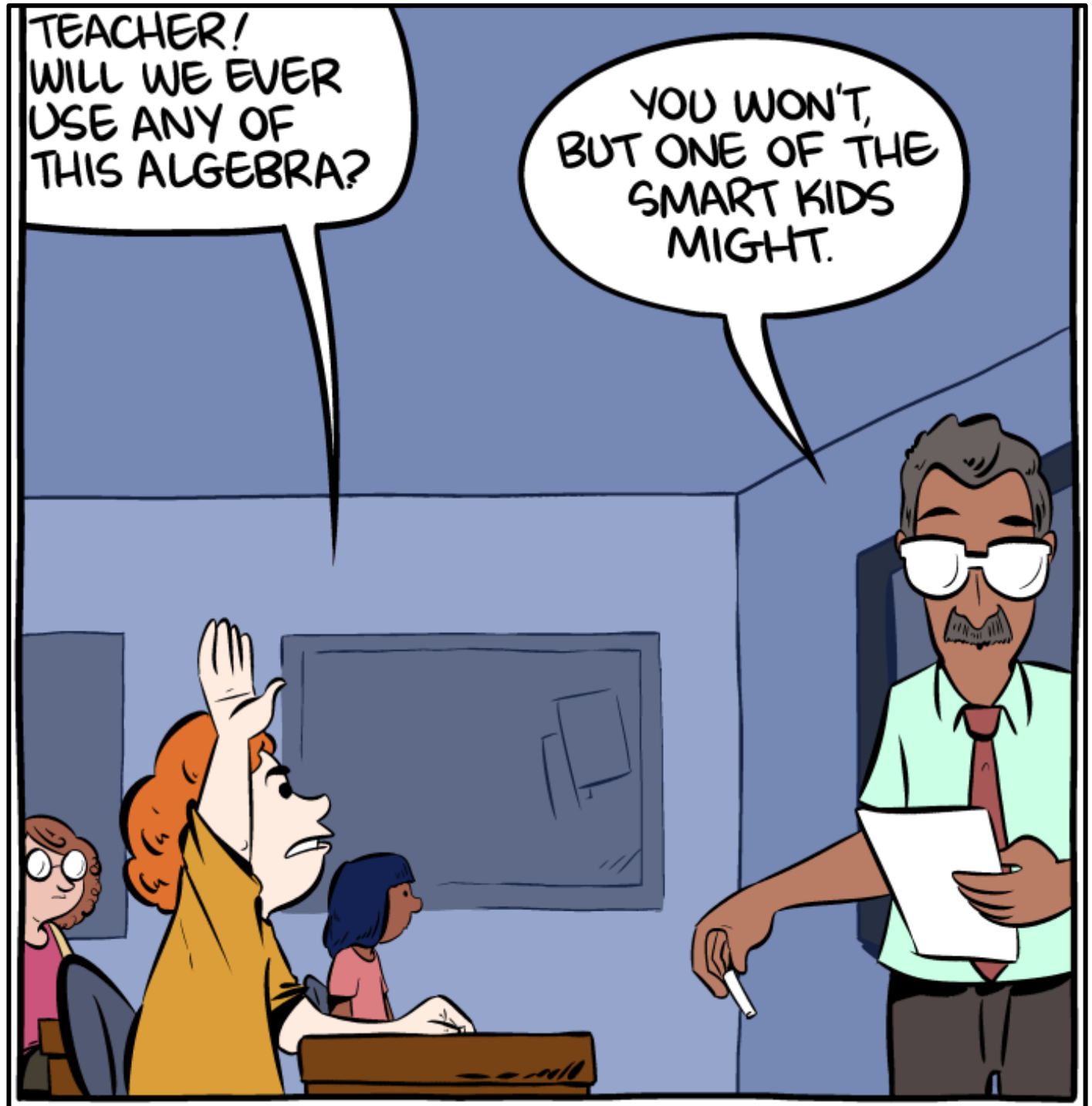
Don’t Say That!
Don’t Imply That!
Do Say This!

