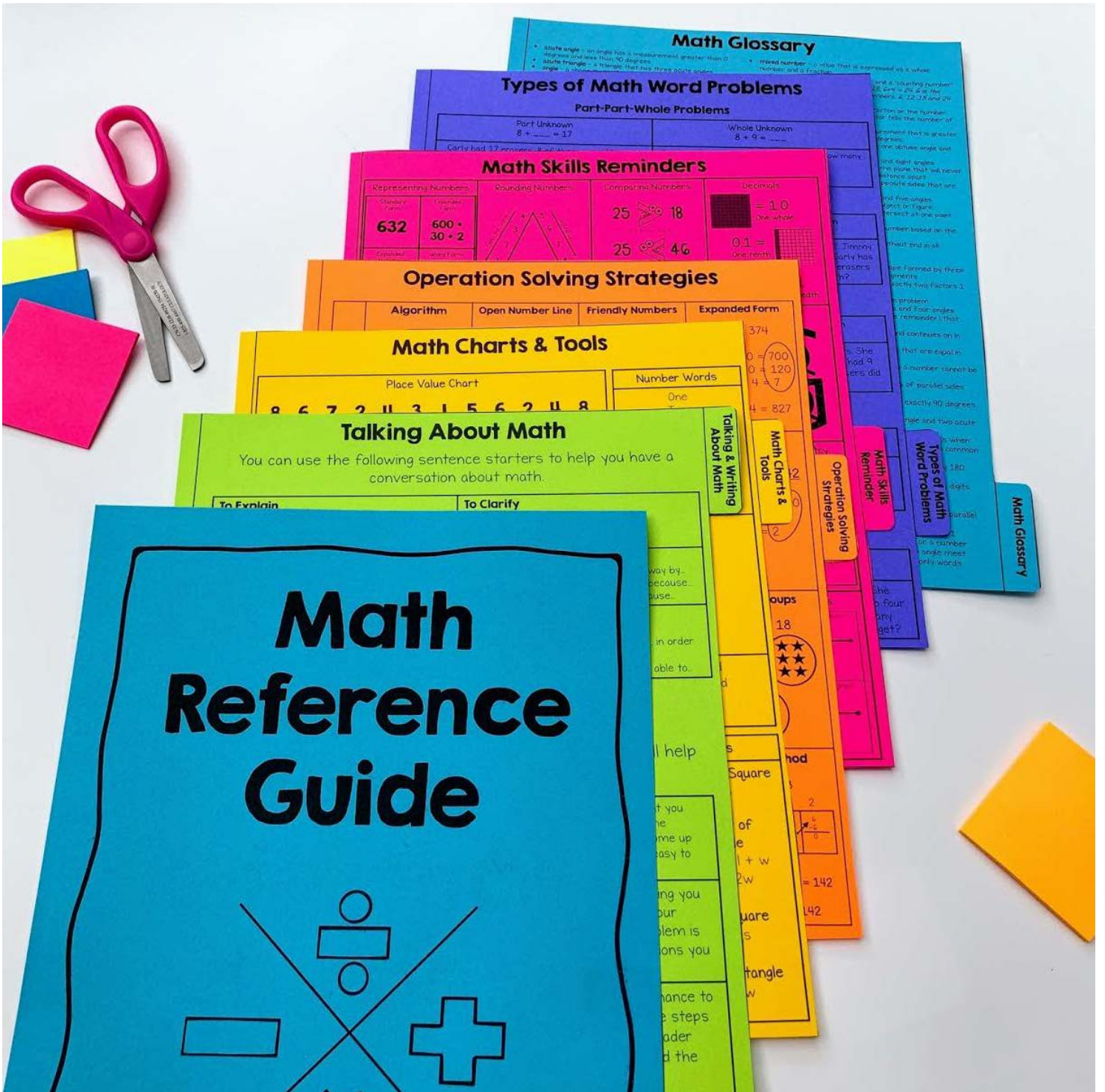
