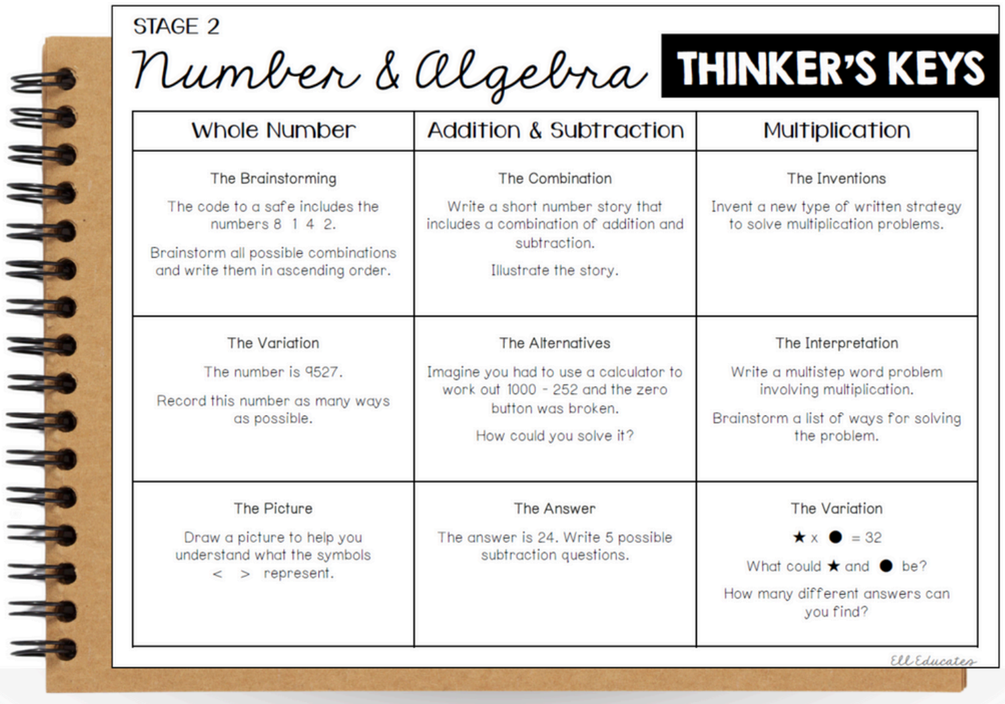
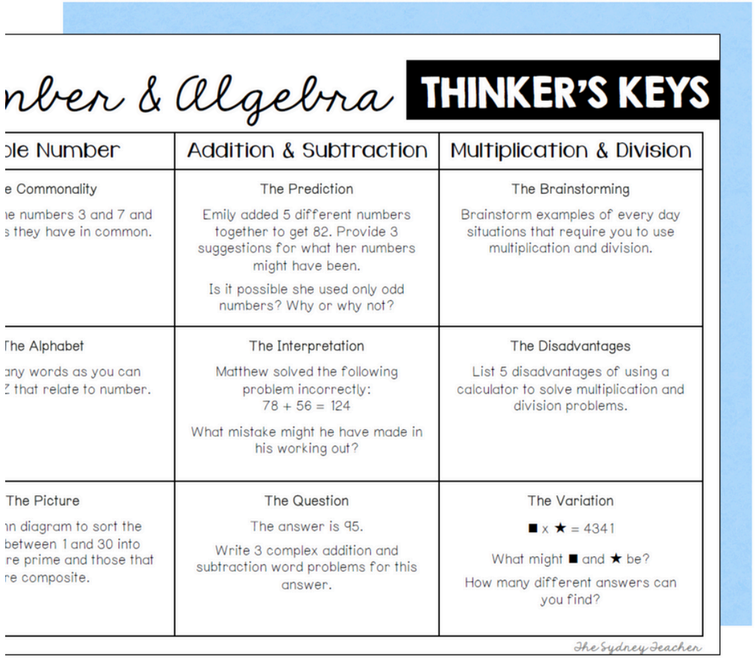


NUMBER AND ALGEBRA THINKER'S KEYS

Keep scrolling to see what's included!

