is a number-oriented Investigation, which gives students the opportunity to explore the use of numbers in our lives. They will also be able to see what 10, 100 and 1000 look like, in terms of words on a page. Estimation is an important mathematical skill, which students will practise in a realistic way as they work through the Investigation.	4 weeks	1 or 2 students	<ul style="list-style-type: none"> • Tear-out 3 – <i>Word grid</i> • internet access • newspapers and magazines • highlighters 			<ul style="list-style-type: none"> • Number and place value • Using units of measurement
Investigation 8 Picture perfect patterns	In this Investigation, students will investigate numbers and patterns in art. They will enjoy using their imagination and creativity to explore shape and design. Students must investigate a way to fill in an art piece with patterns of symbols in order to create their own symmetrical art.	2 weeks	individuals	<ul style="list-style-type: none"> • internet access • BLMs 8.1–8.4 – <i>Symmetry art</i> • coloured paper • coloured pencils • crayons • paint 	Links well with a school or community art event or perhaps a planned display of the art in the school foyer.	The Arts	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Location and transformation
Investigation 9 Sprouting surprises	Planting and watching seeds grow is an enjoyable and fascinating activity for many Year 3 students. This Investigation adds a scientific perspective, by asking students to predict the effect that changing the growing conditions might have on whether or not plants flourish. Other skills taught and practised in the course of this Investigation include measurement, organising and recording data.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> • Tear-out 4 – <i>Experiment plan</i> • BLM 9.1 – <i>Plant diary</i> • internet access • metre ruler • small containers • seeds • potting mix • mask and gloves • watering containers and calibrated measuring jugs 	Learning about seasons and where our food comes from.	Science	<ul style="list-style-type: none"> • Using units of measurement • Chance • Data representation and interpretation

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 10 Top team	Exercise and daily fitness are an important part of school life. In this Investigation, students will create enjoyable team activities that improve athletic skills. Measuring, timing and scoring these activities allow students to make real use of the maths concepts they have learned. Writing the instructions for the activities provides a meaningful link between literacy and numeracy.	3 weeks	5 equal groups	<ul style="list-style-type: none"> • Tear-outs 5–6 – <i>Top team rules</i> • BLM 10.1 – <i>Top team scoring sheet</i> • internet access • trundle wheel • digital camera • stop watch • tape measure • equipment – balls, skipping ropes, hoops 	Learning about maintaining a healthy lifestyle. Also ties in with sporting events such as a school athletics carnival.	English	<ul style="list-style-type: none"> • Number and place value • Using units of measurement
Investigation 11 Big spender	We all dream about having large sums of money to spend on our loved ones and ourselves. This Investigation gives students the chance to spend \$1000 on gifts for their family and friends. By using backtracking and closely monitoring their funds, students will come up with a list of carefully selected presents within their budget of \$1000.	4 weeks	individuals	<ul style="list-style-type: none"> • internet access • Tear-out 7 – <i>Big spender table</i> • magazines, catalogues, shopping brochures • craft materials – coloured pencils, scissors, tape and glue 	The end of the year in the lead up to Christmas.	Financial Literacy	<ul style="list-style-type: none"> • Number and place value • Money and financial mathematics
Investigation 12 Follow Freddy	This Investigation asks students to write their own set of clues in order to work their way through a grid map. With a wild rainforest setting, students will be eager to design a challenge for Freddy the Tiger. Sequencing, spatial understanding and working on a grid are the key concepts developed through this Investigation.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> • Tear-out 8 – <i>Freddy's adventure</i> • Tear-out 9 – <i>Freddy's new adventure</i> • BLM 12.1 – <i>Symmetrical stars</i> • internet access • craft materials • markers and counters 	Learning about mapping.	History, Geography	<ul style="list-style-type: none"> • Location and transformation • Geometric reasoning

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

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
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

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
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

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 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

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
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

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
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

Picking the Investigations you want to conduct in your class is easy with the *iMaths 6 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 Rhyme to riches	This Investigation focuses on number concepts – specifically, square and triangular numbers and prime and composite numbers. Students will need to work logically and methodically to decipher a coded rhyme to reveal a secret number.	2 weeks	individuals or pairs	<ul style="list-style-type: none"> • BLM 1.1 – <i>Ancient puzzle</i> • internet access • calculator 			<ul style="list-style-type: none"> • Number and place value
Investigation 2 Happy hippos	This Investigation allows students to combine their creativity with their natural interest in wild animals. Students will be so engrossed in the planning of their Safari Parks that they will hardly realise they are using complicated mathematical processes.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> • Tear-out 1 – <i>Safari park information</i> • Tear-out 2 – <i>Feeding information</i> • BLM 2.1 • calculator • internet access 	An excursion to the local zoo.	Technologies	<ul style="list-style-type: none"> • Number and place value • Fractions and decimals • Patterns and algebra • Using units of measurement
Investigation 3 Educational entrepreneur	This Investigation gives students a creative opportunity to put the challenging concepts of fractions into a game. When creating a game, probability and judgments become real, rather than abstract mathematical ideas. In order to evaluate each other's games, students need to play them, providing further practice in the Topics that have been taught. Producing a checklist, writing the rules, following the rules and evaluating the game integrates aspects of literacy.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • counters, dice or spinners • art and craft materials, including: strong cardboard, felt pens, paints, thin card, scissors, glue, coloured paper 	Learning to work well in pairs or small groups and how to give feedback.	English, Technologies, Economics and Business	<ul style="list-style-type: none"> • Fractions and decimals • Chance
Investigation 4 Practice makes perfect	This is a quick, hands-on, fun investigation based on the skill of coin catching. The Investigation integrates well with science, as it demonstrates the importance of fair testing and the procedures that need to be followed for a valid experiment to be carried out. Students will have great fun tossing, losing and catching coins.	3 weeks	pairs	<ul style="list-style-type: none"> • Tear-out 3 – <i>Coin catch record sheet</i> • 8 coins or counters • stopwatch • internet access 		Science	<ul style="list-style-type: none"> • Chance • Data representation and interpretation
Investigation 5 My personal profile	This Investigation asks students to compile a computer-generated profile page with a photo and personal data, then create graphs to analyse the data of the whole class. It gives students a variety of hands-on measuring opportunities. By investigating similarities and differences, students are given the opportunity to discover how, in some ways they are average, while in other ways they are unique.	4 weeks	individuals	<ul style="list-style-type: none"> • calculator • ruler • tape measures • measuring jugs • stopwatch • camera • computer • internet access 	Helping students get to know each other at the start of the year.	English, HPE	<ul style="list-style-type: none"> • Using units of measurement • Geometric reasoning