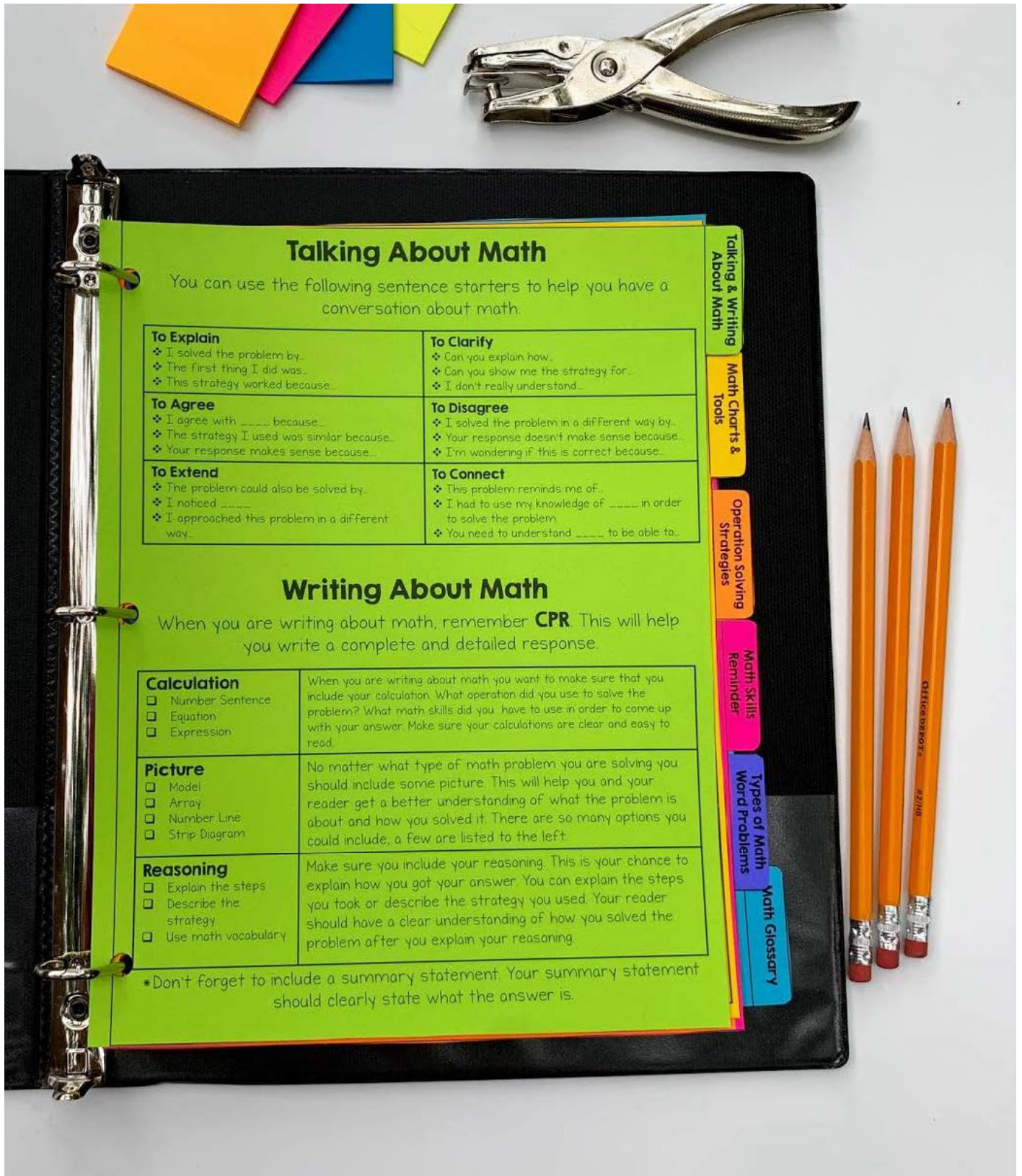