TRANSFORM YOUR MATH LESSONS FROM BORING INTO EXCITING & THOUGHT-PROVOKING

- Thinker's Keys spark critical and creative thinking in maths
- Aligned with Stage 2 and 3 curriculum areas
- 3 engaging activities per topic for fun, deeper learning

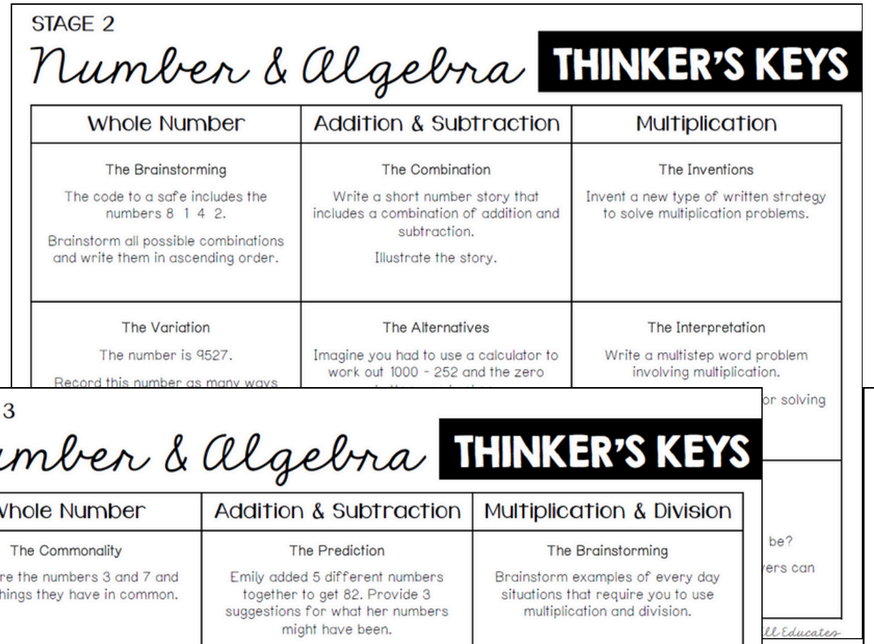


nber & Algebra **THINKER'S KEYS**

ble Number	Addition & Subtraction	Multiplication & Division
e Commonality ıe numbers 3 and 7 and s they have in common.	The Prediction Emily added 5 different numbers together to get 82. Provide 3 suggestions for what her numbers might have been. Is it possible she used only odd numbers? Why or why not?	The Brainstorming Brainstorm examples of every day situations that require you to use multiplication and division.
The Alphabet ıny words as you can Z that relate to number.	The Interpretation Matthew solved the following problem incorrectly: 78 + 56 = 124 What mistake might he have made in his working out?	The Disadvantages List 5 disadvantages of using a calculator to solve multiplication and division problems.
The Picture ın diagram to sort the between 1 and 30 into re prime and those that re composite.	The Question The answer is 95. Write 3 complex addition and subtraction word problems for this answer.	The Variation ■ x ★ = 4341 What might ■ and ★ be? How many different answers can you find?

TheSydneyTeacher

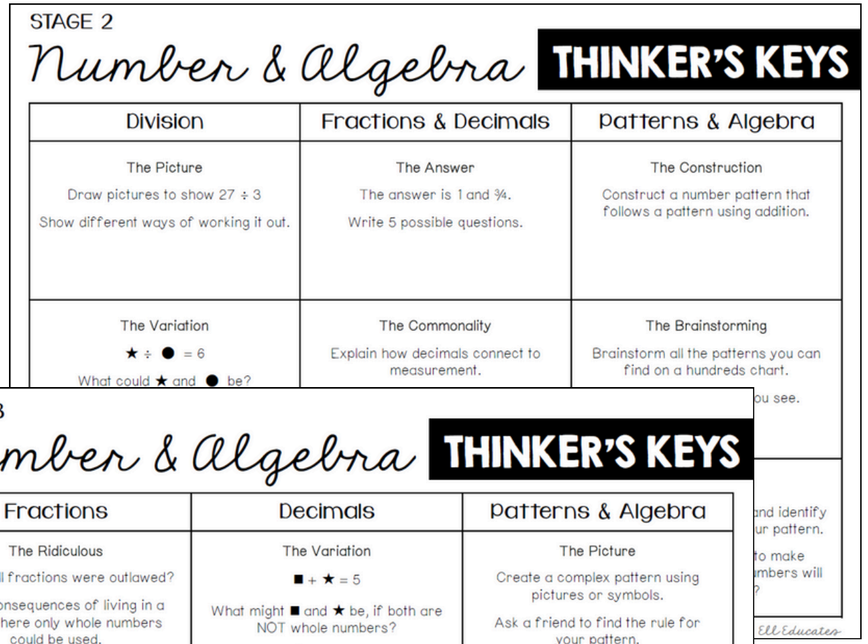
INCLUDES ALL THESE AND MORE!



