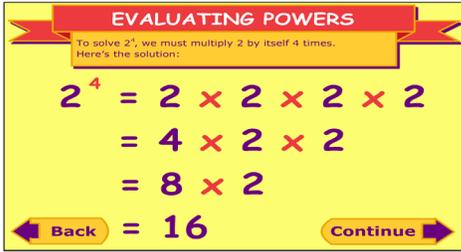
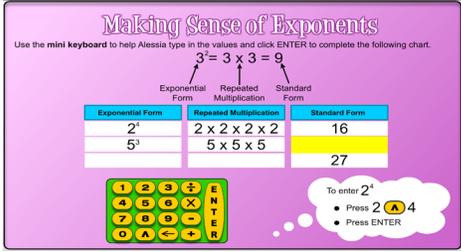


# Grade 8 Number Sense and Numeration Ontario Educational Resources Bank (OERB) Activities

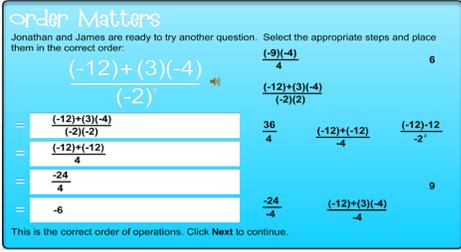
## Quantity Relationships

| Activity   | Description   |
|--|---|
| <p style="text-align: center;"><b>Exponents: Grade 8 Mathematics</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1033350</b></p> | <p>Build understanding of representing whole numbers in expanded form using powers of ten by viewing an illustrated explanation of the meaning of a power and how to find its value. Practise evaluating powers by matching powers with their values.</p> |

|   |  |
|---|--|
| <p style="text-align: center;"><b>Exponents Part 1</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1414850</b></p> | <p>Build understanding of exponential notation by viewing a sample Frayer Model of “Powers” and an explanation of how to express powers as repeated multiplication. Explore multiple power representations of a number, as well as practise evaluating powers and representing repeated multiplications in exponential form.</p> |
|---|--|

|  |   |
|--|---|
| <p style="text-align: center;"><b>Exponents Part 2: The Power of Ten</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1414860</b></p> | <p>Practise representing whole numbers in expanded form by using powers of ten and comparing whole numbers in expanded form, after viewing a sample place mat of how to represent a number in different ways and some guided instruction.</p> |
|--|---|

## Operational Sense

| Activity  | Description  |
|---|--|
| <p style="text-align: center;"><b>Order Matters</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1414880</b></p> | <p>Build understanding of order of operations by comparing and analysing solutions to a multi-step problem. Practise order of operations by properly sequencing a given set of steps to the solution of a problem and by solving a multi-step money problem.</p> |

# Grade 8 Number Sense and Numeration Ontario Educational Resources Bank (OERB) Activities

## Operational Sense (Continued)

### Activity

### Description

#### Order of Operations Part 2

**Order of Operations**

Emily and I have solved this expression one step at a time:  $20 - 5 [ 4 + (-2) ]$

Click on the correct work at each step:

|        | Emily               | Rocio            |
|--------|---------------------|------------------|
| step 1 | $= 15 [ 4 + (-2) ]$ | $= 20 - 5 [ 2 ]$ |
| step 2 | $= 20 - (-10)$ ✓    | $= 20 - 7$       |
| step 3 | $= 30$ ✓            | $= 10$           |

There are three correct steps between the two of us. So, three pennies go into the piggy bank. Click **Next** to continue.

Resource ID: ELO1417920

Practise differentiating between correct and incorrect steps and evaluating multi-step expressions by reviewing BEDMAS (the acronym for the correct order of operations), and a set of algorithms for adding, subtracting, multiplying, and dividing integers.

## Proportional Relationships

### Activity

### Description

#### Guitar Star Part 1: Percents Greater than 100

**Guitar Star Part 1: Percents Greater than 100**

Help Anita figure out how much she is over her budget. The total cost of the items that she wants to buy is 122% of \$380. Fill in the blanks and use the **calculator** to find out how much Anita's wish-list items cost.

Write 122% as a decimal. If you need to check how to do this, click on **Math Tips**.

$122\% = 1.22 \times \$380 = 463.60$  ✓

Multiply the decimal by Anita's savings.

**MATH TIPS**

Click **Next** to continue.

Resource ID: ELO1413860

Practise writing percents as decimals and calculating the percent of a number, including percents over 100% by solving problems that involve percents.

#### Guitar Star Part 2

**Guitar Star Part 2: Problem-Solving with Percent**

Fill in each row of the chart to determine the sale price of the guitar case that Anita has selected, including the 13% HST (Harmonized Sales Tax).

|                    |            |
|--------------------|------------|
| Guitar case        | \$49.99    |
| Regular price      |            |
| Minus 30% discount | \$ 15.00   |
| Sale price         | \$ 34.99   |
| Plus 13% HST       | \$ 4.65    |
| Final Price        | \$ 39.54 ✓ |

★ 30% OFF ★

Click **Next** to continue.

Resource ID: ELO1413870

Practise solving a variety of problems involving percent by finding discounts, calculating the sale price and calculating the final price including HST.

#### Which is the Better Deal?

**Which is the Better Deal?**

The next item on the list to buy is eggs. For each option, type the cost and the quantity into the equation. Use the **calculator** to determine the unit rate per egg. Then type in your answer.

|           |   |
|-----------|---|
| Option A: | Unit rate = \$ 2.19 ÷ 12 = \$ 0.18 /egg   |
| Option B: | Unit rate = \$ 3.96 ÷ 18 = \$ 0.22 /egg   |
| Option C: | Unit rate = \$ 5.10 ÷ 30 = \$ 0.17 /egg ✓ |

Click **Next** to find the best buy on toilet paper.

Resource ID: ELO1411780

Practise solving problems involving rates to find the best deal by calculating and comparing the unit rates of a variety of grocery items, after viewing a demonstration of how to determine unit rates.