STUDENT REFERENCE GUIDE FOR MATH



Works great as a reference binder!



Talking About Math

You can use the following sentence starters to help you have a conversation about math.

To Explain <ul style="list-style-type: none"> ❖ I solved the problem by... ❖ The first thing I did was... ❖ This strategy worked because... 	To Clarify <ul style="list-style-type: none"> ❖ Can you explain how... ❖ Can you show me the strategy for... ❖ I don't really understand...
To Agree <ul style="list-style-type: none"> ❖ I agree with _____ because... ❖ The strategy I used was similar because... ❖ Your response makes sense because... 	To Disagree <ul style="list-style-type: none"> ❖ I solved the problem in a different way by... ❖ Your response doesn't make sense because... ❖ I'm wondering if this is correct because...
To Extend <ul style="list-style-type: none"> ❖ The problem could also be solved by... ❖ I noticed _____ ❖ I approached this problem in a different way... 	To Connect <ul style="list-style-type: none"> ❖ This problem reminds me of... ❖ I had to use my knowledge of _____ in order to solve the problem. ❖ You need to understand _____ to be able to...

Writing About Math

When you are writing about math, remember **CPR**. This will help you write a complete and detailed response.

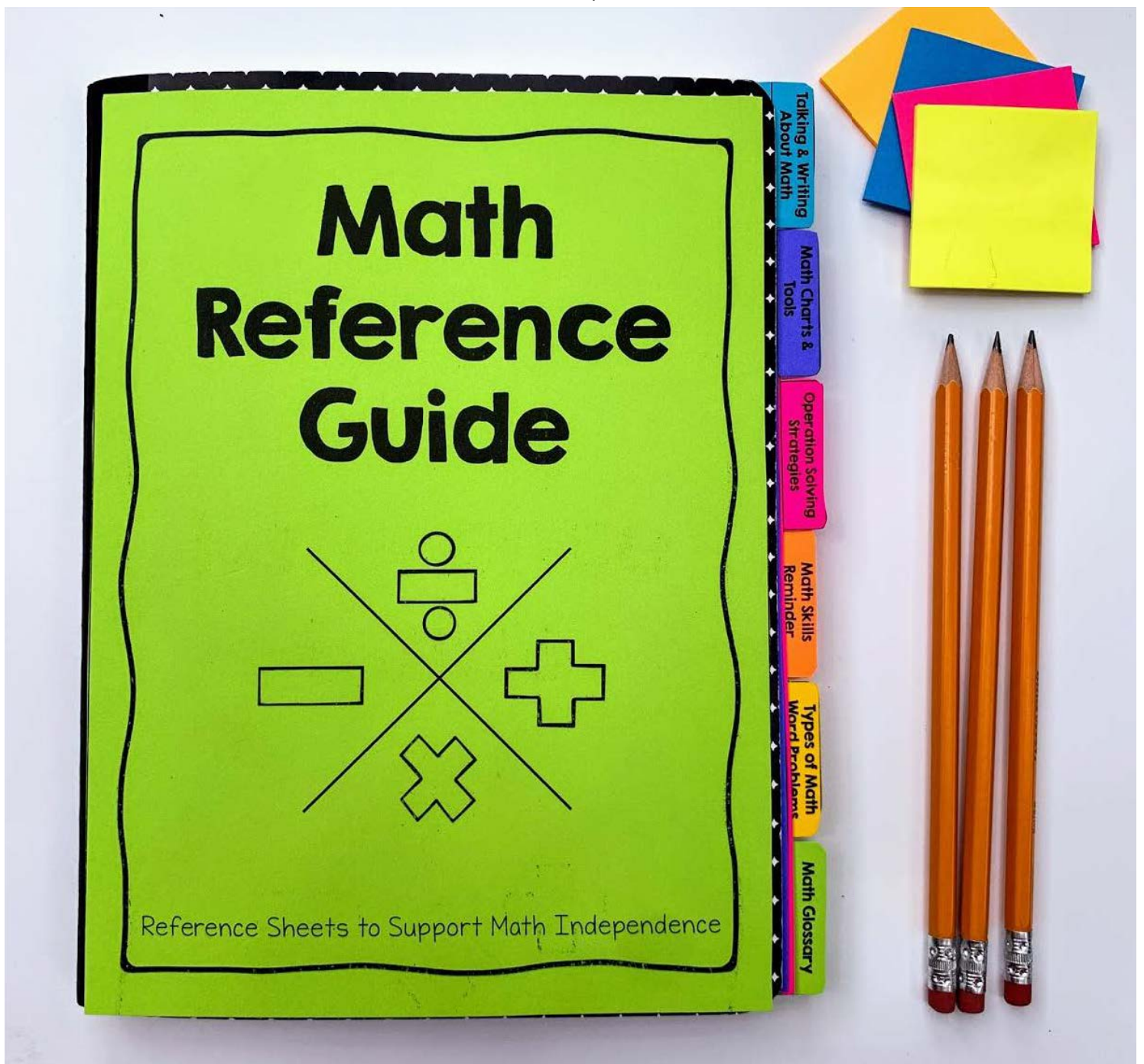
Calculation <ul style="list-style-type: none"> <input type="checkbox"/> Number Sentence <input type="checkbox"/> Equation <input type="checkbox"/> Expression 	When you are writing about math you want to make sure that you include your calculation. What operation did you use to solve the problem? What math skills did you have to use in order to come up with your answer. Make sure your calculations are clear and easy to read.
Picture <ul style="list-style-type: none"> <input type="checkbox"/> Model <input type="checkbox"/> Array <input type="checkbox"/> Number Line <input type="checkbox"/> Strip Diagram 	No matter what type of math problem you are solving you should include some picture. This will help you and your reader get a better understanding of what the problem is about and how you solved it. There are so many options you could include, a few are listed to the left.
Reasoning <ul style="list-style-type: none"> <input type="checkbox"/> Explain the steps <input type="checkbox"/> Describe the strategy <input type="checkbox"/> Use math vocabulary 	Make sure you include your reasoning. This is your chance to explain how you got your answer. You can explain the steps you took or describe the strategy you used. Your reader should have a clear understanding of how you solved the problem after you explain your reasoning.

