

Print, Cut and Fold

Creative Technology Projects
for Maths – Years 3-8

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STUDENT ACTIVITY

ORDERING NUMBERS FAN DECK**Year Level & Content Area(s):**

Mathematics (Years 3-8)

On go.hbe.com.au:

OrderingNumbersPS.pdf

FanDeckTemplate.pptx

FanDeckIS.pdf

**Lesson Overview:**

Students create a fan deck (shape book) wherein each blade displays a numerical value in some format or combination of formats (such as fractions, integers, decimals, etc.). The shapes are then cut and stacked on top of one another in a specified sequence, then assembled with a brass brad for safekeeping.

Software or Special Materials/Supplies:

PowerPoint

Scissors

Brass brads (1 per student)

Hole punches (shared)

Essential Concepts:

- understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers and decimals
- compare and order fractions, decimals and percents efficiently and find their approximate locations on a number line

Notes to Teacher:

Decide how many fan deck cards must be completed and give the students parameters which must be used to select their numbers (ex: at least two fractions, at least three negative numbers, etc.). For each number selected, students will use the value in a sentence to describe the quantity in a real-life scenario. Clip Art will be added to illustrate the sentence. Students will complete their planning sheets accordingly.

Technically, this activity is very straight-forward and requires only minimal technical skills. Students may get hung up if they accidentally delete the text box. Students should be shown how to use the Undo feature as well as how to copy an existing text box and paste it into the proper place.

Instruct students to complete the textual elements of the activity first before searching for and adding graphics.

Modifications or Extensions:

Older, more experienced students can create their own shapes (using the Shapes tool) on a blank slide, rather than using the template. In this way, students are learning how to use Shapes, duplicate objects, etc. Modify for lower level students by providing the number for each fan blade, leaving them only to generate the examples, graphics and labels.

Ordering Numbers Fan Deck

Name: _____ Date: _____

You will create an ordering number fan deck shape book. For each number selected, you will use the value in a sentence and illustrate the sentence using Clip Art.

In the graphic organiser below, write the numbers and give examples of how the numbers are used in everyday life. List some Clip Art search terms that illustrate the examples.

Example: $\frac{1}{4}$	Tony ate $\frac{1}{4}$ of the pizza.	pizza
Number:	•Usage Example:	Clip Art Search Terms:
Number:	•Usage Example:	Clip Art Search Terms:
Number:	•Usage Example:	Clip Art Search Terms:
Number:	•Usage Example:	Clip Art Search Terms:
Number:	•Usage Example:	Clip Art Search Terms:
Number:	•Usage Example:	Clip Art Search Terms:

Computer Directions:

Using this planning sheet, create a fan deck (shape book) describing and illustrating numerical values. You can use Clip Art, draw tools and WordArt to visually represent each term. Print your fan blades and cut and stack each blade on top of one another. You will assemble your fan deck book using a brass brad.

STUDENT ACTIVITY

NEGATIVE NUMBER OPERATIONS TABBED BOOK**Year Level & Content Area(s):**

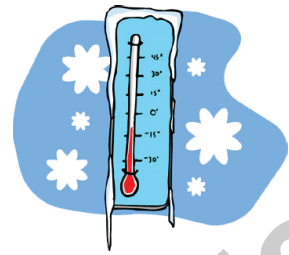
Mathematics (Years 3-8)

On go.hbe.com.au:

NegativeNumbersPS.pdf

4TabbedBookTemplate.pptx

TabbedBooksIS.pdf

**Lesson Overview:**

In this lesson, students will create a tabbed book with four tabs on the right vertical edge. On each page, students will apply concepts they have learned about negative number operations to create a tabbed book. On each slide, students will explain how the calculation is carried out and give an example of the process. Each of the four tabs will display the number operation so that readers can use the tabs to turn directly to a desired page of the book. Images and WordArt will be added as needed and where appropriate.

Software or Special Materials/Supplies:

PowerPoint

Scissors

Staples

Essential Concepts:

- develop meaning for integers and represent and compare quantities with them

Notes to Teacher:

First, students should create the title slide using WordArt for the title and text for their names.

Each page (after the title page) of the book should include:

- Name of the operation as the title of the slide
- Name of the operation on the tab
- Symbol of the operation inserted (using either the Draw tools or WordArt)
- An explanation of the general rule to follow when carrying out the calculation
- An example problem worked out to completion

The tabbed books may be printed as "slides" for large (full page) tabbed books or you may consider printing two slides per page to create a smaller (half size) tabbed book to conserve paper and ink/toner.

