

High Yield Routines in the CGI Classroom:

How to Talk Less and Listen More





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HIGH-YIELD ROUTINES

r	ARIZONA	O	Grades K-8
u	KANSAS	t	i
n	OVERSEAS		e

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“Teaching isn’t about just getting through the day...It’s about inspiring real change in students and making an impact that lasts a lifetime.”







WHY?

“Mathematical routines offer opportunities for students to demonstrate their thinking and for teachers to gain insight into the thinking of their students.”



STANDARDS FOR MATHEMATICAL PRACTICE

- 1 Make sense of problems and persevere in solving them.
- 2 Reason abstractly and quantitatively.
- 3 Construct viable arguments and critique the reasoning of others.
- 4 Model with mathematics.
- 5 Use appropriate tools strategically.
- 6 Attend to precision.
- 7 Look for and make use of structure.
- 8 Look for and express regularity in repeated reasoning.



High Yield Routines

- Today's Number
- Mystery Number
- Alike and Different
- Number Lines
- Quick Images
- Guess My Rule
- How Do You Know?



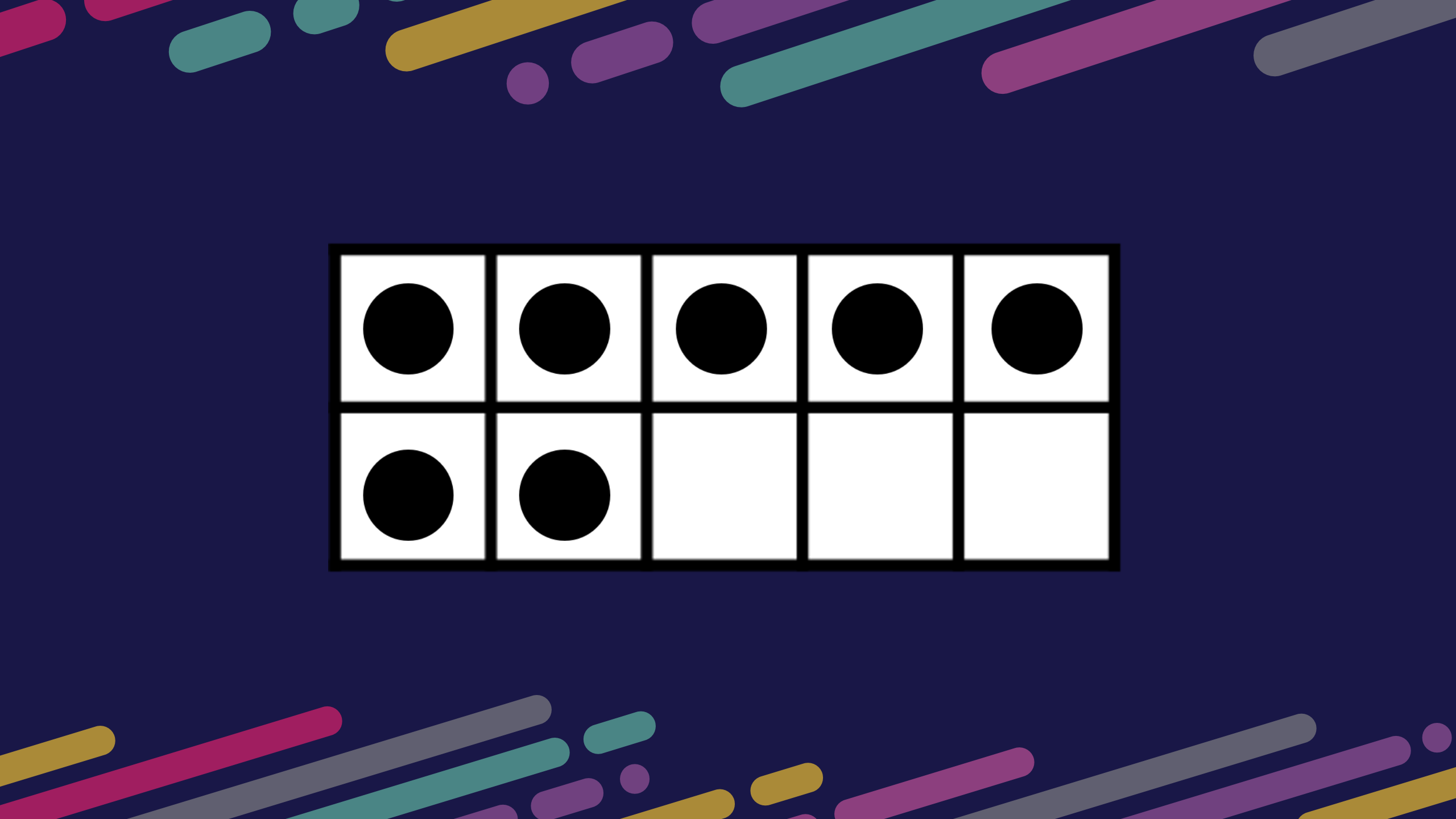
“Choosing a few routines to implement and implementing them consistently and often will yield the greatest benefits for students.”

