

SECONDARY 3
Week of April 6th 2020

Photo Essay

Information for students

Why do times of change cause both conflict and cooperation?

- Document, through a series of photographs, how being isolated in your home has caused both conflict and cooperation. Consider the use of colour, or black and white. Perhaps your story is best told through a series of Polaroids with captions underneath (if you have access to a Polaroid camera). You may want to play around with different filters to give your images a certain vibe.
- Take it to the next level! Hang or pin your photos on a wall in your home. Have a gallery tour with family members, allowing the photos to stimulate a discussion.
- If you don't have a printer, you could use a free app to create a collage of your images and present them on a screen.

Materials required

- Phone, tablet or camera.
- Optional: printer, paper.
- Consider free apps like Picsart if you want to create a collage of your images.

Information for parents

Activity details

In this activity, children will practise:

- The best things your child can do are: **Read every day. Write every day. Talk every day**

Parents could:

- Above all, this activity is designed to be simple! We hope it will appeal to your child whatever their grade level.

Bingo with algebraic expressions

Information for students

- In the spaces on the bingo card, write the letters from A to Y in any order.
- Print the algebraic expressions, cut them out and put them in an envelope. Each algebraic expression will be picked out of the envelope at random.
- Perform the operations to simplify the algebraic expression that has been picked out at random. Then find the letter in the tables of solutions that identifies that equivalent algebraic expression and circle that letter on your bingo card. ...

Materials required

The bingo card, the algebraic expressions to be cut out, as well as the tables with the letters that identify the algebraic expressions and the equivalent expressions (solutions) - (see Appendix).

Information for parents

Activity details

In this activity, students will be playing a game of bingo that involves working with algebraic expressions. This activity can be carried out with Secondary III, Secondary IV and Secondary V students.

Students can play this game with friends over the telephone or online (e.g. FaceTime or Messenger). An adult can read out the algebraic expressions one at a time for all the students. The first person to fill up all the spaces in a horizontal, vertical or diagonal line wins the first part of the game. The game can then continue until someone fills up their entire bingo card.

If possible, make several copies of this bingo card or ask the students to draw it on a sheet of paper (table with 5 columns and 5 rows). Each card should have 25 spaces. There should be no “free” spaces. The algebraic expressions will be picked at random and read out one at a time.

Appendix – Bingo Card

B	I	N	G	O

Instructions:

- In the spaces on the bingo card, write the numbers from 1 to 25 in any order.
- Perform the sequence of operations that is read out and find its result on your bingo card. Write an X in that space or colour it in.
- Continue playing until you fill up all the spaces in a horizontal, vertical or diagonal line.
- Challenge: You can continue playing to try and fill up the whole bingo card.

Cut out these algebraic expressions and put them in an envelope. Pick them out of the envelope at random.

$(2r - 7)(5r - 6)$	$8a^2 + -3a^2 + a + -5a^2 + -6a$
$9bc + -11bc^2 + bc + -bc^2$	$4(2c^2 - 5d + e) - (c^2 - 6d + 5e)$
$2x(6x^2 - 8)$	$(-2.2a - b + 5c) + (0.2a + 1.2b - 0.3c)$
$(ab^2 - 4ab + 4b) \div \frac{4}{3}b$	$(20s^2t + 15s^2) \div 5s$
$-7a(2b^2 + 4b - 5)$	$(10x^2 + 2xy - 8) - (3x^2 - xy - 2)$
$3.4a^3(2.1ab^2 - 4.2b)$	$(10nx + -7x - 3) + (-10nx - 2n + 5x)$
$(-4x^2y + 8xy^2 - 6x^2y^2) \div xy$	$5(3a^2 - 4a + 3) - 3(a^2 + 5a - 9)$
$(2ab + 3)^2$	$(-9m^2p^2 + 12mp^2 - 15m^2p) \div 3mp$
$(x^2 + 4y - 8) - (2x^2 + 7)$	$5xy(-y + 9) + 4xy(5y - 7)$
$(a - 0.7) - (0.4a + 1.4)$	$(\frac{3}{4}s^3t + 18)(\frac{8}{9}st^4 - 8)$
$(\frac{4}{6}x^3y^2 - \frac{5}{8}x^2 + \frac{3}{5}y^3) \div \frac{2}{5}xy$	$(\frac{3x}{5} + 4x^2y - y) + (-x - 2,5x^2y - 0,2y) + x^2y$
$(-8y^2 + 32xy) \div 4y$	$(2a^2 - \frac{1}{2}b) - (-a^2 - \frac{2}{3}b) + (6a^2 + 3b)$
$(-s - 3t^2)(s^2 - 4st)$	