Modifications or Extensions:

For lower level students, you may wish to modify the template so that the general rules for solving each type of calculation are listed with several words missing. A further modification may necessitate the use of word bank to fill in these missing words.

Require higher level students to include example problems with fractions, exponents or both.

Negative Number Operations Tabbed Book

Name: _____ Date: _____

You will be creating a tabbed book with four tabs on the right vertical edge. On each page, you will apply concepts you have learned about negative number operations to create a tabbed book. On each slide, you will explain how the calculation is carried out and give an example of the process. Each of the four tabs will display the number operation so that readers can use the tabs to turn directly to a desired page of the book. Images and WordArt can be added.

Planning Page Directions:

Write the negative number operation names in the top boxes. Next, draw the operation symbols in the boxes on the right. Then explain each calculation and give an example. Remember, you are working with negative numbers.

Name of Operation: <ul style="list-style-type: none">• Explanation of calculation rule:• Example:	Operation Symbol:
Name of Operation: <ul style="list-style-type: none">• Explanation of calculation rule:• Example:	Operation Symbol:
Name of Operation: <ul style="list-style-type: none">• Explanation of calculation rule:• Example:	Operation Symbol:
Name of Operation: <ul style="list-style-type: none">• Explanation of calculation rule:• Example:	Operation Symbol:

Computer Directions:

Using this planning sheet and the template provided by your teacher, create a negative number operation tabbed book. Each page of the book will contain the name of the operation, its symbol, an explanation of the general calculation rule and an example problem. Your book will have tabs that help turn the pages.

STUDENT ACTIVITY

SOLVING EQUATIONS FILMSTRIP**Year Level & Content Area(s):**

Mathematics (Years 3-8)

On go.hbe.com.au:

SolvingEquationsPS.pdf

FilmstripTemplate.pptx

FilmstripIS.pdf

**Lesson Overview:**

Students will use PowerPoint to create a vintage filmstrip. The first frame (after the title frame) will begin with an equation that students will solve for a variable. On each subsequent frame of the filmstrip, students will show, step-by-step, the steps they took to isolate the variable and solve the equation. On each frame, students will use WordArt to add the symbol for the operation used in that step.

Software or Special Materials/Supplies:

PowerPoint

Scissors

Tape

Essential Concepts:

- understand the meaning and effects of arithmetic operations with fractions, decimals and integers
- use the associative and commutative properties of addition and multiplication and the distributive property of multiplication over addition to simplify computations with integers, fractions and decimals

Notes to Teacher:

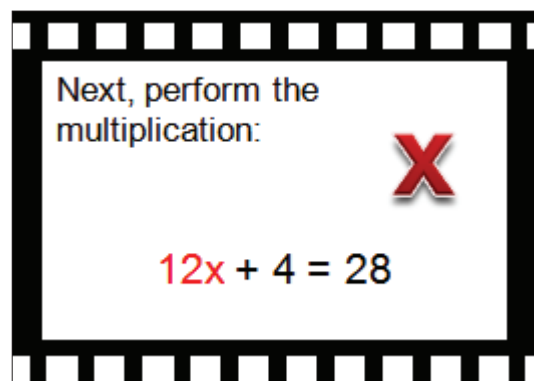
Prepare to assign each student a unique equation to solve for a single variable. Allow students plenty of time to complete the planning sheet for this lesson before any computer work begins.

Instruct students to add their names and a title to the first slide.

On the second slide, students should write out the starting equation.

Each subsequent slide should include:

- Description of the calculation to perform
- The resulting equation after the calculation is performed
- The change in the overall calculation changed to a different colour
- The symbol of the operation used (WordArt)



Solving Equations Filmstrip

Name: _____ Date: _____

You will create a filmstrip that shows the steps to solve an equation. The first frame after the title frame will begin with an equation and each additional frame will show the steps to isolate the variable and solve the equation. Each frame will have WordArt to add the symbol for the operation used in that step.

Solving Equations Practice:

Solve the following equations. Be sure to show your work.

$40 = z + 15$	$2a + 3 = 7$
$10 + 3 = x + 12$	$5 + 5 = x + 10$
$8 + 1 = x + 5$	$6 \times 5 = x + 9$
$a + 7 = 15$	$12c + 10 = 58$
$-7x + 5 = -16$	$x^3 + 3x^2 + -4x = 0$