STAGE 2

Number & Algebra **THINKER'S KEYS**

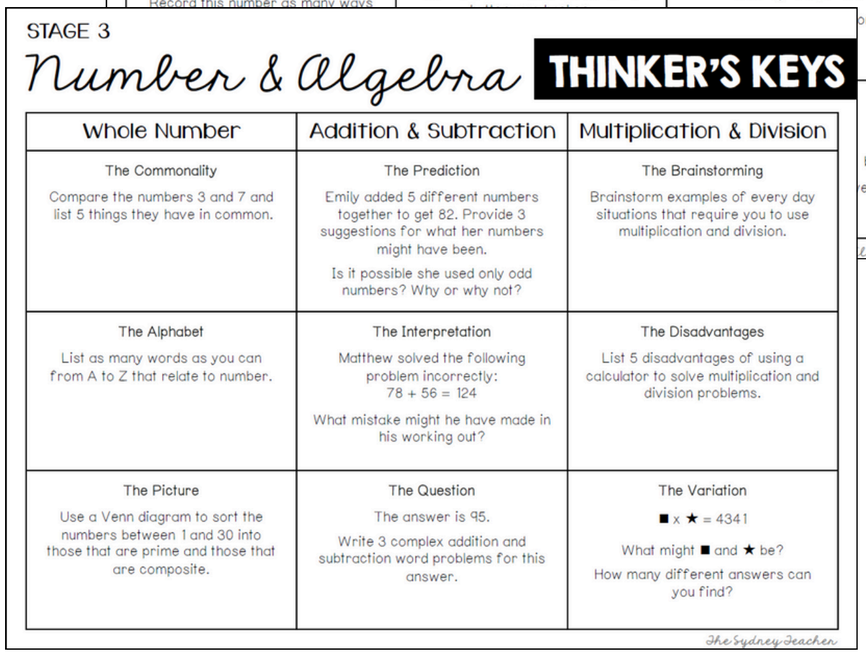
Whole Number	Addition & Subtraction	Multiplication
The Brainstorming The code to a safe includes the numbers 8 1 4 2. Brainstorm all possible combinations and write them in ascending order.	**The Combination** Write a short number story that includes a combination of addition and subtraction. Illustrate the story.	**The Inventions** Invent a new type of written strategy to solve multiplication problems.
The Variation The number is 9527. Record this number as many ways	**The Alternatives** Imagine you had to use a calculator to work out 1000 - 252 and the zero	**The Interpretation** Write a multistep word problem involving multiplication.



STAGE 2

Number & Algebra **THINKER'S KEYS**

Division	Fractions & Decimals	Patterns & Algebra
The Picture Draw pictures to show 27 ÷ 3 Show different ways of working it out.	**The Answer** The answer is 1 and ¾. Write 5 possible questions.	**The Construction** Construct a number pattern that follows a pattern using addition.
The Variation ★ ÷ ● = 6 What could ★ and ● be?	**The Commonality** Explain how decimals connect to measurement.	**The Brainstorming** Brainstorm all the patterns you can find on a hundreds chart.