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 6 Weird or wonderful weather	This Investigation gives students a close look at how Australian weather data is gathered, presented and recorded on the Bureau of Meteorology website. Students investigate two locations and present a thorough weather analysis. This comparison will lead to the development of a script suitable for presenting as a television segment.	3 weeks	1 to 3 students	<ul style="list-style-type: none"> internet access atlas or map graph paper digital camera video recorder sets and props 	Learning about Australia's seasons and weather events.	Geography, The Arts	<ul style="list-style-type: none"> Number and place value Chance Data representation and interpretation
Investigation 7 Fantasy flight	Students are bound to enjoy imagining the cities and sites they would visit if they won flights to four of the world's major cities. Staying within a 50 000 km flight limit will require careful planning and calculation. Budgeting for accommodation and spending money will require research and realistic calculations. Justifying budgeting and planning decisions for the trip encourages students to think about the decisions they make, and helps develop financial literacy.	3 weeks	3 to 4 students	<ul style="list-style-type: none"> BLM 7.1 – <i>World map outline</i> calculator internet access travel brochures atlas or map 	The time before the the school holidays, when many students fly interstate or internationally.	Geography, Economics and Business	<ul style="list-style-type: none"> Fractions and decimals Money and financial mathematics Using units of measurement Geometric reasoning
Investigation 8 Pyramids and pharaohs	The mystery surrounding the pyramids and Ancient Egypt offers an interesting and stimulating backdrop for the study of scale, angles, ratio and timelines. This Investigation will appeal to students who are interested in history, those who have an inclination towards design and technology, and those who are fascinated by mathematical facts.	4 weeks	2 to 3 students	<ul style="list-style-type: none"> Data page 1 – <i>The pyramids at Giza site map</i> (enlarged to A3 size) library internet access calculator protractor craft materials A3 or large card 		History, Technologies	<ul style="list-style-type: none"> Fractions and decimals Patterns and algebra Using units of measurement Shape Geometric reasoning
Investigation 9 Is petrol pricey?	In this Investigation, students research the relative value of petrol and other liquids. By comparing the price per litre of various liquids, students will be given a meaningful insight into the concepts of rates, ratio and measurement in the context of the concern about petrol prices.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> newspapers internet access grocery catalogues calculator 		Science	<ul style="list-style-type: none"> Number and place value Fractions and decimals Using units of measurement Chance
Investigation 10 I've found a million dollars	In this Investigation, students will require higher-order problem solving skills to find a way to fit wads of cash in a suitcase. The Investigation requires guessing, checking and adjusting as well as persistence and patience in order to pile, orient and stack the money. Students will have fun trying to decide whether one million dollars worth of loot can fit into a suitcase and be carried.	3 weeks	individuals or pairs	<ul style="list-style-type: none"> calculator internet access cardboard 			<ul style="list-style-type: none"> Number and place value Fractions and decimals Patterns and algebra

Investigation	About the Investigation	Duration	Group size	Students will need	Ideal for ...	Related learning area	ACARA Sub-strands
Investigation 11 Octi-origami	This Investigation provides a hands-on creative experience for students as they produce and analyse a set origami piece. Students will investigate how maths can be found in art and design. This Investigation gives practice in careful and structured analysis and observation.	1 week	individuals or pairs	<ul style="list-style-type: none"> • BLM 11.1 – <i>Octi-origami</i> • coloured paper squares • ruler • scissors • internet access • books and magazines 			<ul style="list-style-type: none"> • Location and transformation • Geometric reasoning
Investigation 12 Clever containers	This Investigation requires measuring, predicting, working with formulae and spatial concepts. Students will investigate linear equations in order to calculate the height of a stack of containers. Students must also investigate packaging options for delivering these containers in bulk. This Investigation develops important complex reasoning skills.	3 weeks	2 to 3 students	<ul style="list-style-type: none"> • 5 rectangular plastic take-away containers • ruler • large sheets of paper 		Science	<ul style="list-style-type: none"> • Number and place value • Patterns and algebra • Using units of measurement • Shape