Quick Images

- Recognizing quantity in a small group saves time.
- Subitizing is a forerunner of powerful ideas related to numbers.
 - It helps children develop more sophisticated counting techniques.
- Develops proficiency with addition and subtraction.



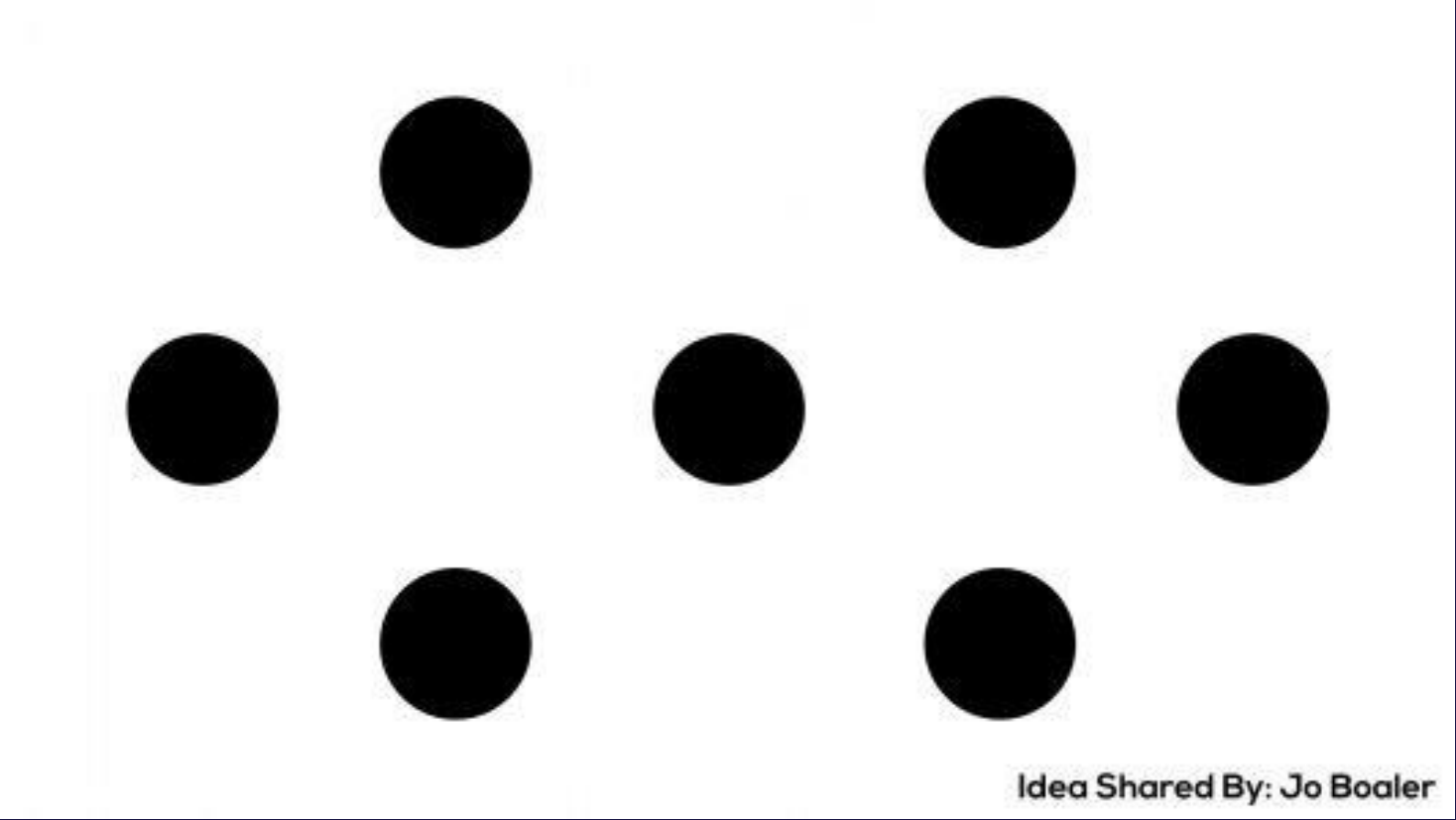
Quick Image



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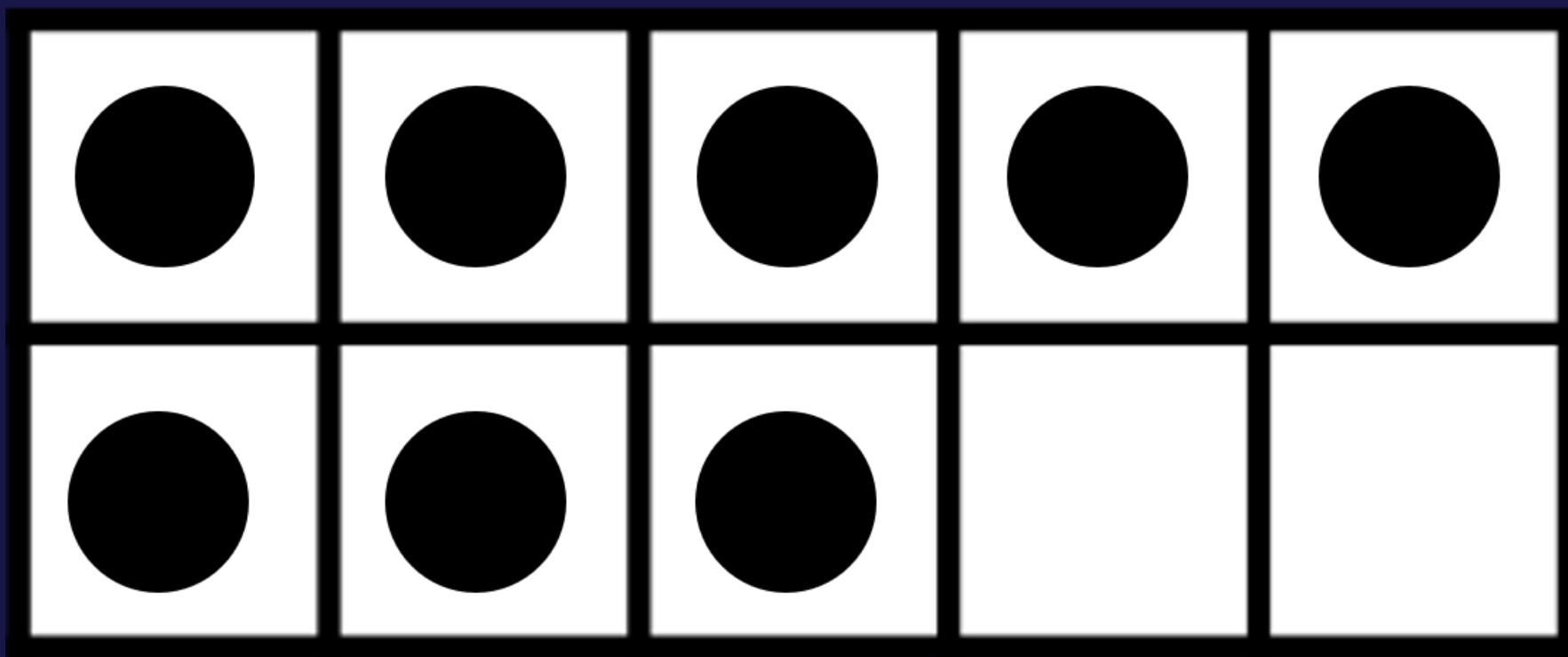


