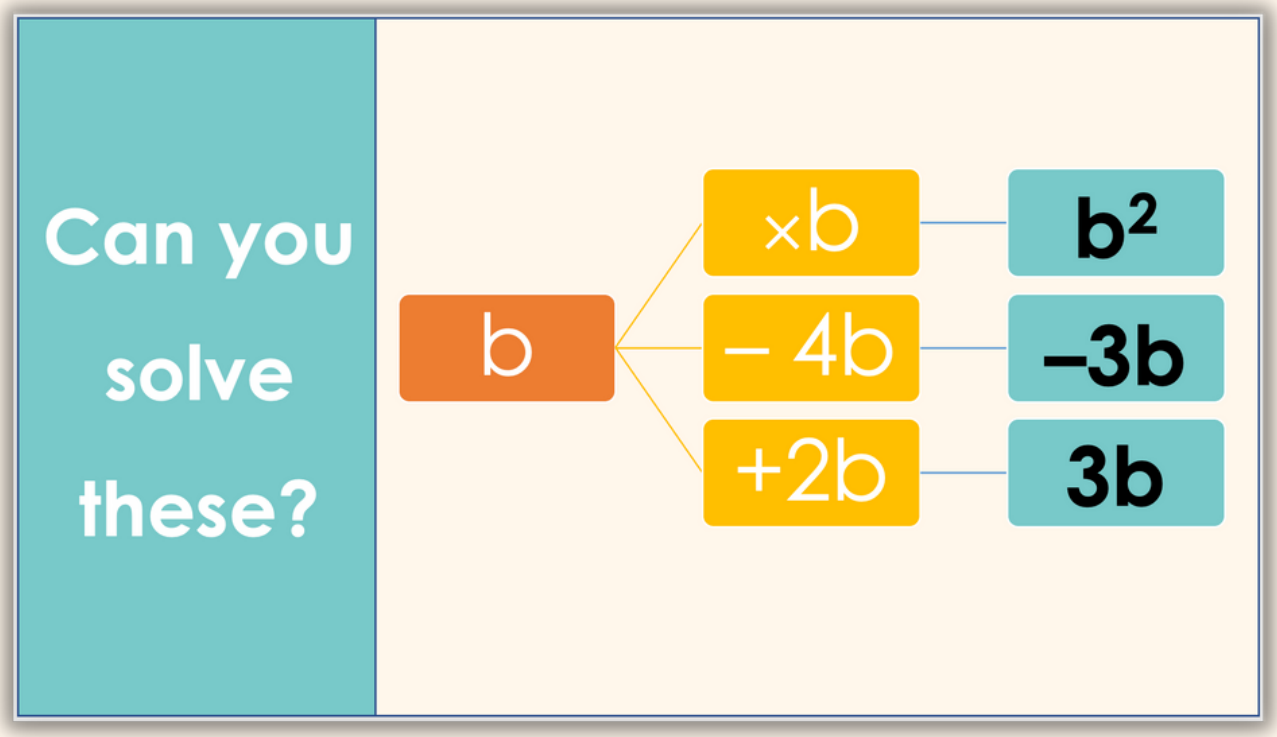
EXPRESSIONS AND FORMULAE

INCLUDES:



- PPSX
- WORKSHEETS
- HOMEWORK
- PUZZLES
- ANSWER KEYS

23 PPSX SLIDES

EXPRESSIONS AND FORMULAE

Evaluate $\frac{e^3 + 2fg}{g^2 - 7}$

If e = 4, f = –2 and g= 3

$\frac{e^3 + 2fg}{g^2 - 7} = \frac{4^3 + 2(-2 \times 3)}{3^2 - 7}$ — *Replace variables with the given values*

$= \frac{64 + 2(-6)}{9 - 7}$ — *Evaluate the numerator and denominator separately.*

$= \frac{64 - 12}{9 - 7}$ — *Multiply 2 and –6*

$= \frac{52}{2}$ or **26** — *Simplify the numerator and denominator. Then divide.*

When do we use formulae?

