Math Intervention Strategies

Numbers & Operations

IF…….student struggles with **Number Identification, counting, sequencing** numbers

THEN TRY….

- Roll a number cube, call out the number rolled. (student game)
- Manipulate numbers using a variety of textures (sand, shaving cream, playdough, etc)
- Number bingo, cover the number that is called out
- Fill in the missing number charts
- Number of the day-write it, trace it, make it, find it in the room,
- Number books
- Manipulatives (cubes, base-ten blocks)
- Number Top-It game
- Flashcards practice, game
- Use of number line/number grid
- Number puzzles
- Oral counting routines
- Counting manipulatives using cardinality chart
- Match numbers to objects
-

Key Skills:

Read a number
Write a number
Identify a number within a group of numbers (on number line, flashcard pile, number grid)
Cardinality

Resources:

- Pearson Math Diagnosis & Intervention System Booklet A
- Intervention Guidebook Appendix A

IF…….student struggles with **Quantity Discrimination & Number Representation**

THEN TRY….

- Tens Frames*
- Compare using cubes
- Dot Cards*
- Make numbers on fingers
- Decompose numbers in various ways (ways to make 6) using manipulatives
- Number arrangements using manipulatives
- Drawing pictures **

* Find in Appendix A

Key skills:

Subitizing
More, Less
Decomposing & Composing numbers

Resources:

- Pearson Math Diagnosis & Intervention System Booklet A
- Intervention Guidebook Appendix A

****** If a pictorial representation is not a successful strategy then use concrete representation listed (cubes, base-ten blocks, or any other manipulatives) See C-R-A Learning Progression

Math Intervention Strategies

Numbers & Operations	
IF…….student struggles with **Place Value** **THEN TRY….** • Base-ten blocks • Place Value charts * • Student created place value charts • Place Value Riddles * • Model with picture & drawings ** • Compose & decompose numbers by place value • Place Value Games* * Find in Appendix B ** CRA Learning progression attached	Key Skills: Reading & writing numbers Expanded notation Identify the value of a digit Rounding Resources: • Pearson Math Diagnosis & Intervention System Booklet A (K-3) • Pearson Math Diagnosis & Intervention System Booklet F (Gr. 4-5) • Intervention Guidebook Appendix B • Online Games: http://www.sheppardsoftware.com/math.htm http://www.softschools.com/math/games/

*This packet was created by Mrs. Shultz utilizing research based interventions. The guidebook listed throughout the document is available in the library for further resource support.

Math Intervention Strategies

Numbers & Operations

IF…….student struggles with **Math Fact Fluency**

THEN TRY….

- Manipulatives to add/subtract
- Build arrays, equal groups with manipulatives
- Skip counting, repeated addition ~ connect to multiplication problem.
- Use of number line
- Use Tens frames *
- Make trains with cubes to demonstrate adding and subtracting
- Use of the number line or number grid
- Draw pictures to represent the problem.
- Connect a fact to a story problem to show the meaning of the symbols +/- and =
- Act out problems
- Practice fact strategies (+0, +1, +2, doubles, x0, x1, x2, etc.)
- Flash cards: Incremental Fact Practice *
- Games practice (online, iPad, or board games)
- Model fact families to with manipulatives to show the connection
- Cover-Copy-Compare *
- Highlight, circle operation signs

* find in Appendix C

Key Skills:

Addition
Subtraction
Multiplication
Division
Mixed Computation Skills

Resources:

- Pearson Math Diagnosis & Intervention System Booklet B
- Intervention Guidebook Appendix C
- Mastering Basic Math Facts in Addition and Subtraction by Susan O'Connell
- Mastering the Basic Math Facts in Multiplication and Division by Susan O'Connell
- Intervention Guidebook Appendix C

- Online Games:
  http://www.sheppardsoftware.com/math.htm
  http://www.softschools.com/math/games/
  http://www.multiplication.com/games/all-games
- Printable Resources
  http://www.multiplication.com/teach/teacher-resource-library

Math Intervention Strategies

Numbers & Operations

IF…….student struggles with **Computation Using Place Value**

THEN TRY….

- Use manipulatives (base ten blocks)
- Pictorial representation (base ten, area models, bar diagram)
- Consistent review of steps
- Reference sheet (pictures or symbol associated w/ each step) to help as a reminder of each step
- Provide a reference sheet for the student's desk
- Use acronyms to remember steps
- Color code steps
- Use of calculator where appropriate
- Use of grid paper

Key skills:

Addition & Subtraction of multi-digit numbers
Multiplying multi-digit numbers
Long division

Resources:

- Pearson Math Diagnosis & Intervention System Booklet C (K-3)
- Intervention Guidebook Appendix D

Problem Solving

IF…….student struggles with **Comprehension of Word Problems**

THEN TRY….

- Visualize and draw the information
- Highlight key information and key words (CUBES)
- Assess student understanding of background knowledge
- Have student make a connection to the problem
- Student restate what it is happening in the story problem
- Align material with student's reading level
- Graphic organizers
- Have student think out loud with steps

Resources:

- Pearson Math Diagnosis & Intervention System Booklet E (K-3)
- Pearson Math Diagnosis Intervention System Booklet J (Gr. 4-6)
- Intervention Guidebook Appendix G

Math Intervention Strategies

Fractions

IF…….student struggles with **Fractions as Numbers**

THEN TRY….

- Modeling beginning fraction concepts with paper shapes
- Use of manipulatives (pattern blocks, fractions tiles, fraction circles)
- Use of number lines

Key skills:

Beginning fractions
Equivalent fractions
Comparing fractions
Ordering fractions
Mixed numbers

Resources:

- Intervention Guidebook Appendix E
- Pearson Math Diagnosis & Intervention System Booklet H (Gr. 4-6)
- Online Games:
- http://www.sheppardsoftware.com/math.htm
  http://www.softschools.com/math/games/

IF…….student struggles with **Computation of Fractions**

THEN TRY….

- Use of manipulatives (fraction tiles, fraction circles)
- Use of number lines

Key skills:

Adding & Subtracting fractions
Adding & Subtracting mixed numbers
Multiplying & Dividing fractions
Multiplying & Dividing mixed numbers
Greatest Common Factor
Least Common Denominator

Resources:

- Intervention Guidebook Appendix F
- Pearson Math Diagnosis & Intervention System Booklet H (Gr. 4-6)
- Online Games:
- http://www.sheppardsoftware.com/math.htm
  http://www.softschools.com/math/games/

Math Intervention Strategies

Other Learning Deficits	
IF…….student has a slow rate of completion **THEN TRY….** • Reduce the number of items to complete • Provide manipulatives	
IF…….student struggles with paying attention and participating **THEN TRY….** • Provide opportunities for the student to come to the board to help with a problem • Use frequent pair share to keep student engaged • Call on student to speak often • Use student's name often in lesson (right, Sam? Sam has a great idea…) • Have student repeat what another student said or have them add to it	Resources: Intervention Guidebook Appendix H