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	• **BLM 1.1** – *Ancient puzzle* • internet access • calculator			• 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	• **Tear-out 1** – *Safari park information* • **Tear-out 2** – *Feeding information* • **BLM 2.1** • calculator • internet access	An excursion to the local zoo.	Technologies	• 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	• 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	• 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	• **Tear-out 3** – *Coin catch record sheet* • 8 coins or counters • stopwatch • internet access		Science	• 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	• calculator • ruler • tape measures • measuring jugs • stopwatch • camera • computer • internet access	Helping students get to know each other at the start if the year.	English, HPE	• Using units of measurement • Geometric reasoning

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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	• 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	• 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	• **BLM 7.1** – *World map outline* • 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	• 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	• **Data page 1** – *The pyramids at Giza site map* (enlarged to A3 size) • library • internet access • calculator • protractor • craft materials • A3 or large card		History, Technologies	• 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	• newspapers • internet access • grocery catalogues • calculator		Science	• 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	• calculator • internet access • cardboard			• Number and place value • Fractions and decimals • Patterns and algebra

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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	• **BLM 11.1** – *Octi-origami* • coloured paper squares • ruler • scissors • internet access • books and magazines			• 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	• 5 rectangular plastic take-away containers • ruler • large sheets of paper		Science	• Number and place value • Patterns and algebra • Using units of measurement • Shape

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