*Don't forget to include a summary statement. Your summary statement should clearly state what the answer is.

Talking & Writing About Math
Math Charts & Tools
Operation Solving Strategies
Math Skills Reminder
Types of Math Word Problems
Math Glossary

Great addition to student journals!

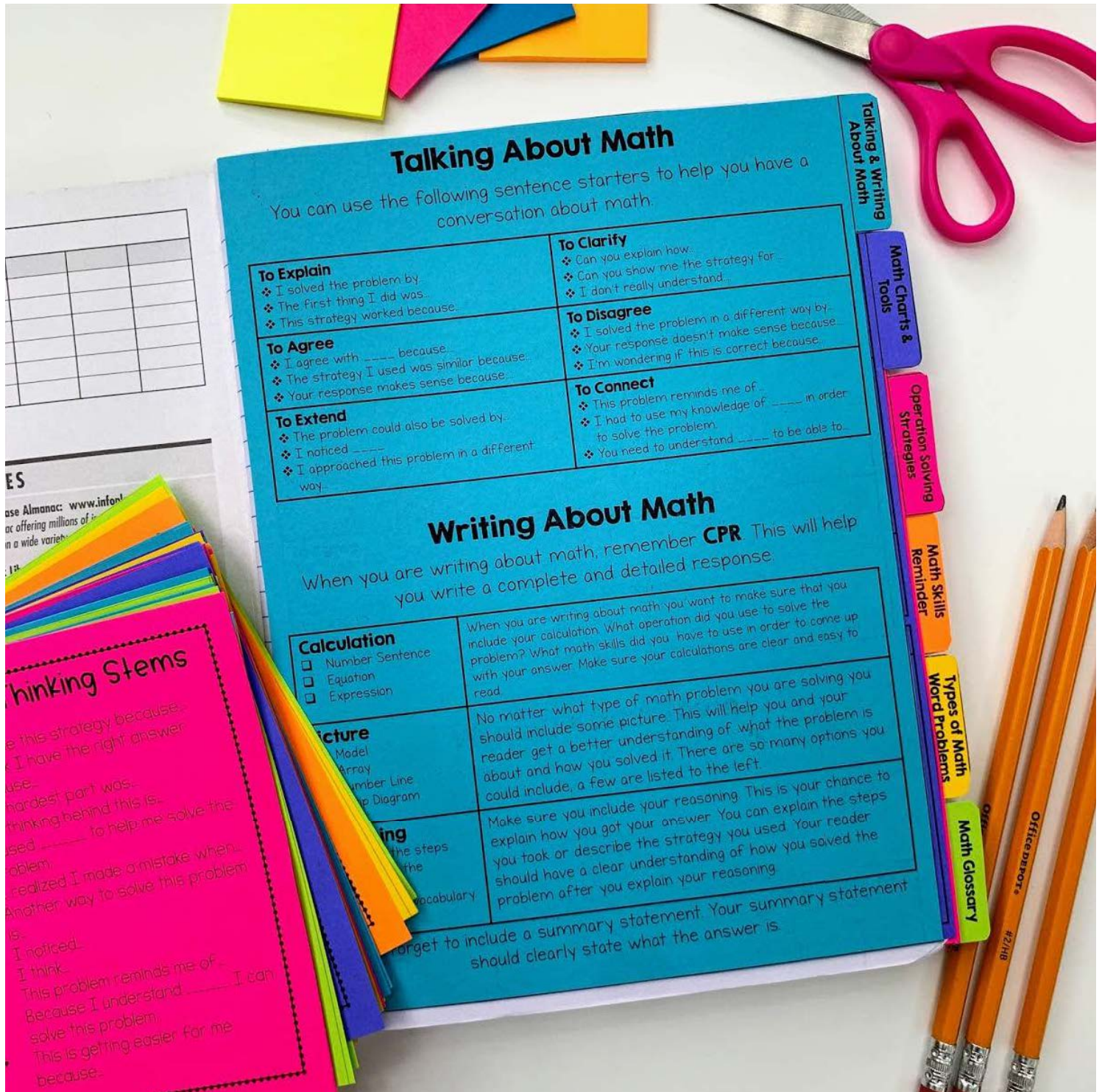
Adjust the printer settings so the pages fit perfectly in your student's journals. Mine printed at 90% for a perfect fit.