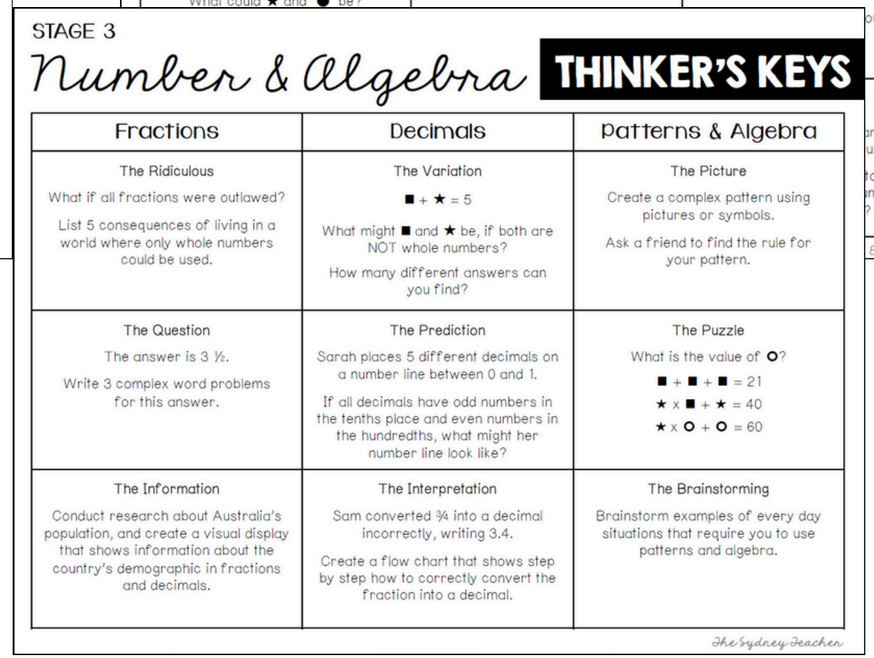


STAGE 3

Number & Algebra **THINKER'S KEYS**

Whole Number	Addition & Subtraction	Multiplication & Division
The Commonality Compare the numbers 3 and 7 and list 5 things they have in common.	**The Prediction** Emily added 5 different numbers together to get 82. Provide 3 suggestions for what her numbers might have been. Is it possible she used only odd numbers? Why or why not?	**The Brainstorming** Brainstorm examples of every day situations that require you to use multiplication and division.
The Alphabet List as many words as you can from A to Z that relate to number.	**The Interpretation** Matthew solved the following problem incorrectly: 78 + 56 = 124 What mistake might he have made in his working out?	**The Disadvantages** List 5 disadvantages of using a calculator to solve multiplication and division problems.
The Picture Use a Venn diagram to sort the numbers between 1 and 30 into those that are prime and those that are composite.	**The Question** The answer is 95. Write 3 complex addition and subtraction word problems for this answer.	**The Variation** ■ x ★ = 4341 What might ■ and ★ be? How many different answers can you find?

The Sydney Teacher



STAGE 3

Number & Algebra **THINKER'S KEYS**

Fractions	Decimals	Patterns & Algebra
The Ridiculous What if all fractions were outlawed? List 5 consequences of living in a world where only whole numbers could be used.	**The Variation** ■ + ★ = 5 What might ■ and ★ be, if both are NOT whole numbers? How many different answers can you find?	**The Picture** Create a complex pattern using pictures or symbols. Ask a friend to find the rule for your pattern.
The Question The answer is 3 ½. Write 3 complex word problems for this answer.	**The Prediction** Sarah places 5 different decimals on a number line between 0 and 1. If all decimals have odd numbers in the tenths place and even numbers in the hundredths, what might her number line look like?	**The Puzzle** What is the value of ○? ■ + ■ + ■ = 21 ★ x ■ + ★ = 40 ★ x ○ + ○ = 60
The Information Conduct research about Australia's population, and create a visual display that shows information about the country's demographic in fractions and decimals.	**The Interpretation** Sam converted ¾ into a decimal incorrectly, writing 3.4. Create a flow chart that shows step by step how to correctly convert the fraction into a decimal.	**The Brainstorming** Brainstorm examples of every day situations that require you to use patterns and algebra.