Fiona Allan

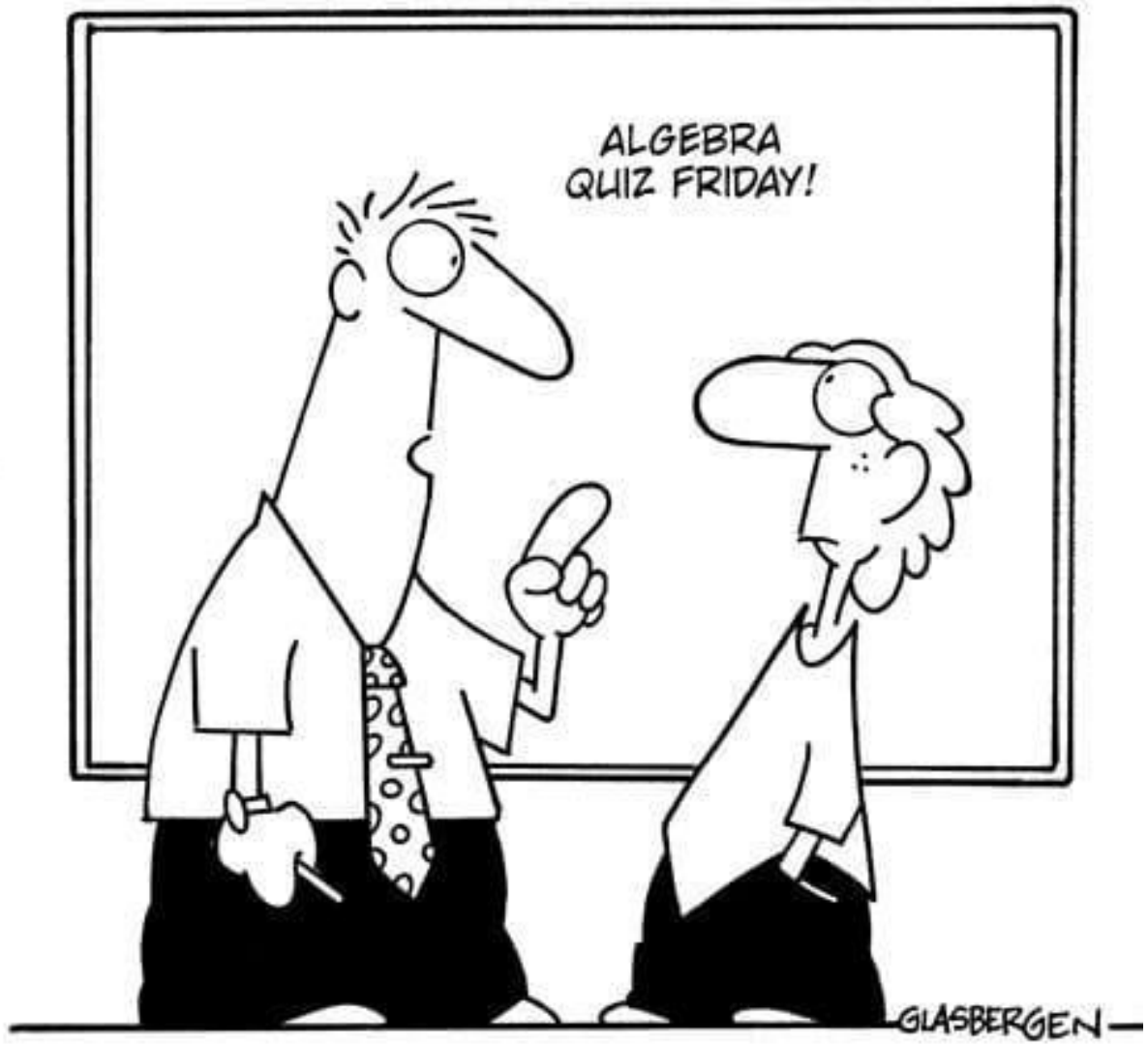
6 July 2022

Don’t say that!


TEACHER! WILL WE EVER USE ANY OF THIS ALGEBRA?
YOU WON'T, BUT ONE OF THE SMART KIDS MIGHT.


DON'T LOOK SO WORRIED.
WE DON'T EXPECT MUCH OF YOU.

"Algebra class will be important to you later in life because there's going to be a test six weeks from now."



"It's important to learn math because someday you might accidentally buy a phone without a calculator."

"Why is it important for today's kids to learn algebra? Because *I* had to learn this junk in school and now it's *your* turn, that's why!"

Don’t say that!

