

Grade 8 FI Math & Science Learning Opportunities

Week of April 27th

MATH

1. LES MATHS DANS LE MONDE DU TRAVAIL

MATH MEETS CULINARY ARTS | FULL EPISODE

<https://www.youtube.com/watch?v=yD1i3RRV2zg>



mashupmath

Hungry For a Challenge?

Use your math skills to find the value of each icon and the '?'

$$17 = \text{mixer} + \text{donut} + \text{cake}$$

$$4 = 5 - \text{cake}$$

$$\text{bag of pastries} = \text{mixer}$$

$$\text{cookie} \times 3 = 23 + \text{cake}$$

$$\text{cake} = \text{bag of pastries} - \text{cookie}$$

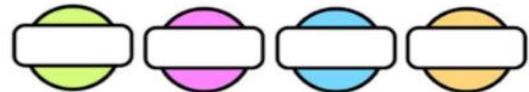
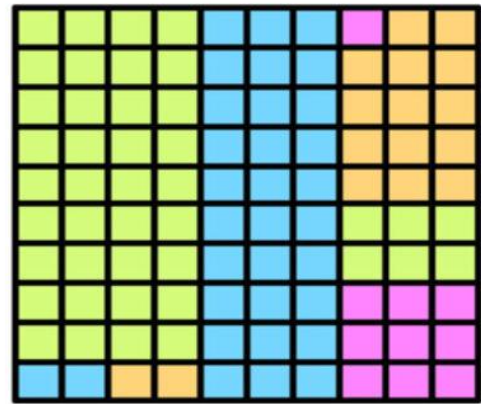
$$\text{donut} + \text{donut} + \text{bag of pastries} = ?$$

You can download more free math puzzles at www.mashupmath.com

2. CASSE-TÊTE



Si le diagramme ci-dessous représente 250, calcule la valeur de chaque couleur.



3. MangaHigh.com

Cette semaine, je ne vais pas ajouter de nouveaux défis. À la place, je vais offrir quelques indices pour vous aider à réussir les défis des semaines précédentes. Je vous suggère **FORTEMENT** de tenter les défis dans l'ordre qu'ils vous ont été offerts. Avancez seulement lorsque vous vous sentez confortable et que vous ayez au moins reçu une médaille bronze.

INDICES GÉNÉRALES:

- Ayez crayon & papier ou un tableau effaçable en travaillant avec MangaHigh.com
- Utilisez le "teach me" et le "hint" sur le site web
- Contactez Mlle Bourgeois lise.bourgeois@nbed.nb.ca si vous avez besoin d'aide.

***** Si tu as terminé TOUS les défis des deux listes et tu aimerais avancer plus loin sur MangaHigh.com avant la semaine prochaine, envoie un courriel à Mlle Bourgeois (lise.bourgeois@nbed.nb.ca).**

INDICES POUR + - LES ENTIERS RELATIFS (INTEGERS):

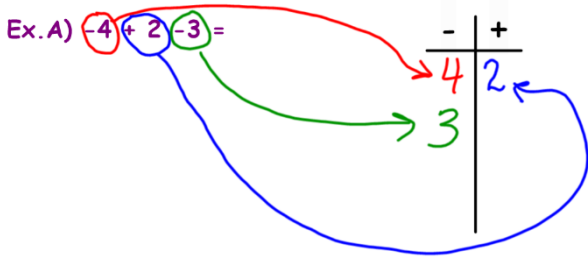
*** Tu trouveras probablement cette approche utile en algèbre. Même si tu as réussi les défis, je recommande que tu essaies ce qui se trouve ci-dessous.

