

Developing, Maintaining, and Extending Fluency in Math: Multiplication and Division



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REINFORCE: Five and Tens Facts

Tens Or Fives

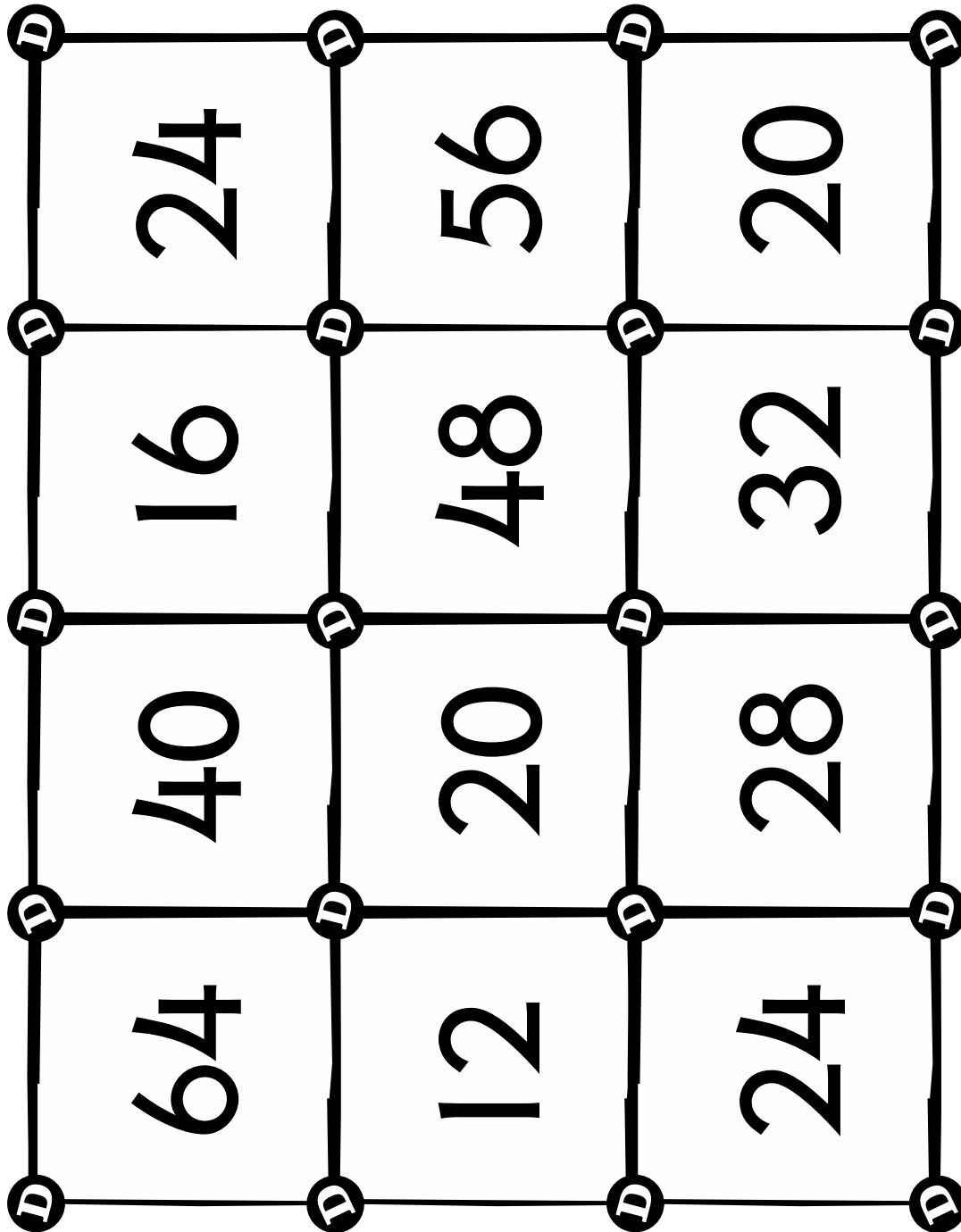
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Cube A: 6, 5, 4, 3, 2, 1

Cube B: 9, 9, 8, 8, 7, 7

REINFORCE: Fours and Eights Facts

Do the *D*s



Cube A: 3, 4, 5, 6, 7, 8

Cube B:

