

Healthy Minds, Healthy Families

Empowering Families for Scholar Success

How can I help
my child...

Maintain
physical
activity?

Avoid vaping
and other
substances?

Deal with
stress and
anxiety?

Manage
social media
and screen
time?

Make good
food
choices?



Thursday, December 11 | 6-7:30 pm



FEDERAL WAY
PUBLIC SCHOOLS





Growing Math Minds

Building Confidence Through Family Connections

FWPS Family Academy – December 2025

Nolan Fossum, Math Specialist at Innovamat



Breaking the ice...



Let's play a game!

Breaking the ice...

Game: "Don't Break the Bank!"



I am going to roll a die 9 times. After each roll you will place the number in one of the 9 cells.

Once your game board is complete, add your three numbers.

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Credit: [Math For Love](#) by Dan Finkel



Breaking the ice...

Game: "Don't Break the Bank!"

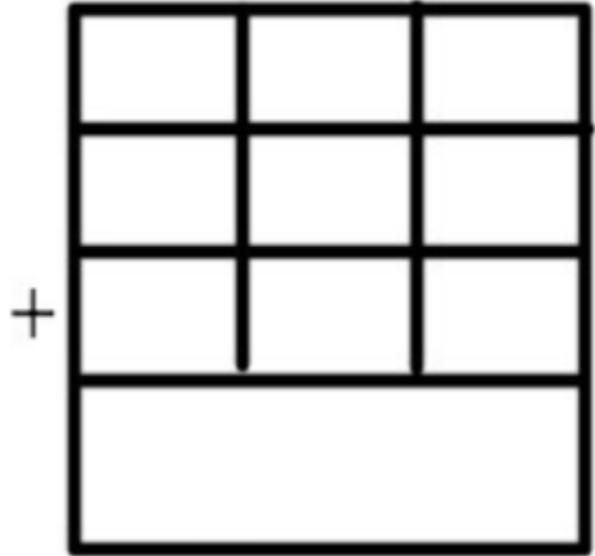


I am going to roll a die 9 times. After each roll you will place the number in one of the 9 cells.

Once your game board is complete, add your three numbers.

Be careful not to break the bank!

The object is to get the highest number without going over 999!



Credit: [Math For Love](#) by Dan Finkel



Tonight's Agenda

1. **Mathematical Fluency Myths and Truths**
1. **Two Tips for Families**
1. **Let's Play Some More!**



What is Mathematical Fluency?



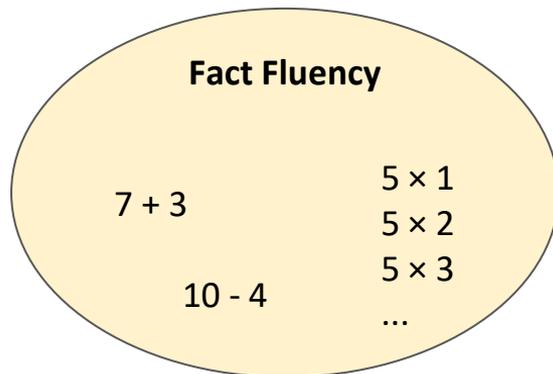
insert video clip

What is Mathematical Fluency?



Fluency is often associated with recalling facts by heart...

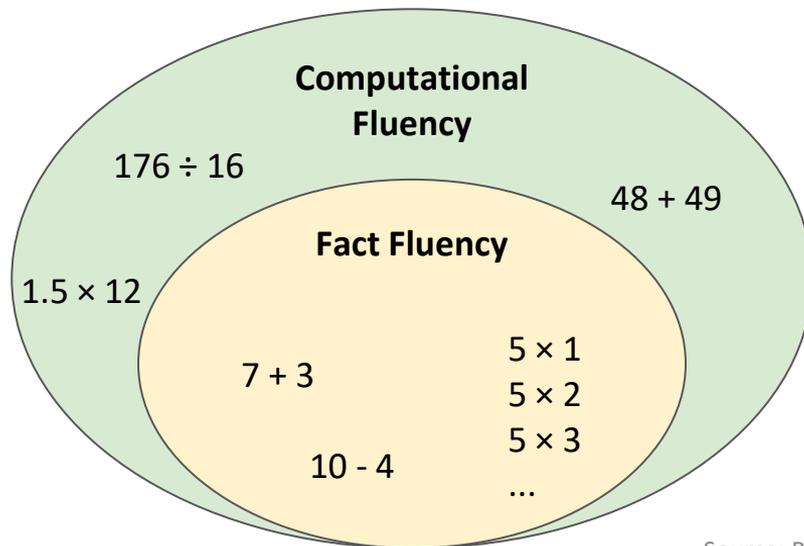
Is that all?