*** Je vais donner ces indices en anglais au cas où quelqu'un à la maison puisse t'aider.

When I add and subtract integers, I "trick" my brain to make it easier. Instead of thinking of it as "adding" and "subtracting/taking away", I think of it as representing the terms of the expression in a score sheet. You'll see that if you try it a few times, it will soon be much easier and you may even be able to compute mentally. Let's try one!

$$\text{Ex.A) } -4 + 2 - 3 =$$

To understand this approach, first you need to know that a "term" is the number and the sign that is in front of the number (if there is no sign, it is implied that it is POSITIVE). I like to circle the terms as I put them into the score sheet. The two teams are the POSITIVES and the NEGATIVES.



Now that all the terms are in the scoresheet, I tally up the totals for each team:

-	+
4	2
3	
7	2

Last, the answer is: "sign of winning team" followed by "difference between the scores" (how many points did they win by?).

For this example, the answer is: - 5

Using the method above, try the questions below to see if you can calculate the correct answers. Solutions will be found on the next page.

$$\text{Ex.B) } 2 - 4 - 2 =$$

$$\text{Ex.C) } 2 - 5 + 3 - 4 - 2 =$$

$$\text{Ex.D) } 1 - 3 + 2 + 3 - 2 + 4 =$$

INDICES POUR x ÷ LES ENTIERS RELATIFS (INTEGERS):

*** THIS IS AN EXTREMELY IMPORTANT RULE TO MASTER...

... GOOD NEWS IS THAT IT'S VERY EASY ☺

Here is the rule:

When we MULTIPLY or DIVIDE two numbers:

- if the signs are the **SAME**, the answer is **POSITIVE**
- if the signs are **DIFFERENT**, the answer is **NEGATIVE**

*** When two brackets "touch" one another, a multiplication is implied.

Another way that you will sometimes see multiplications written is with a dot between numbers like this: $3 \cdot 2 = 6$

$$1) (+2)(+3) = +6$$

$$2) (+2)(-3) = -6$$

$$3) (-2)(+3) = -6$$

$$4) (-2)(-3) = +6$$

$$5) (-24) \div (+8) = -3$$

$$6) (-3)(-4) = +12$$

$$7) (-2)(-3)(-4) =$$
$$= (+6)(-4)$$
$$= -24$$

LAST TIP FOR THIS WEEK:

The $x \div$ rule can help with + - questions too. Like we did earlier, rather than thinking of this as "taking away 3 negatives" or "adding 7 negatives", etc..., we will represent the terms in a score chart. With all of those extra signs, it's not clear which team get the points for each term.

$$-2 - (-3) + (-7) - (+5)$$

So, we're going to pull a "sneaky trick" to simplify things. We all know that if we multiply any number by 1, the answer is the same number. So, I can stick some 1s into the above question without changing a thing.

$$-2 - 1(-3) + 1(-7) - 1(+5)$$

Now, focus on each highlighted part and use the multiplication rule. The yellow part is -1 times -3, which equals +3. So, replace the whole yellow highlighted part with "+3".

$$-2 - 1(-3) + 1(-7) - 1(+5)$$

Do the same for the other highlighted portions and you will have a MUCH simpler expression:

$$-2 + 3 - 7 - 5$$

Now we will fill in the score chart and calculate that the answer is **-11**.

-	+
2	3
7	
5	
14	3

MATH

NO PEEKING!
Solutions

Cake=1
 Cookie=8
 Bread Bag=9
 Mixer=9
 Donut=7
 ?=23

Vert: 105
 Rose: 25
 Bleu: 80
 Orange: 40

Ex.B)

-	+
4	2
2	
6	2

ANSWER: -4

Ex.C)

-	+
5	2
4	3
2	
11	5

ANSWER: -6

Ex.D)

-	+
3	1
2	2
	3
	4
5	10

ANSWER: +5

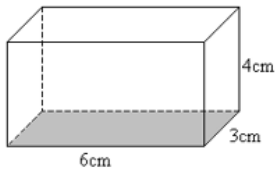
SCIENCES

COMMENT MESURER LE VOLUME D'UN OBJET?