- You always take the small number from the big number
- The more digits there are, the bigger the number
- To multiply by 10, simply add a 0 to the end of the number
- To divide by 10, take off the last number and that becomes the remainder

Don’t say that!

- A fraction has a top number and a bottom number
- In a fraction the big number is always on the bottom
- If it’s a rectangle, it can’t be a square*
- When you multiply (or divide by 10) the decimal point moves

Don’t say that

- When you multiply two numbers together, you always get a bigger number

- What other rules do we give children that don’t work in later years?

  Write your suggestions in the chat box.

Don’t imply that!


...NOW. NOW... LET'S NOT JUMP TO CONCLUSIONS HERE!!

Don’t imply that

Your students are failures

- They were probably given extra help/lessons/coaching at their school
- They then received their results
- They came to college and were told they would have to resit Maths
- They were then given a test which confirmed that they hadn’t been taught any maths for at least 4 months

If you were one of your GCSE students, how would you feel about Maths??

What are you going to do to make them realise that they can get those few extra marks?

Don’t imply that

‘=’ means ‘this is the next thing I thought of’

For example: $2 + 3 = 5 + 6 = 11 \times 7 = 77$

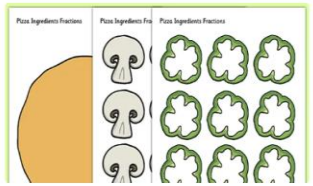
But $2 + 3 \neq 5 + 6 \neq 11 \times 7 = 77$

Don’t imply that

Fractions are always parts of pizza

Pizza Fractions Game

★★★★★ 50

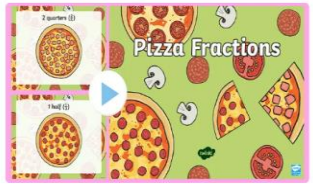


Pizza Ingredients **Fractions** Cut and Stick Activity

★★★★★ 43

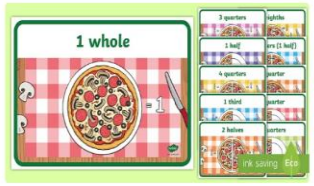
Pizza Fractions Halves Quarters and Thirds Activity Sheets

★★★★☆ 18



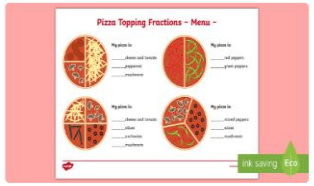
Pizza Fractions PowerPoint

★★★★★ 43



Pizza Fraction Display Posters

★★★★★ 27



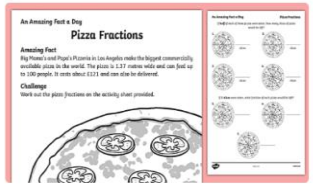
Pizza Topping Fractions Menu Worksheet

★★★★★ 1

Pizza Fraction Display Posters (Symbols)