What's Included?

Page 1: Talking & Writing About Math

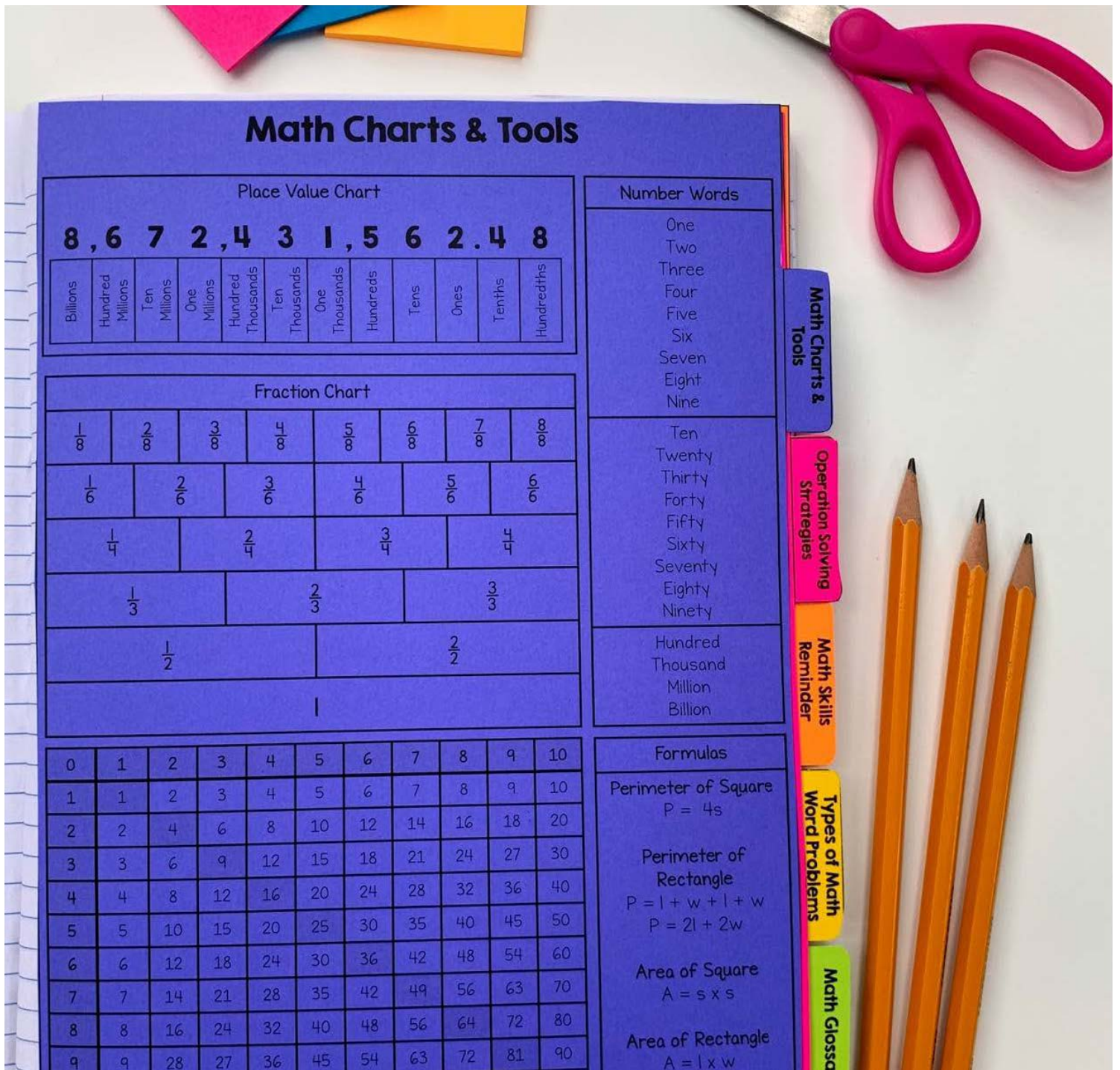
- ❖ Includes sentence stems for math conversations
- ❖ Includes CPR guideline to help students write in depth about math or to use when solving word problems.



