

SECONDARY 4
Week of April 6th 2020

Poetry Writing Workshop

Information for students

- Canadian poet Rupi Kaur, author of *Milk and Honey* and *The Sun and Her Flowers*, leads poetry writing workshops on Instagram. Here Rupi leads virtual participants in writing exercises to help with self-expression in this time of social isolation.
- Choose one poem to share with others via social networks.

Materials required

- Link: <https://www.youtube.com/watch?v=GtTW1Vu86tE>
- Paper, pen or pencil, phone, tablet or computer. ...

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 eight steps.
 - It should be made up of at least two 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 about simple machines (in French), 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 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.

Energy drinks

Information for students

- Watch the video about energy drinks.
- During supper time, tell your family what you learned about energy drinks.

Materials required

The video [What If You Only Drank Energy Drinks?](#)

Information for parents

Activity details

In this activity, children will practise:

- To learn about the potential health risks associated with energy drinks.

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

Information for students

- Plan the physical activities you will carry out this week.
- Carry out the physical activities you planned.
- In your opinion, did you follow the necessary safety rules when carrying out the activities?

Materials required

- Depending on the activity.¹

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.

This activity allows children to carefully plan their physical activities and think about the planning process at the end.

In this activity, children will practise:

- plan the physical activities they will carry out during the week
- carry out the physical activities they planned
- be curious about the safety rules they need to follow during the physical activities

Parents could:

- carry out the activities with their children, or alternate between supervision and independent play, depending on the activity

¹ Based on the materials available at home.

Unavailable

Unavailable

Approach to learning

Information for students

Spark your interest in learning:

- Make a list of the subjects on your report card this year.
- Get in touch with friends or family who went to secondary school in the 1970s, 1980s or 1990s and make a list of the subjects that were on their report cards.
- Look for similarities and differences:
 - What differences and similarities do you see between the subjects you are taking now and the ones students took in the 1970s, 1980s or 1990s?
 - Based on your research, is there a difference between girls' schooling and boys' schooling?
- Particularly up until the 1960s, girls were discriminated against in school. For example, they were often steered toward “women’s programs.” Consult the [Education and Technical Training Document File](#) in order to:
 - characterize the education that was promoted in domestic science schools
 - characterize the education that was promoted in classical colleges, long reserved for boys who chose to continue their studies at a higher level

Take it to the next level:

- To explore another perspective, characterize First Nations and Inuit students' experience in residential schools by doing [this activity](#).

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 class, students learn to avoid analyzing the past based on today's values and beliefs. They consider the different perspectives of the various groups affected by an event or a set of circumstances and discover that these events and circumstances don't have the same meaning or consequences for everyone.