Pizza Fractions

★★★★★ 16

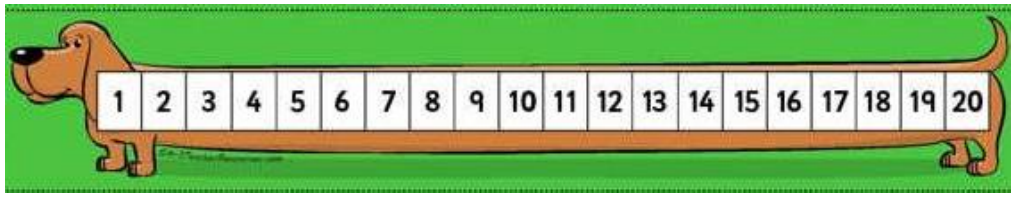


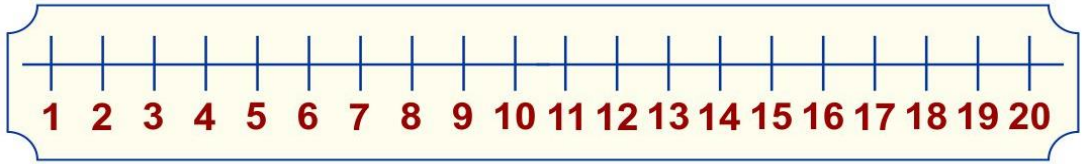
Pizza Fractions Worksheet

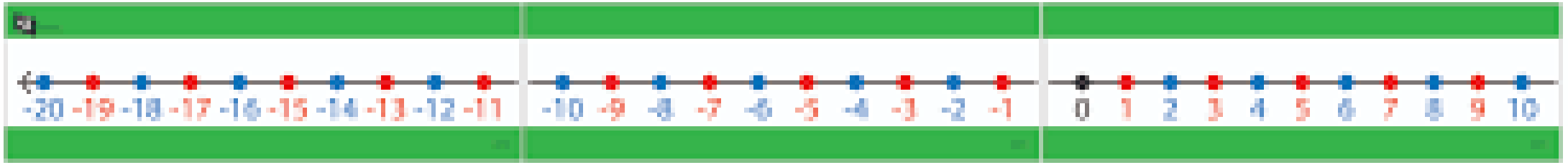
★★★★☆ 1

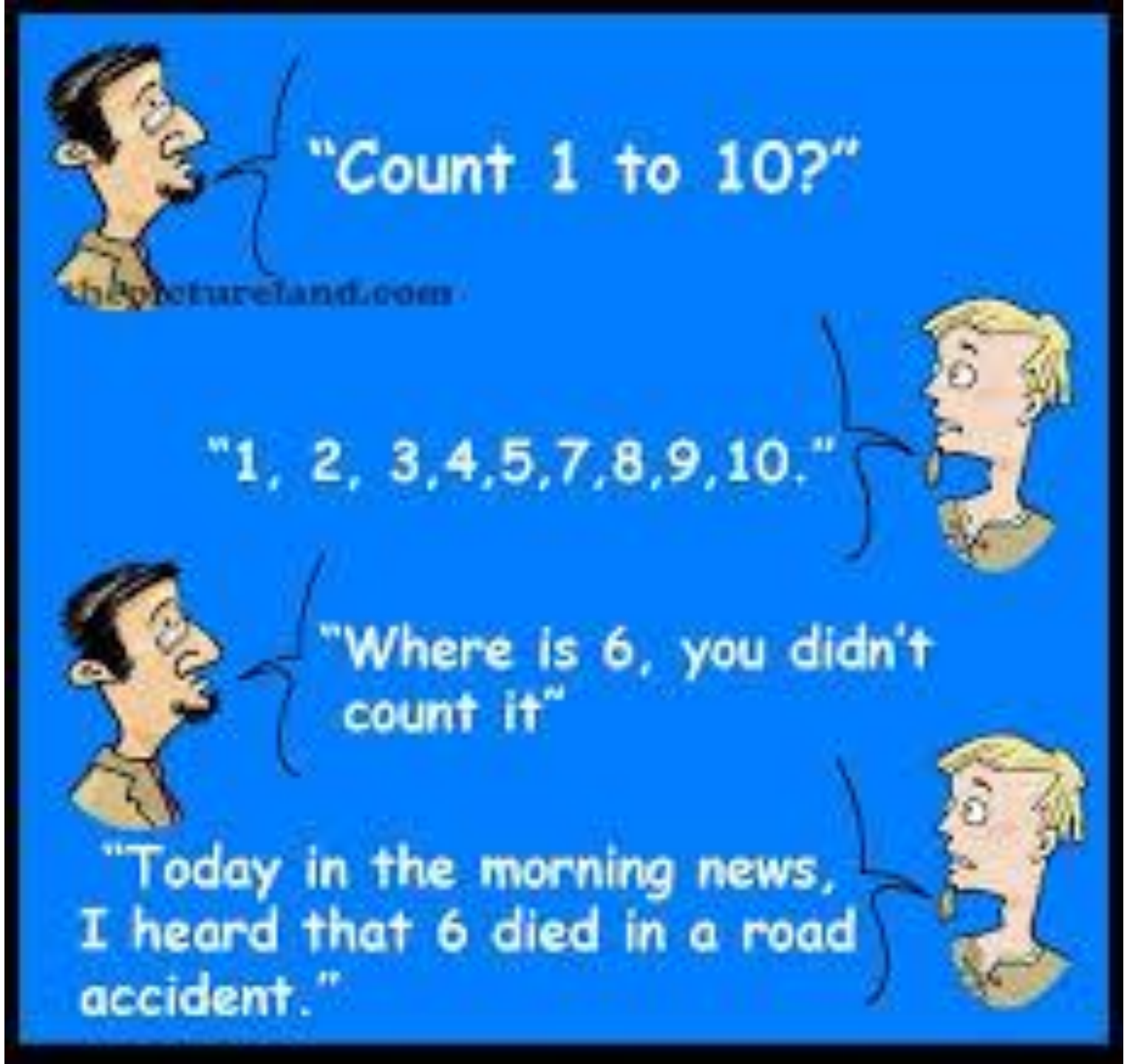
Don’t imply that

The number system starts at 0 or at 1



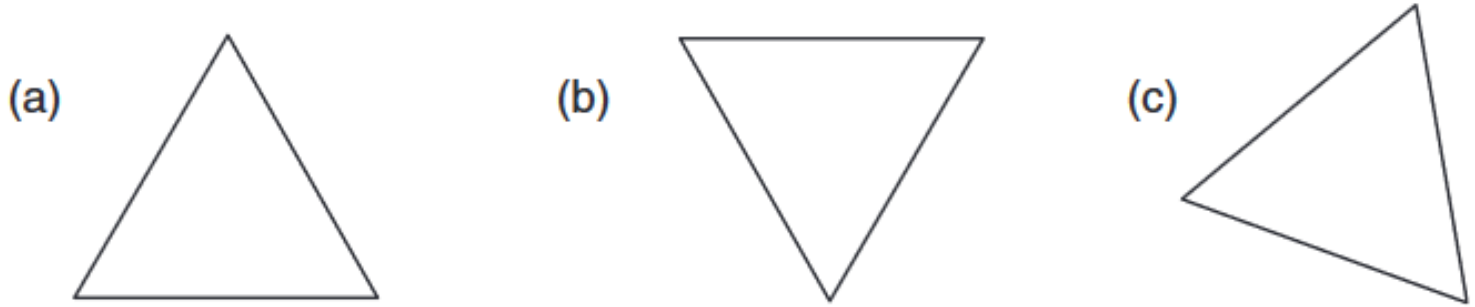





"Count 1 to 10?"
"1, 2, 3,4,5,7,8,9,10."
"Where is 6, you didn't count it"
"Today in the morning news, I heard that 6 died in a road accident."

Don’t imply that

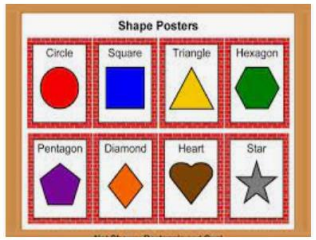
How many sides do these figures have?