1. REGARDE LE VIDEO SUIVANT : <https://www.youtube.com/watch?v=rOs3acfnLww>

2. COMPLETE L'EXERCICE :

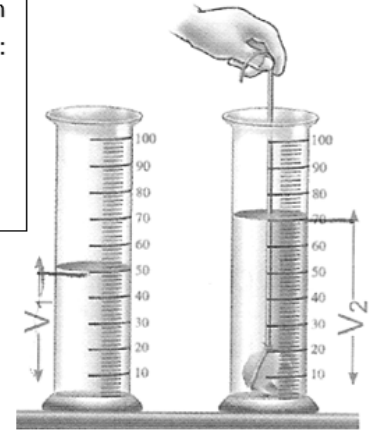
Pour mesurer le volume d'un **prisme rectangulaire** : MULTIPLICATION!
 $L \times l \times H = V$



$3\text{cm} \times 6\text{cm} \times 4\text{cm} =$

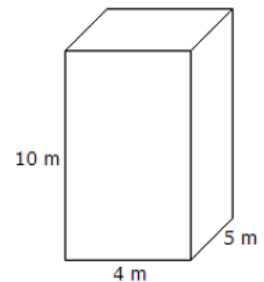
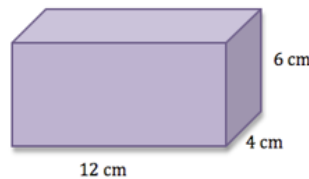
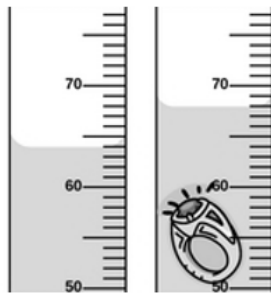
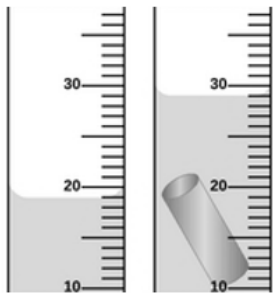
Pour mesurer le volume d'un objet **irrégulier** : DÉPLACEMENT!
 Submerge l'objet dans l'eau et mesure la quantité d'eau déplacée!

$70\text{ml} - 50\text{ml} = 20\text{ml}$



Procédures :

1. Détermine le volume (ml ou cm³) de ces objets :



a) ___ ml - ___ ml = ___ ml

c) ___ cm x ___ cm x ___ cm = ___ cm³

b) ___ ml - ___ ml = ___ ml

d) _____ = _____ m³

2. Choisis QUATRE objets irréguliers de la maison et détermine leur volume. Montre ton travail et dessine l'objet.

Matériel : Tasse à mesurer, eau, 4 objets.



<p>Objet : _____</p> <p>Volume (ml) : _____</p> <p>Diagramme :</p>	<p>Objet : _____</p> <p>Volume (ml) : _____</p> <p>Diagramme :</p>
<p>Objet : _____</p> <p>Volume (ml) : _____</p> <p>Diagramme :</p>	<p>Objet : _____</p> <p>Volume (ml) : _____</p> <p>Diagramme :</p>

MATH-SCIENCE LINK

😊 JUST FOR FUN 😊

In Math and Science we often rely on good logical & critical thinking as well as problem solving skills. If you are able to this week, try a “Water Flow” puzzle. There are dozens of free versions available as apps and online. Here are just a few examples available for Android users:



Plumber®
App Holdings
Contains ads • In-app purchases



Plumber: Water Pipe Puzzle
Gpon
Contains ads • In-app purchases



Flow Fountain 3D Puzzle
Frasinapp
Contains ads • In-app purchases



Water Pipes
Mabiloids
Contains ads • In-app purchases



Water Pipes Flow
dev.kmf
Contains ads



Flow Water Fountain 3D Puzzle
Frasinapp
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Water Flow Puzzle 3D
MD Innovate
Contains ads