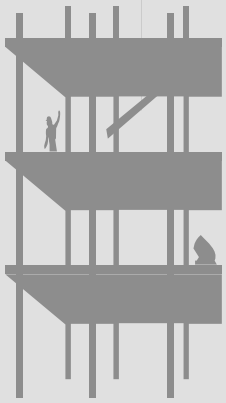


LEARNING PLANS

LEARNING AND ASSESSMENT FRAMEWORK ZONE 6

INTRODUCING TARGETED INTERVENTIONS

LIST OF TARGETED INTERVENTIONS

BLOCK PATTERN FOR A QUILT

MULTIPLYING WITH GRAPH PAPER

SQUARE NUMBERS

BLOCK PATTERN FOR A QUILT

Specific Teaching Focus:

To develop **explanation and justification solution strategies** for problems involving multiplication, division and proportion.

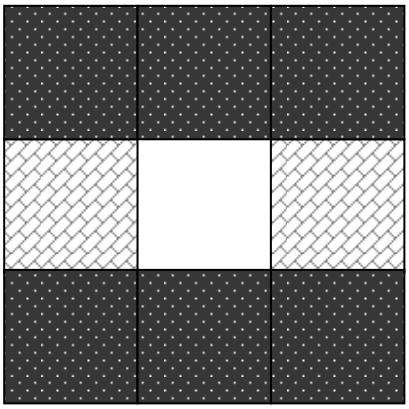
Materials/Resources Required:

- Black, grey and white kinder squares

How to Implement:

1. Present the following problem:

Some children are making a quilt out of material in an art class. Each block is made up of 9 squares. To make this block you need 6 black squares, 2 grey squares and 1 white square. It looks like this.



This block uses 2 grey squares for every 6 black squares. How many black squares would you need if you had 6 grey squares?

2. Students use materials (Eg. kinder squares or similar) to illustrate and describe their thinking. Eg. *"I have three times as many grey squares, so I need 3 times as many black squares."*

3. Showcase all the ways that students describe and justify their solutions.

MULTIPLYING WITH GRAPH PAPER

Specific Teaching Focus:

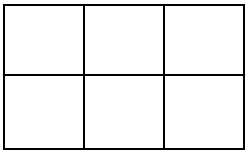
To introduce **more efficient strategies and formal processes** for multiplication of decimals based on sound place-value ideas.

Materials/Resources Required:

- 1cm grid paper
- 1mm grid paper

How to Implement:

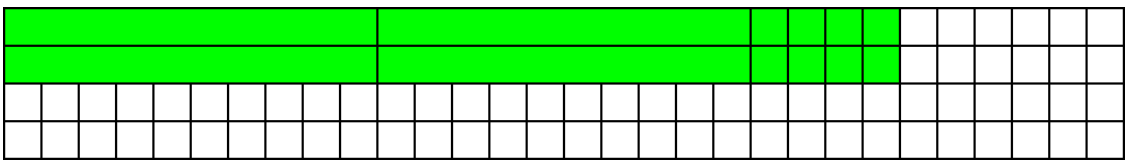
1. Provide each student with a sheet of 1cm grid paper and discuss with them how to show number facts using grid paper.



Eg. *"2 threes."*

Repeat with a few more whole number examples.

2. Then, using the 1mm grid paper, ask students to explore how they might show 2, two and 4 tenths (2 by 2.4) which should look like this:



One One Tenths

Give students time to explore, discuss and model their thinking for possible solutions.

Eg. 2 twos, 4; and 2 by 4 tenths, 8 tenths; so the answer is 4 and 8 tenths (4.8).

3. The following problems can be presented to students to document and solve in the same way.

3 by 3.6

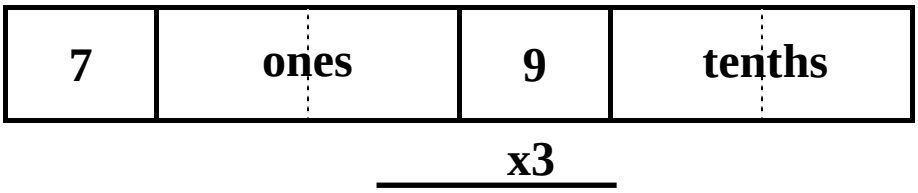
3 by 2.8

4 by 2.2

4 by 5.3

Follow up suggestions:

- Number expanders can also be used to show decimal multiplication to support formal recording, eg:



Language to support formal recording:

3 ones by 9 tenths is 27 tenths, rename as 2 ones and 7 tenths, record 7 tenths with tenths and 2 ones to regroup.

3 ones by 7 ones is 21 ones and 2 more ones is 23 ones, record with the ones (solution 23.7)

SQUARE NUMBERS

Specific Teaching Focus:

To develop the ability to **recognise and describe more complex patterns** through exploring square numbers.

Materials/Resources Required:

- counters
- 1cm grid paper

How to Implement:

1. Pose the following investigation:

   "Justify why 9 and 36 are square numbers and 24 is not."

2. Students work in small groups to share their understanding of what the investigation is about (Eg. what square numbers are).

3. Students use materials to illustrate and describe why 9 and 36 are square numbers and 24 is not.

4. Share justifications with other groups. In particular encourage students to identify the properties of square numbers. Eg. *"I can arrange 9 counters and 36 counters as a square shape in the form of an array and I can't do this with 24 counters."*

Follow Up Suggestions:

- Investigate the factors of odd and even square numbers. Eg. 25 (factors are 1, 25, 5) and 36 (factors are 1, 36, 6, 2, 18, 9, 4, 3, 12).