CONNECT Multiplication and Division

Take or Tally

Player 1

Player 2

$24 \div \underline{\quad} = \underline{\quad}$

$24 \div \underline{\quad} = \underline{\quad}$

$20 \div \underline{\quad} = \underline{\quad}$

$20 \div \underline{\quad} = \underline{\quad}$

$18 \div \underline{\quad} = \underline{\quad}$

$18 \div \underline{\quad} = \underline{\quad}$

$16 \div \underline{\quad} = \underline{\quad}$

$16 \div \underline{\quad} = \underline{\quad}$

$15 \div \underline{\quad} = \underline{\quad}$

$15 \div \underline{\quad} = \underline{\quad}$

$12 \div \underline{\quad} = \underline{\quad}$

$12 \div \underline{\quad} = \underline{\quad}$

Tally

Tally

Cube A: 2, 3, 4, 2, 3, 4

Cube B: 5, 6, 8, 5, 6, 8

Directions for the Games

Tens or Fives

Focus:

Using tens facts to multiply by five

Materials:

2 cubes with the following configuration

Cube A: 1, 2, 3, 4, 5, 6

Cube B: 7, 7, 8, 8, 9, 9

Game board

Each player will need a colored pencil or marker of a different color

Directions:

The winner is the first to build a winning sequence of four adjacent counters in a horizontal, vertical, or diagonal line, or to make a box of four.

How to Play:

Roll both cubes.

Choose to multiply the number on cube A or B by 10. Find that fact on the board and fill in the product for multiplying the chosen number by ten and by five. Four in any direction wins.

Some numbers appear more than once on the gameboard. Players must decide whether to build a winning sequence or block the other player.

If both possible numbers are not available, the player misses a turn.

Play continues until one player builds a winning sequence.

Do the Ds

Focus:

Use a doubling strategy to practice fours and eights facts.

Materials:

Do the Ds game board

One doubling cube labeled with DD on 3 faces (for double, double) and labeled with DDD on 3 faces (for double, double, double)

One cube labeled with numerals 3, 4, 5, 6, 7, 8

Four color counters for each player (a different color for each player)

Directions:

The winner is the player who is the first to place all four counters on the game board.

How to Play:

Player 1 rolls the cubes and follows the instruction, doubling the number two or three times.

The player claims the answer on the game board by covering it with a counter. If an answer is unavailable, the player misses a turn.

Each of the other players has a turn.

The first player to place all four counters on the game board is the winner.

Example:

Lily rolls 4 and DDD. She says, "Double 4 is 8, double 8 is 16, double 16 is 32. Four multiplied by 8 is 32."

Lily places her counter on the 32 and claims that space.

For ideas on how to bring out the mathematics in this game, see Fundamentals Purple (pp.52-53)

Directions for the Games

Take or Tally

Focus:

Using multiplication to divide

Materials:

Two number cubes configured as follows:

Cube A: 2, 3, 4, 2, 3, 4

Cube B: 5, 6, 8, 5, 6, 8

Take or Tally Game board

Directions:

The first player to complete his/her side before receiving 5 tallies is the winner.

How to Play:

First player rolls both cubes.

Player writes the two numbers in one of the number sentences on his/her game board. The completed equation must be true.

If a true sentence cannot be made, the player makes a tally in the space provided at the bottom of the game board.

The first player to complete 6 equations before making 5 tallies is the winner.

Multiplication and Division Strategies Videos

Introducing the ORIGO Model for Teaching Skills

ORIGO One: <https://origo-education.wistia.com/medias/26icnyoznj>

Teaching the Use-Tens Strategy for Multiplication

ORIGO One: <https://origo-education.wistia.com/medias/gyw3z0dyld>

GS9: Exploring a strategy to Multiple by Five

Gem Stones: <https://www.youtube.com/watch?v=g0qNTyY8yz8>

GS8: Using arrays to explore turn around facts for multiplication

Gem Stones: <https://youtu.be/WhXryzUmX5Y>

Teaching the Doubling Strategy for Multiplication

ORIGO One: <https://origo-education.wistia.com/medias/ikn1y886en>

Teaching the Build-Up Strategy for Multiplication

ORIGO One: <https://origo-education.wistia.com/medias/17saqfy40q>

Teaching the Build-Down Strategy for Multiplication

ORIGO One: <https://origo-education.wistia.com/medias/gtwhame631>

GS21: Building Down from a Known “tens” Facts to Multiply by 9

Gem Stones: <https://www.youtube.com/watch?v=GDwhFy5PsGM>

Teaching the Think-Multiplication Division Strategy

ORIGO One: <https://origo-education.wistia.com/medias/a0n12cd5d2>