Most medicine is prescribed in accordance with our weight

To calculate taxes, pensions and loans

A lot of formulae are used in construction. If a formula is wrong the building can collapse.

Evaluate $a + (b - 2)^2$

If a = 2 and b = –3

$a + (b - 2)^2 = 2 + (-3 - 2)^2$ — *Replace a with 2 and b with –3.*

$= 2 + (-5)^2$ — *Add –3 and –2.*

$= 2 + 25$ — *Find* $(-5)^2$.

$= 27$ — *Add 2 and 25.*

Can you solve these?

b	×b	
	– 4b	
	+2b	

Formula is a mathematical sentence that expresses the relationship between certain quantities.

$s = \frac{d}{t}$ $\quad d = s \times t$ $\quad t = \frac{d}{s}$

If you know the value of every variable in the formula except one, you can find the value of the remaining variable.

If y = 7, work out the value of the expressions

6y	
–3y + 11	
$5y^2$	
$3(y - y^2)$	

Example

Use a formula

Formula **P= G – GT** shows how much a person earns a year.

Where ***P*** *is* ***net pay****,* ***G*** *is* ***gross salary*** *and* ***T*** *is* ***taxes****.*

Find how much money the person earns if G = $60000 and T = 30%

$P = G - GT$ $\quad P = 60000 - 60000 \times 30\%$ — *Replace G with 60000 and T with 30%.*

$P = 60000 - 60000 \times 0.3$ — *Replace % with the decimal*

$P = 60000 - 18000$ — *Multiply 60000 and 0.3*

$P = \$42000$ — *Subtract 18000 from 60000*

As great as Houdini!

- Ask a friend to roll 2 dice. *(5 and 3)*
- Multiply the number on the first dice by 5 *(5x5 = 25)*
- Add 3 *(25 + 3 = 28)*
- Double the answer *(28 x 2 = 56)*
- Add the number from the second dice *(56 + 3 = 59)*
- Add 5 *(59 + 5 = 64)*
- Subtract 11 from the answer. *(64 – 11 = 53)*
- And you will have the numbers on the dice 5 and 3

Example

Use a formula

Paying $9 per Mbps for the Internet in 2008 was like paying how much money in 2021?

To compare dollar a… the formula $V = \frac{O}{C} I$,

V is the **current value** … **Price Index** (CPI)
O is the **old dollar amount** **I** is the **converting's year CPI**

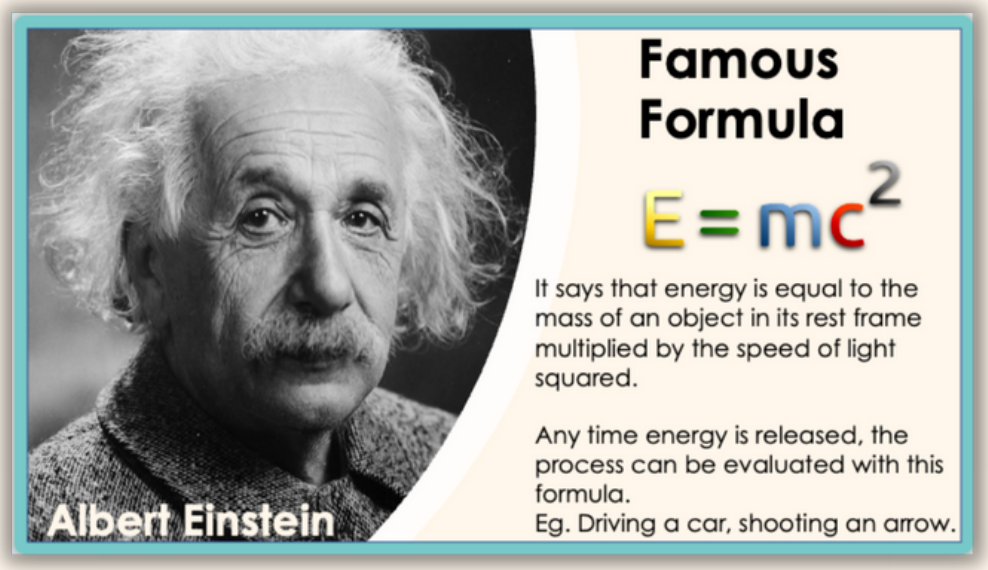
In 2008 CPI was 215.3 and in 2021 reached 353.56