Tables with the letters that identify the simplified algebraic expressions

Letters	Equivalent algebraic expressions (the solutions)
A	$-5a$
B	$12x^3 - 16x$
C	$-2a + 0.2b + 4.7c$
D	$4st + 3s$
E	$7x^2 + 3xy - 6$
F	$7.14a^4b^2 - 14.28a^3b$
G	$-4x + 8y - 6xy$
H	$9a^2 + \frac{19b}{6}$
I	$15xy^2 + 17xy$
J	$\frac{2}{3}s^4t^5 - 6s^3t + 16st^4 - 144$
K	$-0.4x + 2.5x^2y - 1.2y$
L	$12a^2 - 35a + 42$

Letters	Equivalent algebraic expressions (the solutions)
M	$10r^2 - 47r + 42$
N	$10bc - 12bc^2$
O	$7c^2 - 14d - e$
P	$\frac{3ab}{4} - 3a + 3$
Q	$-14ab^2 - 28ab + 35a$
R	$-2x - 2n - 3$
S	$-2y + 8x$
T	$-s^3 + 4s^2t - 3s^2t^2 + 12st^3$
U	$-x^2 + 4y - 15$
V	$-0.6a - 2.1$
W	$\frac{5}{3}x^2y - \frac{25x}{16y} + \frac{3y^2}{2x}$
X	$4a^2b^2 + 12ab + 9$
Y	$-3mp + 4p - 5m$

Algebraic expressions and solutions

Letters	Algebraic expressions to be picked at random	Equivalent expressions (the solutions)
A	$8a^2 + -3a^2 + a + -5a^2 + -6a$	$-5a$
B	$2x(6x^2 - 8)$	$12x^3 - 16x$
C	$(-2.2a - b + 5c) + (0.2a + 1.2b - 0.3c)$	$-2a + 0.2b + 4.7c$
D	$(20s^2t + 15s^2) \div 5s$	$4st + 3s$
E	$(10x^2 + 2xy - 8) - (3x^2 - xy - 2)$	$7x^2 + 3xy - 6$
F	$3.4a^3(2.1ab^2 - 4.2b)$	$7.14a^4b^2 - 14.28a^3b$
G	$(-4x^2y + 8xy^2 - 6x^2y^2) \div xy$	$-4x + 8y - 6xy$
H	$(2a^2 - \frac{1}{2}b) - (-a^2 - \frac{2}{3}b) + (6a^2 + 3b)$	$9a^2 + \frac{19b}{6}$
I	$5xy(-y + 9) + 4xy(5y - 7)$	$15xy^2 + 17xy$
J	$(\frac{3}{4}s^3t + 18)(\frac{8}{9}st^4 - 8)$	$\frac{2}{3}s^4t^5 - 6s^3t + 16st^4 - 144$
K	$(\frac{3x}{5} + 4x^2y - y) + (-x - 2.5x^2y - 0.2y) + x^2y$	$-0.4x + 2.5x^2y - 1.2y$
L	$5(3a^2 - 4a + 3) - 3(a^2 + 5a - 9)$	$12a^2 - 35a + 42$
M	$(2r - 7)(5r - 6)$	$10r^2 - 47r + 42$
N	$9bc + -11bc^2 + bc + -bc^2$	$10bc - 12bc^2$
O	$4(2c^2 - 5d + e) - (c^2 - 6d + 5e)$	$7c^2 - 14d - e$
P	$(ab^2 - 4ab + 4b) \div \frac{4}{3}b$	$\frac{3ab}{4} - 3a + 3$
Q	$-7a(2b^2 + 4b - 5)$	$-14ab^2 - 28ab + 35a$
R	$(10nx + -7x - 3) + (-10nx - 2n + 5x)$	$-2x - 2n - 3$
S	$(-8y^2 + 32xy) \div 4y$	$-2y + 8x$
T	$(-s - 3t^2)(s^2 - 4st)$	$-s^3 + 4s^2t - 3s^2t^2 + 12st^3$
U	$(x^2 + 4y - 8) - (2x^2 + 7)$	$-x^2 + 4y - 15$
V	$(a - 0.7) - (0.4a + 1.4)$	$-0.6a - 2.1$
W	$(\frac{4}{6}x^3y^2 - \frac{5}{8}x^2 + \frac{3}{5}y^3) \div \frac{2}{5}xy$	$\frac{5}{3}x^2y - \frac{25x}{16y} + \frac{3y^2}{2x}$
X	$(2ab + 3)^2$	$4a^2b^2 + 12ab + 9$
Y	$(-9m^2p^2 + 12mp^2 - 15m^2p) \div 3mp$	$-3mp + 4p - 5m$