Source: Bay-Williams, J. & SanGiovanni, J. (2022)
Accessing Fluency through Routine and Opportunity.
NCTM Annual Meeting 2022. LA, USA



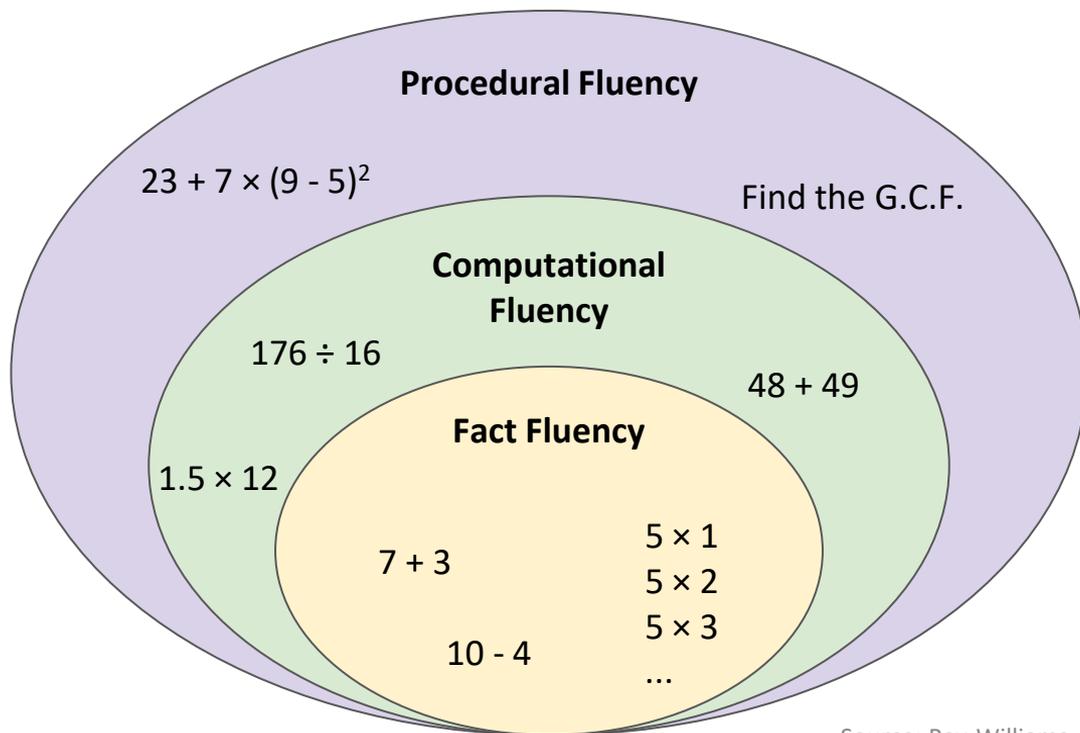
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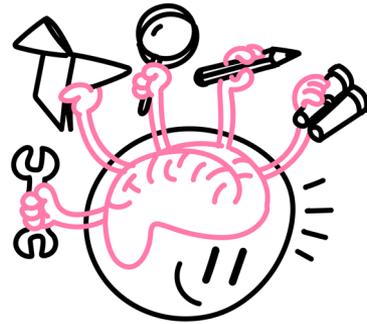
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How do learners build **mathematical fluency?**



Separating Fact from Fiction



Myth #1

Fluency = Mastery

Facts/skills are best mastered by rote memorization.

Separating Fact from Fiction



Myth #1

Fluency = Mastery

Facts/skills are best mastered by rote memorization.

Truth

Fluency > Mastery

Memorization without understanding impedes confidence and often has negative impacts on achievement.

Separating Fact from Fiction



Myth #2

Timed tests help build
and measure fluency.

Separating Fact from Fiction



Myth #2

Timed tests help build and measure fluency.