Quick Image





Quick Image



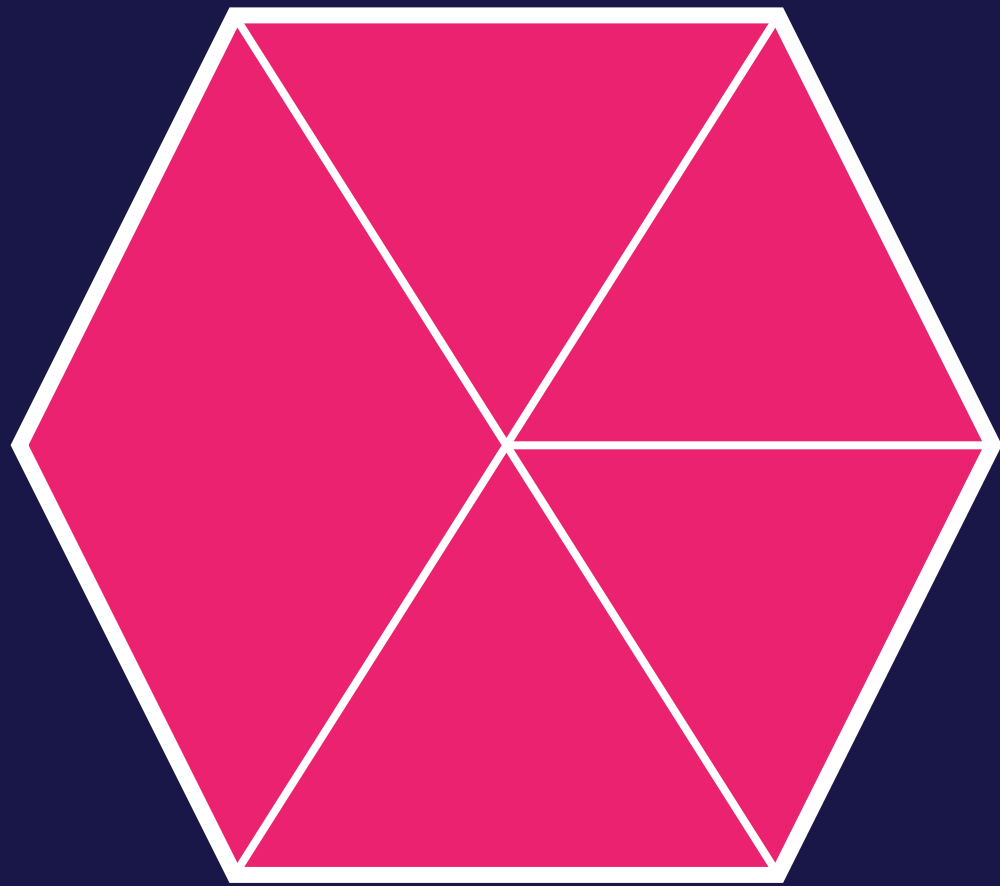

$$8 + 2 = 10$$

or

$$10 - 2 = 8$$

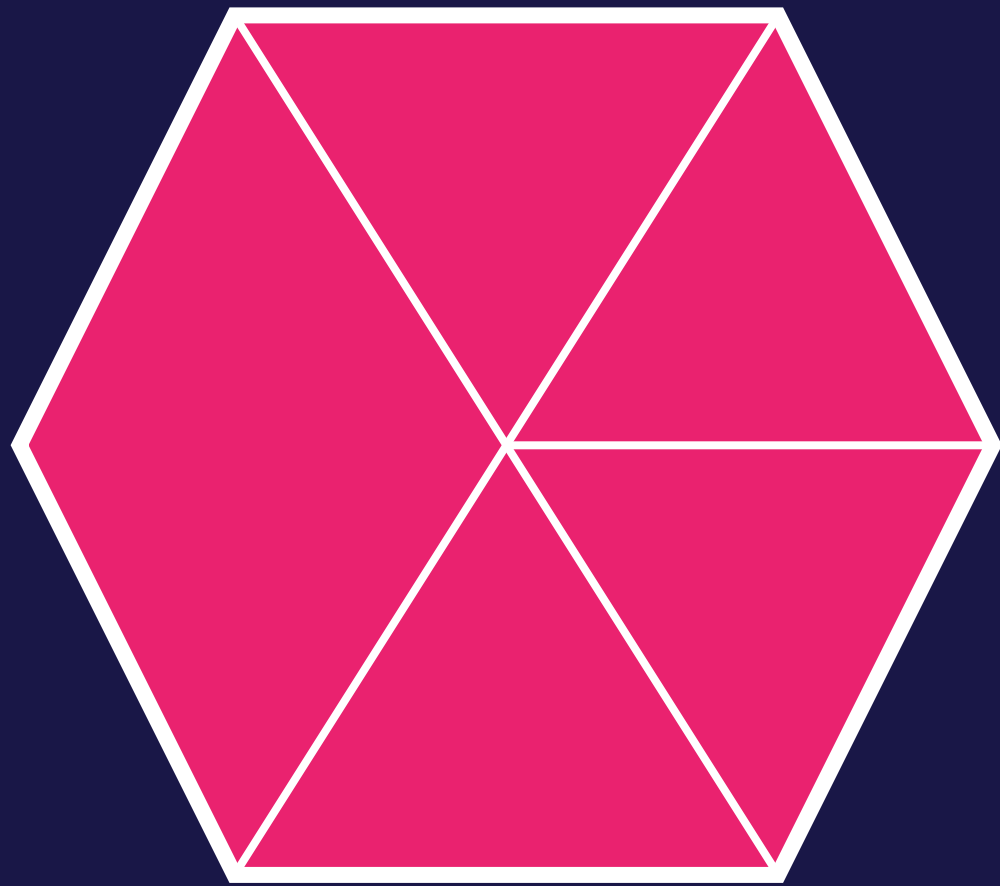


Quick Image





Quick Image



The background is a dark blue gradient. It features several decorative elements: a cluster of colorful, rounded rectangular bars and a small circle in the top-left corner, and another cluster of similar elements in the bottom-right corner. The colors include shades of pink, teal, yellow, purple, and grey. The text 'Turn and Talk' is centered in a large, white, sans-serif font.

Turn and Talk



Number Line

- A number line is usually visible in the classroom to the students, but is rarely used as effectively as it might be.
- This routine provides flexibility in thinking and implementation.
- You may also use this routine with computation, or an open number line.



The students would decide where $.23$ would go on the number line.



On this example you may just ask the students what number they think goes on the empty line.



Turn and Talk



Today's Number

- Two aspects of number sense are greatly encouraged through the use of the Today's Number strategy:
 1. Composition of numbers
 2. Decomposition of numbers



Fig. 1.1.

Kindergarten class representations of 7

$$\begin{array}{lll} 10+5=15 & 1+14=15 & 2+13=15 \\ 7+8=15 & 4+11=15 & 9+6=15 \end{array}$$

10 plus 5 is 15, 15 is an odd number
20 take away 4 is 15, 15 one ten and 5 ones

Fig. 1.3a and 1.3b.

Second graders use decomposition to represent 15.

I know for one example you multiply
 $\frac{1}{2} \times \frac{3}{2} = \frac{3}{4}$ and also know that the # of pieces
is the # all together

Fig. 1.3c.

A fifth grader represents $\frac{3}{4}$ by using decomposition.



Turn and Talk



BONUS



Which One Doesn't Belong

Inspired by
Christopher Danielson



9

16

25

43



THANK YOU!

ANY QUESTIONS?

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