What's Included?

Page 2: Math Charts & Tools

- ❖ Includes a variety of common charts and tools students might frequently use when working independently. Includes a place value chart, a multiplication chart, a fraction chart, and common formulas.



Math Charts & Tools

Place Value Chart

8, 6 7 2, 4 3 1, 5 6 2. 4 8

Billions	Hundred Millions	Ten Millions	One Millions	Hundred Thousands	Ten Thousands	One Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
----------	------------------	--------------	--------------	-------------------	---------------	---------------	----------	------	------	--------	------------

Fraction Chart

$\frac{1}{8}$	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$	$\frac{5}{8}$	$\frac{6}{8}$	$\frac{7}{8}$	$\frac{8}{8}$
$\frac{1}{6}$	$\frac{2}{6}$	$\frac{3}{6}$	$\frac{4}{6}$	$\frac{5}{6}$	$\frac{6}{6}$		
$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$	$\frac{4}{4}$				
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$					
$\frac{1}{2}$	$\frac{2}{2}$						
1							

0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	28	27	36	45	54	63	72	81	90

Number Words

One
Two
Three
Four
Five
Six
Seven
Eight
Nine

Ten
Twenty
Thirty
Forty
Fifty
Sixty
Seventy
Eighty
Ninety

Hundred
Thousand
Million
Billion

Formulas

Perimeter of Square
 $P = 4s$

Perimeter of Rectangle
 $P = l + w + l + w$
 $P = 2l + 2w$

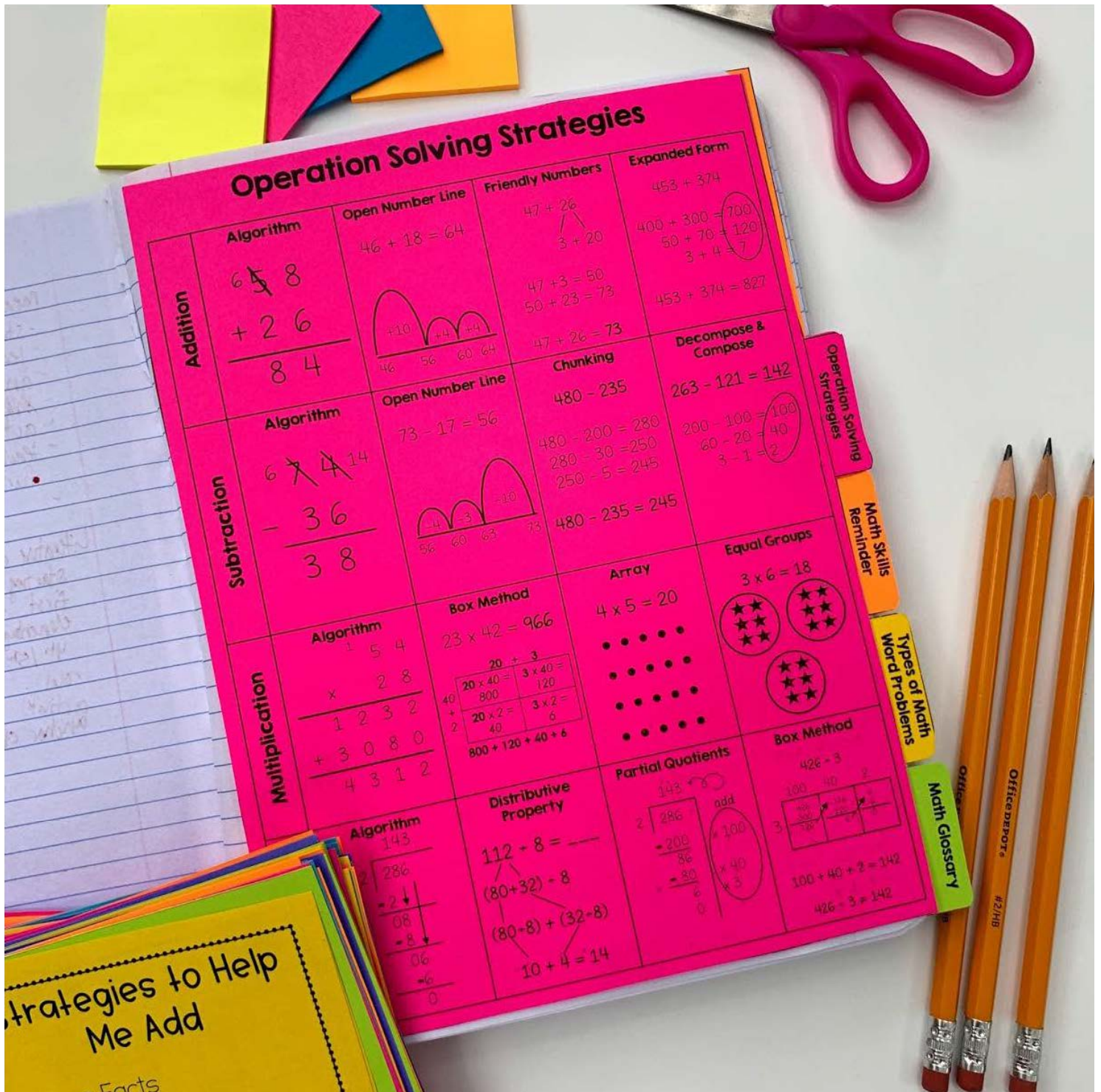
Area of Square
 $A = s \times s$

Area of Rectangle
 $A = l \times w$

What's Included?

Page 3: Operation Solving Strategies

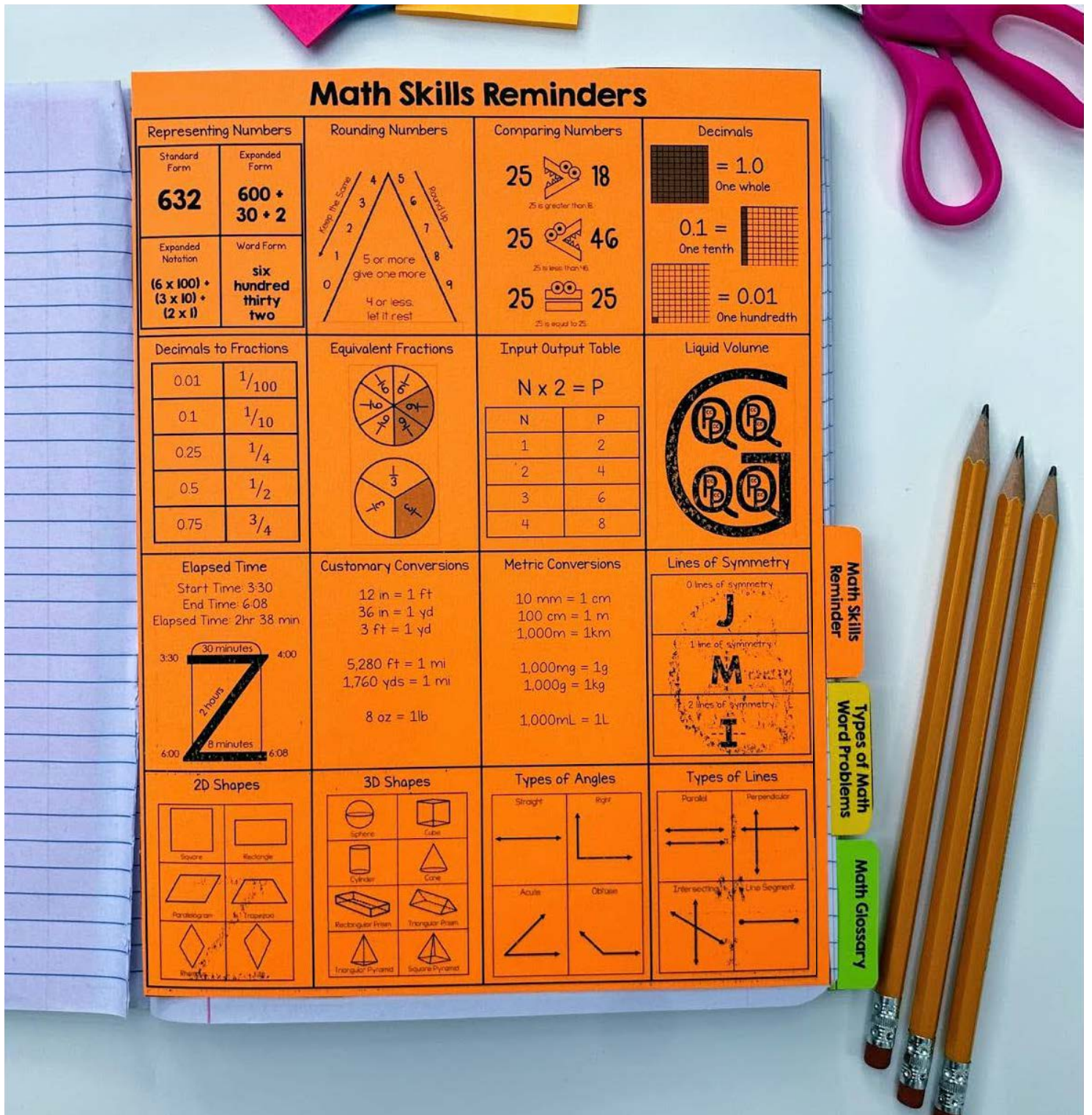
- ❖ Includes four different solving strategies students can use for each operation. Provides visual cues to remind student how to use the strategies when working independently.