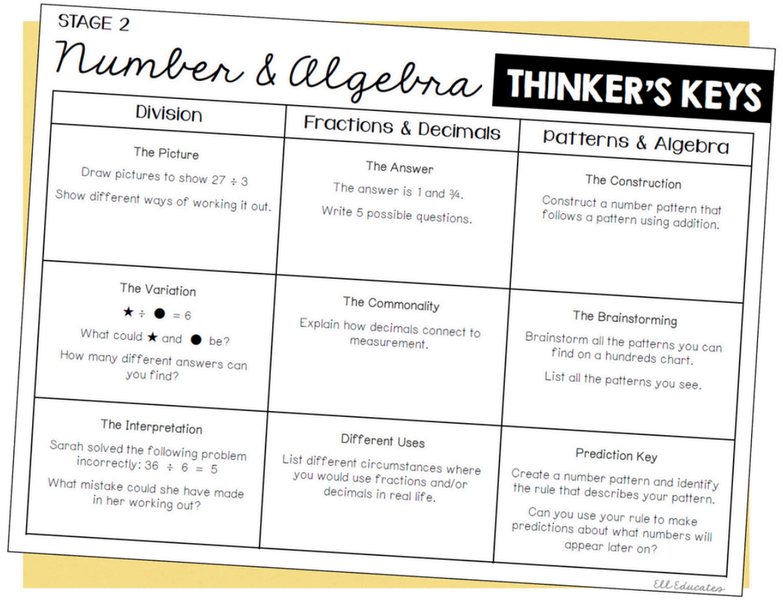
The Sydney Teacher

CONTENTS

3 Thinker's Key activities are provided for each of the following topics:

STAGE 2

- Whole Number
- Addition & Subtraction
- Multiplication
- Division
- Fractions & Decimals
- Patterns & Algebra

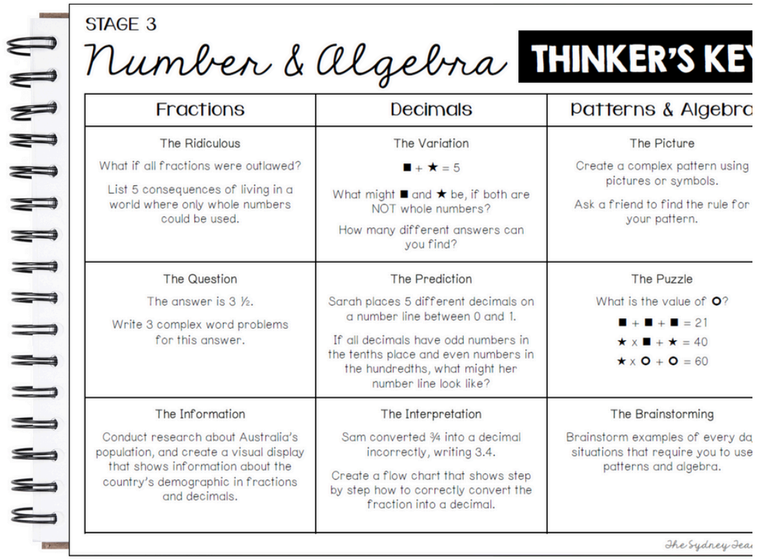


CONTENTS

3 Thinker's Key activities are provided for each of the following topics:

STAGE 3

- Whole Number
- Addition & Subtraction
- Multiplication & Division
- Fractions
- Decimals
- Patterns & Algebra



HOW YOU CAN USE THIS RESOURCE

- **Start or extend lessons** with creative tasks
- **Promote independent thinking** through challenges
- **Differentiate easily** for all learning levels

WHAT OTHERS ARE SAYING!

"Students enjoyed these activities. ***Something more creative than the usual worksheets.*** *"*
-Cassandra O.

"This is fantastic! I love your resources. ***They're so detailed and align so closely to the curriculum.*** *"*
-Alison N.

*"****I used these as part of my planing for my higher ability kids*** *and they loved the different challenges."*
-Jennifer O.

LOOKING FOR MORE?

Power up your maths toolkit with this **Mathematics Thinker's Keys Pack** for more open-ended, creative tasks to enrich lessons and challenge curious minds!