MINISTRY
OF
EDUCATION, YOUTH & INFORMATION
*Every Child Can Learn, Every Child Must Learn*

MATH
COUNTS

NATIONAL MATHEMATICS PROGRAMME

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**Content Strand: Number**

**Subtopic: Estimating Products**

**Grade level:    Grade 3**

**Duration:        1 hour**

**Objective:** Use rounded numbers to estimate products.

**Specific objective:**
By the end of the lesson, students should be able to:

- Estimate the product of a 2 by 1 multiplication task through exploration

**Skills and Attitude:**

Estimation

**Prior Knowledge:**

Students should already know how to:

- Multiply numbers – some basic multiplication facts
- Round numbers to the nearest 10

**Instructional Materials:**

Work cards

**Learning outcome**

Estimate to a reasonable degree of accuracy when computing.

**Engage**

Write a selection of number sentences (multiplication facts) on the board, and choose a student to work out the answers within one minute.

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If he or she gets any wrong, erase all the answers and ask another student to repeat the process. If that student tries but fails to get all of the answers correct, the teacher gets a point. Otherwise the class wins a point.
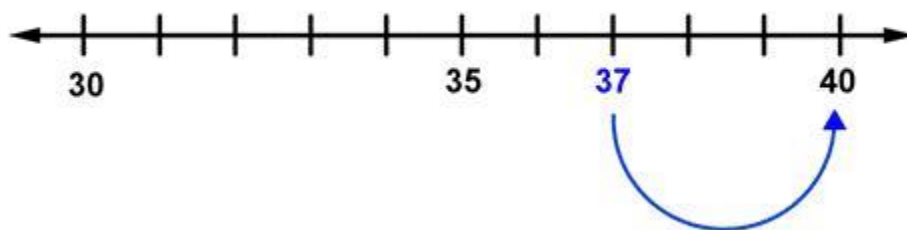
**Explore**

Present students with a task such as:
$$2 \times 37 =$$

**Ask guided questions:** What is the answer without using paper or pencil? How did you find it out? How do you know if the answer is correct?

The discussion should bring out the option of using rounding numbers.

Review the process of rounding numbers using the number-line.



Through the use of the number line, guide students in seeing that 37 is closer to 40. Hence 37 can be replaced by 40; then when multiplied by 2 what is the answer?

Which is easier to multiply?

How is the estimated product different from the product of $2 \times 37$?

**Explain**
Have students estimate the following:

$23 \times 4 =$                 $42 \times 2 =$                 $35 \times 3 =$

Students will share their responses; where they will discuss how the estimated product is different from the actual product.

Students should identify real-life situations when the estimated value would be applicable.

**Elaborate**

**Estimation scenario**

You are sent to the shop to purchase the following based on the price list shown below:

a.   3 ripe bananas
b.   2 box drinks.

| PRICE LIST | |
|---|---|
|  | $23 |
|  | $35 |
|  | $56 |
|  | $15 |

You were given $200. Without calculating with pen and paper, is the money enough?

**Evaluate**

Give the students one minute to compose two sentences mentally to explain what they have learnt and how they have learnt it, using the key words from the lesson.