$V = \frac{O}{C} I$ $\quad V = \frac{9}{215.3} 353.56$ — *Replace O= 9, C= 215.3 and I=353.56*

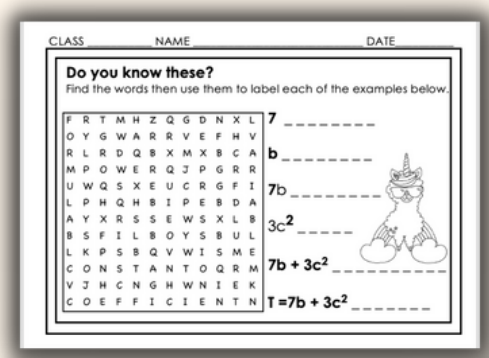
$V = \frac{9 \times 353.56}{215.3}$ — *Perform multiplication followed by division*

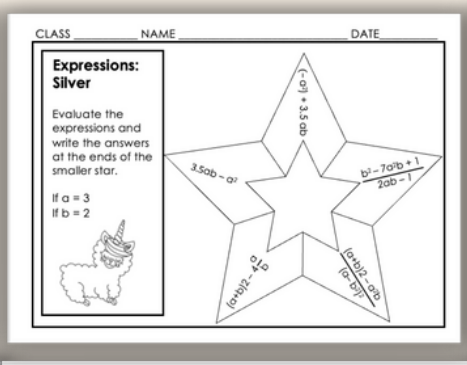
$V = \$14.77$

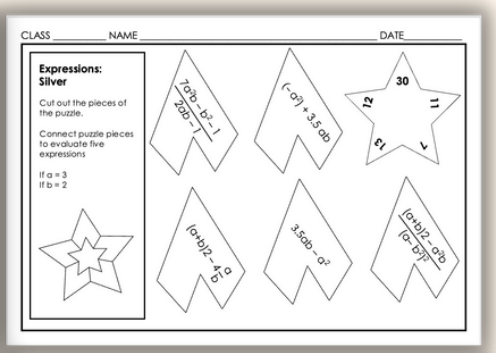
EXTRA SLIDES

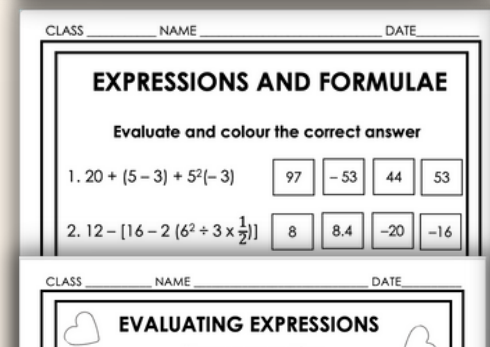


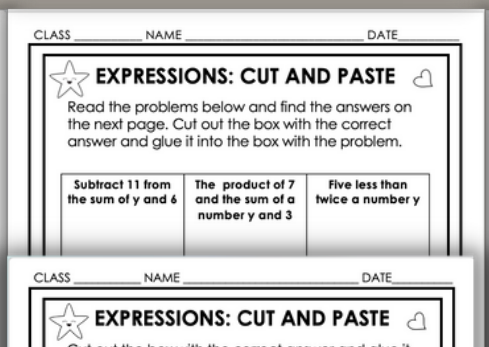
PRINTED MATERIALS:

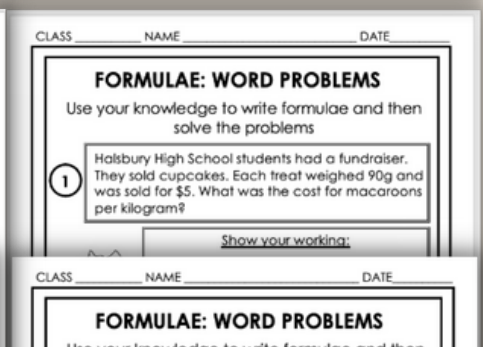


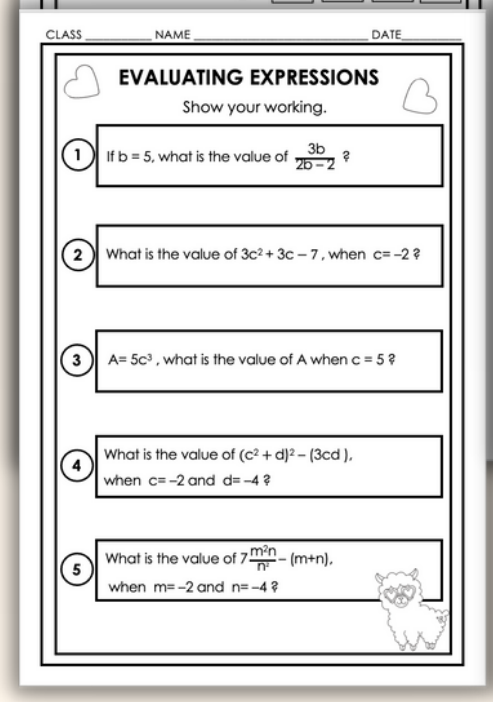


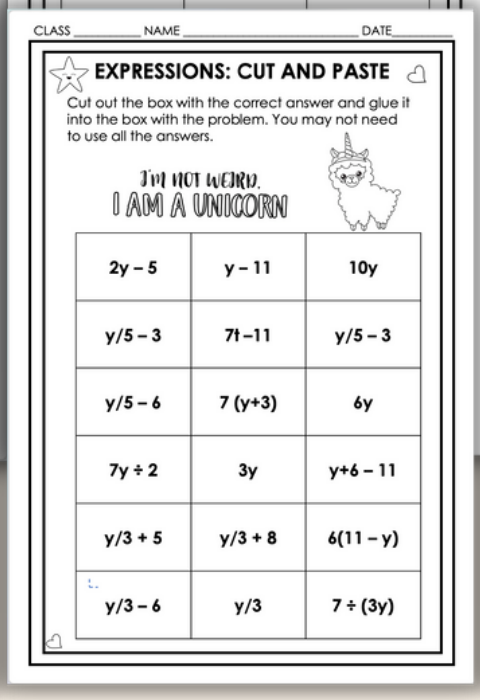


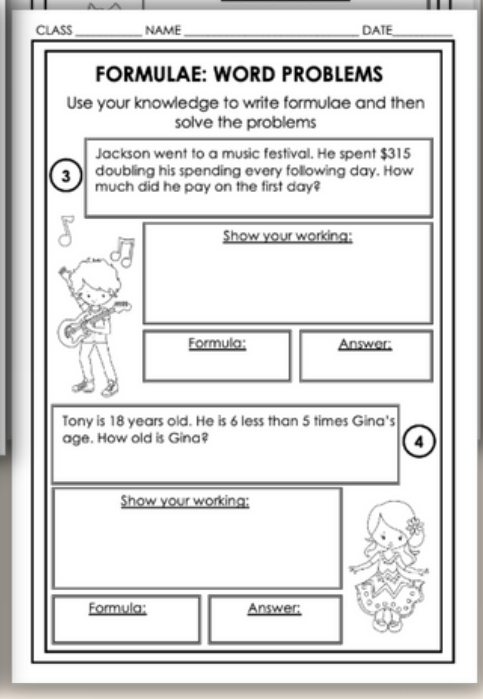












- 1 WORDSEARCH
- PUZZLES (2 LEVELS OF DIFFICULTY)
- 4 WORKSHEETS
- CUT AND PASTE ACTIVITY
- ANSWER KEYS