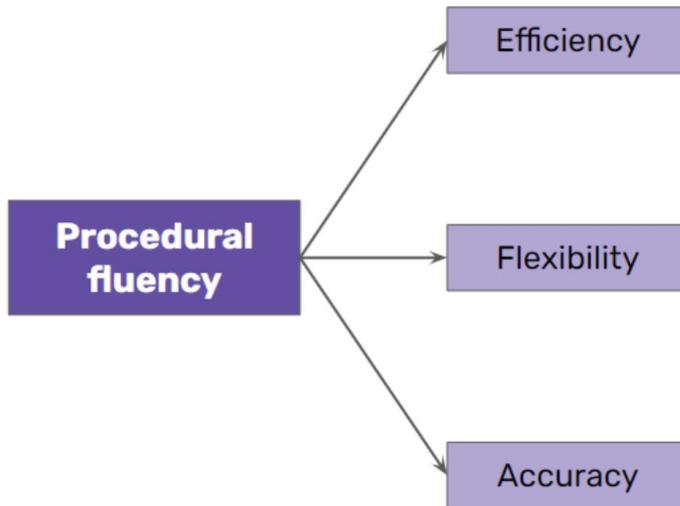
Truth

Timed tests neither build nor measure fluency. But they often induce math anxiety, which inhibits both.

Understanding Fluency



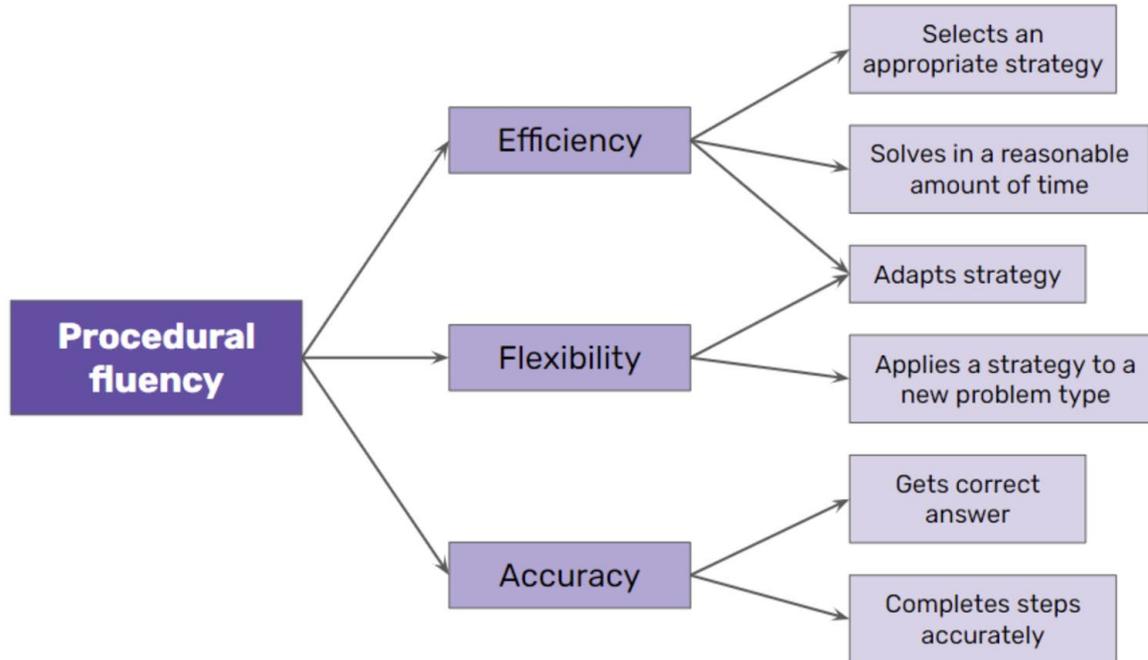
Fluency can be defined through **three components**...



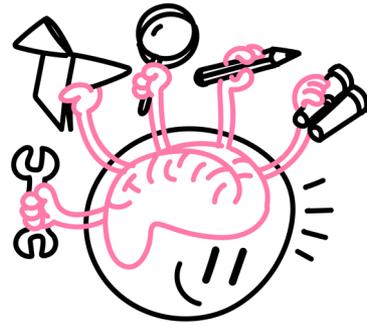
Understanding Fluency



Fluency can be defined through **three components** with **several actions**



Do you have any
tips for families?



Fluency Building Tips for Families



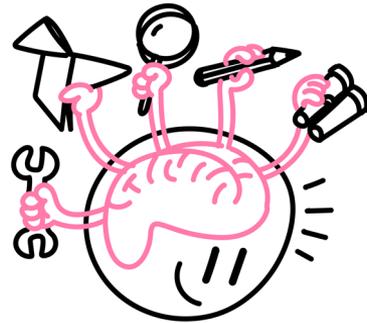
- Be curious about **HOW** students learn math at school.

Fluency Building Tips for Families



- Be curious about **HOW** students learn math at school.
- Play math games and talk about strategies.
<https://mathforlove.com/lessons/games/>

Do you have any
good games?