Rube Goldberg Machines

Information for students

Rube Goldberg machines are circuits made up of practically anything in which a marble can be set in motion. The marble is placed at a starting point and keeps moving until the goal is achieved. This series of actions is explained by the concept of cause and effect.

In this activity, the challenge is to build your own Rube Goldberg machine, while following specific guidelines.

- Take a look at the first machine shown in this [video](#).
- Design and build your own machine by following the guidelines below:
 - It should include at least six steps.
 - It should be made up of at least one of the following simple machines: wheel, inclined plane, lever, pulley.
 - It should include at least one motion transmission or motion transformation system.

You can make a video of your Rube Goldberg machine in action and share it with your friends.

Materials required

Various household objects that are safe to use as well as recyclable materials.

- For more information (in French) about simple machines, see: [Alloprof: Les types de machines simples](#)
- For more information (in French) about motion transmission and motion transformation systems, visit the *Expérimentations* section on this page: [CDP: Les mécanismes](#)

Take a look at this unusual machine: [The cake server](#)

Information for parents

Activity details

Students can try doing this activity on their own. Different versions of this activity, of varying levels of complexity, can be carried out at all grade levels. If anyone else in the house is studying science, why not have them all work as a team?

In this activity, children will practise:

- make simple machines using simple materials, accurately predict the consequences of an action, analyze the causes of errors and make the necessary corrections

Parents could:

- help their children to find an appropriate workspace and materials that can be used for the activity

This activity was adapted from the EnScience pour la réussite project from the Instance régionale de concertation de la Capitale-Nationale.

Stress management

Information for students

- Look at the PDF document and the video about stress management.
- During supper time, tell your family what you learned about stress management. You can also call a friend to talk about your new discoveries.

Materials required

- The [PDF document](#) about stress management
- The [video](#) about stress management

Information for parents

Activity details

In this activity, children will practise:

- To find ways to manage stress

Make a plan, get moving, take a moment to reflect

Information for students

- Plan three physical activities¹ you will carry out this week.
- Carry out the physical activities you planned.
- How do you feel?

Materials required

- Depending on the activity

Information for parents

Activity details

In the context of the current pandemic, the physical and social environment in which physical activities or active play are carried out must comply with the most recent guidelines issued by the Direction de la santé publique or by any other relevant authority.

In this activity, children will practise:

- To carefully plan physical activities and think about the planning process afterward

¹ Make sure that you have the materials required for an activity before you add it to your schedule.

Unavailable

The English presence in Québec

Information for students

Spark your interest in learning:

- Characterize the role of English and anglophone culture in Québec by making a list of information and cultural references familiar to you, your friends and your family that relate primarily to the following aspects of society:
 - Culture
 - Economy
 - Politics
 - Society
 - Territory
- Consult the document, [The English Presence in Quebec](#), produced by the Office of the Commissioner of Official Languages of Canada.
 - Identify the historical causes that explain why there is a higher proportion of anglophones in certain regions of Québec.

Take it to the next level:

- Do the comic strip activity [Qu'advient-il de la Nouvelle-France à la suite de la Conquête?](#) RÉCIT social sciences website. (In French)

Materials required

Useful resources, depending on personal preferences and availability:

- writing materials (paper, poster board, pencils, etc.)
- printer
- device with Internet access

Information for parents

Activity details

In history class, learning is centred on the particular characteristics of the evolution of Québec society. Students look at the composition of the population and interactions between various groups in different periods