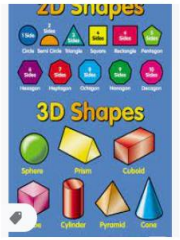
A child may respond the (a) has two sides and a ‘bottom’, shape (b) has two sides and a top and only (c) has three sides.

Don’t imply that

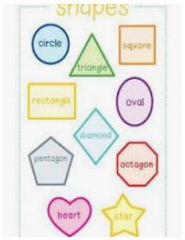
All shapes have equal sides



Shape Posters : Classroom-Printables ...
pinterest.com

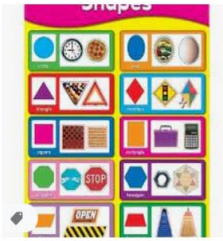


2D and 3D Shapes Teac...
brightideasteaching.co.uk...

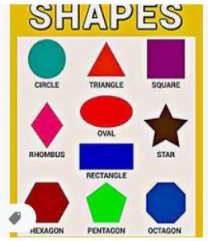


Use these colorful post...
pinterest.com

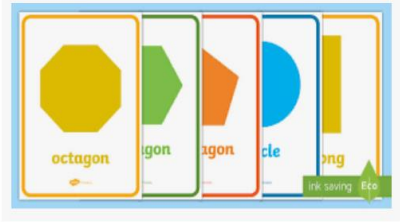
32 Pieces Shapes Classroom Post...
amazon.co.uk