What's Included?

Page 4: Math Skills Reminders

- ❖ Includes 16 charts to remind students of some common or challenging math skills. This is a great resource for students to refer to during independent work.



What's Included?

Page 5: Types of Math Word Problems

- ❖ Provides students with formulas and examples of the various types of word problems they might encounter.

Types of Math Word Problems

Part-Part-Whole Problems

Part Unknown $8 + ___ = 17$	Whole Unknown $8 + 9 = ___$
Carly had 17 erasers. 8 of them were blue and the rest were red. How many red erasers did Carly have?	Carly had 8 blue erasers and 9 red erasers. How many erasers did she have altogether?

Joining Problems

Result is Unknown $(9 + 8 = ___)$	Change is Unknown $(9 + ___ = 17)$	Start is Unknown $(___ + 8 = 17)$
Carly had 9 eraser. Jimmy gave her 8 more erasers. How many erasers does Carly have now?	Carly had 9 erasers. Jimmy gave her some more. Now Carly has 17 erasers. How many erasers did Jimmy give Carly?	Carly had some erasers. Jimmy gave her 8 more. Now, Carly has 17 erasers. How many erasers did Carly start with?

Separating Problems

Result is Unknown $(17 - 8 = ___)$	Change is Unknown $(17 - ___ = 9)$	Start is Unknown $(___ - 8 = 9)$
Carly had 17 erasers. She gave 8 to Jimmy. How many erasers does Carly have left?	Carly has 17 erasers. She gave some to Jimmy. Now she only has 9 erasers left. How many erasers did she give to Jimmy?	Carly has some erasers. She gave 8 to Jimmy. She had 9 leftover. How many erasers did she start with?

Comparing Problems

Quantity is Unknown $(___ + 5 = 9)$	Quantity is Unknown $(4 + 5 = ___)$	Referent is Unknown $(9 - 5 = ___)$
Carly has 4 erasers. Jimmy has 5 more erasers than Carly. How many erasers does Jimmy have?	Jimmy has 4 erasers. Carly has 5 more erasers than Jimmy. How many erasers does Carly have?	Carly has 9 erasers. She has 5 more than Jimmy. How many erasers does Jimmy have?

Multiplying and Dividing Problems

	Measurement Division $(12 \div 3 = ___)$	Partitive Division $(12 \div 3 = ___)$
Carly had 12 erasers. She put 3 erasers in each pencil pouch. How many pencil pouches does she need?	Carly had 12 erasers. She wanted to give them all to four of her friends. How many erasers will each friend get?	

Types of Math Word Problems

Math Glossary

Joining Problems

(Results Unknown)
 $___ + 2 = ___$
Carlos has 8 cookies. He gave 2 of his cookies to his friend Paul. How many cookies did Carlos have left?

(Change Unknown)
 $___ - 2 = 6$
Carlos has 8 cookies. He gave some to his friend Paul. When he had 6 cookies left. How many cookies did he give to Paul?

(Start Unknown)
 $___ - 2 = 6$
Carlos has 8 cookies. He gave 2 cookies to his friend Paul. Then he had 6 cookies left.

What's Included?

Page 6: Math Glossary

- ❖ Includes student friendly definitions for math terms students might encounter when working independently.