Math Dice Game – Doubles BINGO



Two or more players

Materials: 4x4 BINGO cards; two 6-sided dice

Players fill the numbers on their BINGO card using 16 of the numbers ranging from 2 to 24.

The “caller” rolls two dice and the players mark the corresponding number AND its double on their card.

The first to get four in a row wins the round.

Options: play a blackout version; play on a 5x5 grid and allow repeats or roll three dice.

Math Card Game – Sum War



Two players

Materials: One deck of playing cards with kings and jacks removed (ace = 1, queen = 0)

Split the deck evenly. Each player turns over two cards and calls out the sum. If both players are correct, the player with the higher sum wins the hand and collects all cards. If only one player is correct, that player wins the hand. If neither player is correct, the cards go back to the bottom of each player's deck.

Math Card Game – Trios x5



Two players

Materials: One deck of playing cards with face cards removed (ace = 1); one 5x5 game board with a multiple of 5 in each square; several counters in two colors.

Players take turns drawing a card, multiplying the number by 5 and placing a colored counter on any square with that product. The object is to cover three in a row (horizontally, vertically, or diagonally) with the same color. Each trio is worth 5 points. Play continues until the board is full. Then all trios are calculated and the player with the highest score wins.

Options: Use a 6x6 game board; use multiples of other numbers to practice other fact families

Source: Bay-Williams, J. & Klink, G. (2019). *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention*, NCTM/ASCD.



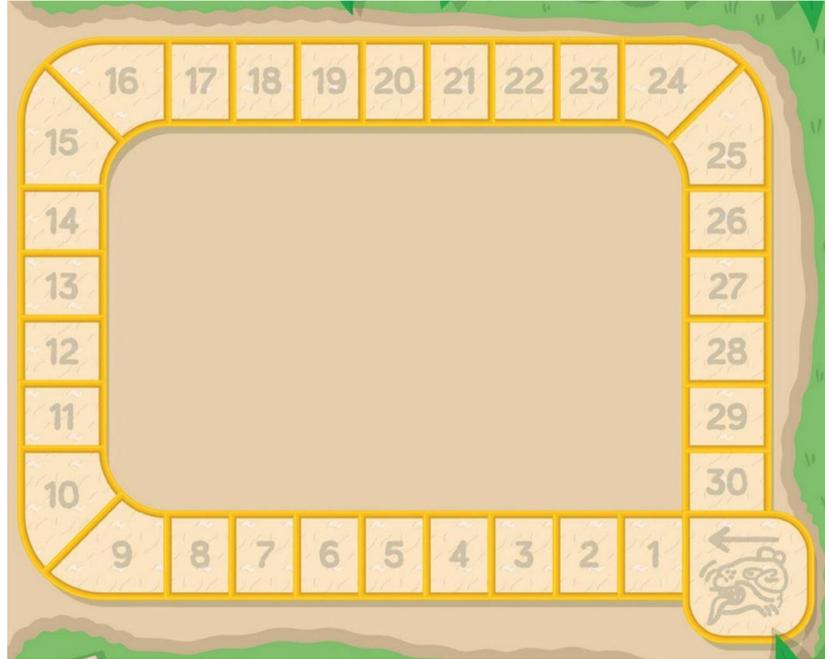
Math Dice Game — Remainders Race

Two or more players

Materials: Three dice; game board to 30; one game piece per player

Each player rolls three dice forming a two-digit number and a single digit number. The numbers are divided to determine the remainder.

The player advances the number of spaces equal to the remainder. In the example below, the player advances two spaces.



$$\begin{array}{|c|} \hline \bullet \\ \hline \end{array} \begin{array}{|c|} \hline \bullet \bullet \\ \bullet \bullet \\ \hline \end{array} \div \begin{array}{|c|} \hline \bullet \\ \bullet \\ \bullet \\ \hline \end{array} = 4 \text{ R}2$$

Fluency Building Tips for Families



- Be curious about **HOW** students learn math at school.
- Play math games and talk about strategies.

Some of our favorite websites for games:

<https://mathforlove.com/lessons/games/>

<https://kcm.nku.edu/mathfactfluency/games.php>

Next Steps:

Feedback Survey:

Please help us improve by sharing your feedback about today's event through a 3-minute survey.

Encuesta posterior al evento: ¡Ayúdenos a mejorar!

پست-نظرسنجی : رویداد به ما کمک می کند بهبود یابیم!

Take the survey at www.fwps.org/familyacademysurvey



EP&O Renewal Levy:

- Learn more at www.fwps.org/levy2026
- Register to vote, if needed
- Don't forget to vote on February 10, 2026

