



KCM

KENTUCKY CENTER
FOR MATHEMATICS

Guiding Instruction Using Assessment

AGENDA

How do we make assessment informative and manageable for guiding instruction



Our Focus will be on 5 Fundamentals

- ❖ 1. Mastery must focus on fluency
- ❖ 2. Fluency develops in three phases
- ❖ 3. Foundational facts must precede derived facts
- ❖ 4. Timed tests do not assess fluency
- ❖ 5. Students need substantial and enjoyable practice

I. Mastery Must Focus on Fluency

Selecting appropriate strategies and having flexibility with all basic facts.

- ❖ 20-3. 20-18
- ❖ 23+5. 23+15
- ❖ 6X10. 6X9
- ❖ 4X8. 5X8



The first step is to select an observation tool that fits what you are trying to assess.

- ❖ Which set(s) of facts or strategies are you assessing?
- ❖ Which Components of fluency are you addressing?
- ❖ Are you assessing automaticity/mastery?

2. Fluency Develops in 3 Phases

❖ 1. Counting

❖ 2. Deriving

❖ 3. Mastery

Phase I - Counting

- ❖ Is the student counting/skip counting?
- ❖ For what types of problems is the student counting/skip counting



Phase 2 - Deriving



- ❖ Does the student know the foundational facts?
- ❖ Is the student able to use derived fact strategy?
- ❖ Is the student choosing an efficient strategy for the problem at hand?
- ❖ Which derived fact strategies is the student using, and for which problem types?

Phase 3 - Mastery

- ❖ Is the student able to implement a particular strategy efficiently?



- ❖ For which facts is the student producing correct responses within three seconds? (Which facts/fact sets need more instruction or practice?)

Foundational Facts Must Precede Derived Facts

❖ Addition

- +/- 0, 1, 2
- Doubles
- Combinations of 10
- 10+

Continued:

❖ Multiplication

- 2s, 10s, and 5s
- 1s and 0s
- Squares

4. What to do instead of timed tests

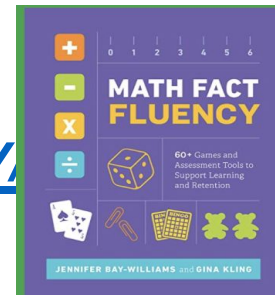
- ❖ Observations
- ❖ Interviews
- ❖ Journal Writing
- ❖ Strategy quizzes
- ❖ Self assessment



5. Students need substantial and enjoyable practice

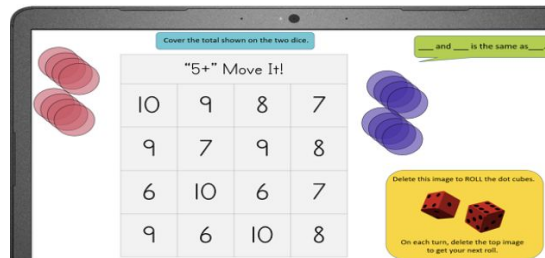
❖ Games from Jenny Bay Williams *Math Fact Fluency*

❖ <http://kcm.nku.edu/mathfactfluency>



❖ *KCM Virtual Resources*

❖ <https://sites.google.com/view/kcm-virtual-settings/home>





Thank you for
joining me. Have
a great evening



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