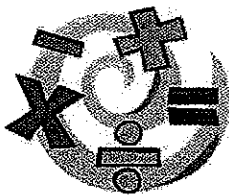


Finally...A Game Plan for Teaching Basic Math Facts

Presented by:
Erin Lacina
Math Coach, Devils Lake Public Schools

Chrystal Fritel
Title I Math Teacher, Devils Lake Public Schools



What is your experience with basic math facts?
Thoughts? Feelings? Memories? Successes? Frustrations?

Is it really that important for students to master the basic math facts?

Basic math facts are...

- >the foundation for more complex computations;
- >an everyday, real-life skill;
- >essential for all areas of mathematics; and
- >included in the state curriculum expectations.

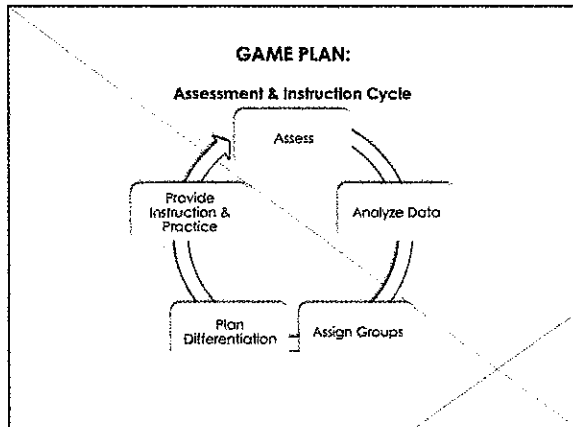
What are the expected levels of proficiency in North Dakota?

Grade 1:
>Addition facts to 10
>Subtraction facts to 10

Grade 2:
>Addition facts to 18
>Subtraction facts to 18

Grade 3:
>Multiplication facts to 10
>Division facts to 10

Grade 4:
>Multiplication facts to 12
>Division facts to 12

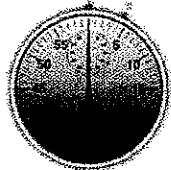


SCOUTING FOR PLAYERS

STEP 1:

ASSESS

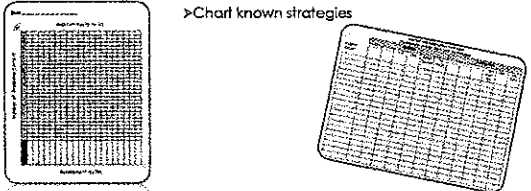
- >Purpose: Fluency
- >Type: Short but thorough
- >Time allotted:
 - >3 seconds per problem / verbal response
 - >5 seconds per problem / written response
- >Frequency: Only re-assess once students have had enough instruction and practice to show improvement



KEEPING STATS & REVIEWING GAME FOOTAGE

STEP 2:
ANALYZE DATA

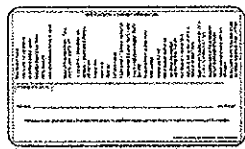
- >Correct assessments
- >Provide immediate feedback
- >Graph results
- >Set goals
- >Chart known strategies



GETTING PLAYERS IN THE RIGHT POSITIONS

STEP 3:
ASSIGN GROUPS

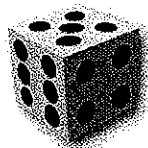
- >Determine needs according to fact strategies
- >Refer to the continuum for next target strategy
- >Group students with similar needs and abilities
- >Set a plan for meeting with groups



DESIGNING PLAYS

STEP 4:
PLAN DIFFERENTIATION


- >Consider many forms of differentiation:
 - >Model with manipulatives
 - >Paper/pencil practice
 - >Learning cards (a.k.a. "flash cards")
 - >Games
 - >Written or verbal explanations
 - >Technology - online games, virtual manipulatives, SMART Board, etc.
- >Teacher talks
- >Students talk
- >Small group
- >Pairs
- >Individual
- >Rephrase
- >Model by "Think aloud"
- >Question



RUNNING DRILLS

STEP 5:
PROVIDE INSTRUCTION & PRACTICE

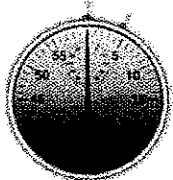
- >Frequency of instruction
 - >Higher needs = greater frequency
 - >Lower needs = lower frequency
- >Length of instruction
 - >5-10 minutes per session
 - >2 weeks per strategy
- >Format
 - >Explicit ↔ Guided ↔ Independent



RESTRUCTURING TEAMS

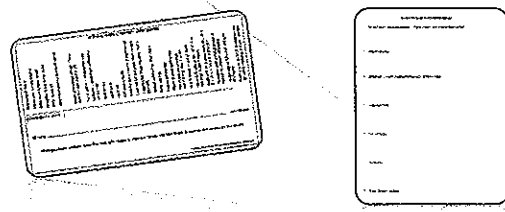
REPEAT STEP 1:
RE-ASSESS

- >Purpose: Fluency
- >Type: Short but thorough
- >Time allotted:
 - >3 seconds per problem / verbal response
 - >5 seconds per problem / written response
- >Frequency: Only re-assess once students have had enough instruction and practice to show improvement




THE PLAYBOOK

Fact Strategies for Addition, Subtraction & Multiplication

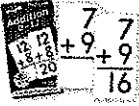


What about division strategies?


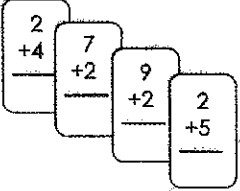


Turn Flashcards into Learning Cards!

Consider style



Consider organizing cards by strategies



Questions? Comments?

Erin Lacing
Math Coach, Devils Lake Public Schools
Erin.Lacing@sendlit.nodak.edu
701-662-7626

Chrystal Fritel
Title I Math Teacher, Prairie View Elementary, Devils Lake
Chrystal.Fritel@sendlit.nodak.edu
701-662-7626