Shapes Teaching Classroom Di...
brightideasteaching.co.uk



SHAPES Chart by School Sm...
amazon.co.uk



FREE! - *Free* Posters on 2D Shapes ...
twinkl.com.au

Shapes kinder
pinterest.com

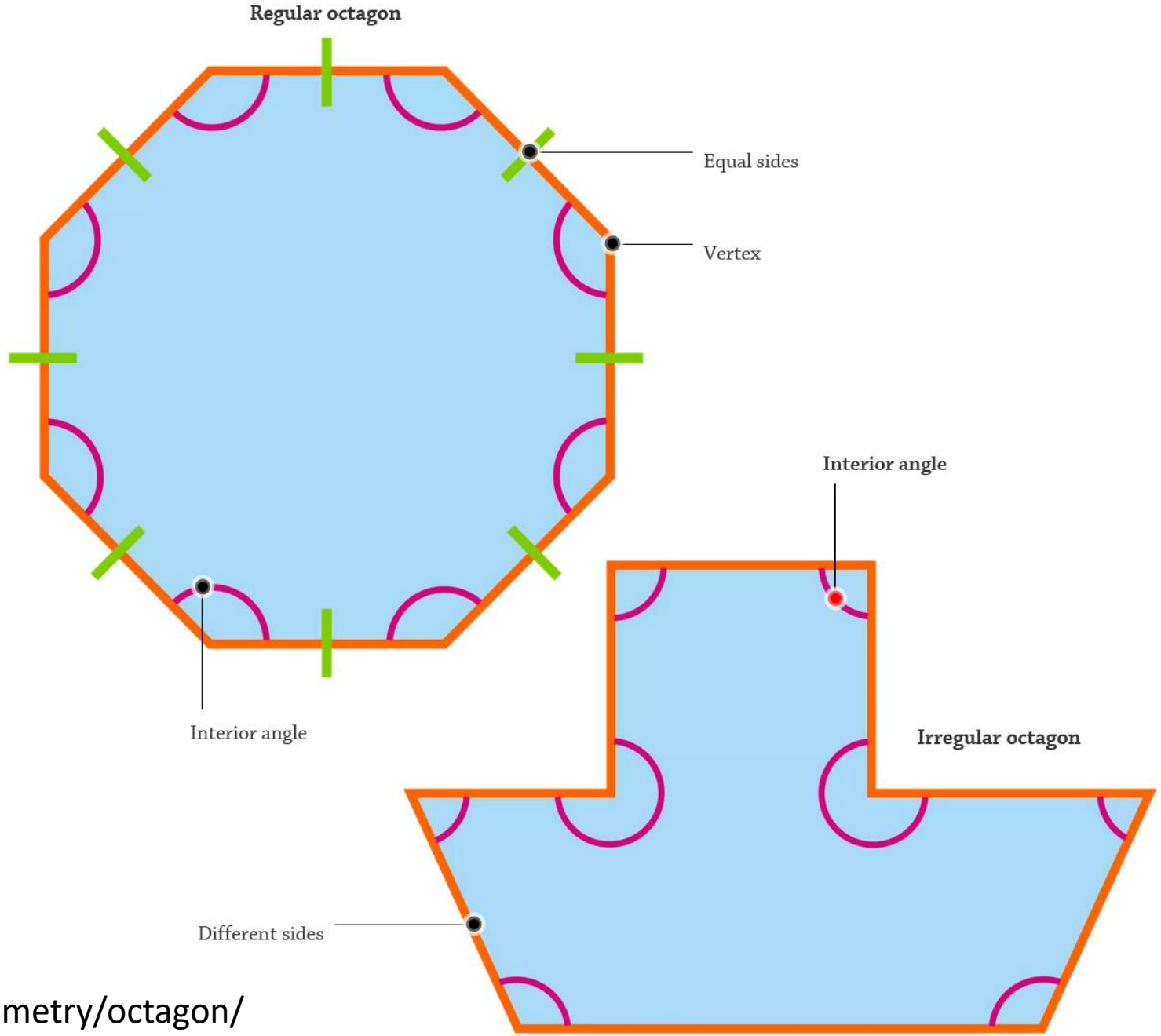
Found on Google:

- ‘What do I call an irregular quadrilateral with 6 sides?’
- ‘What is an irregular 8-sided shape called?’
- ‘Can I call a 6-sided polygon a ‘hexagon’ even if the sides aren't equal?’

Octagon

An octagon has eight straight sides and eight vertices (corners). It has eight angles inside it that add up to 1080°. If you see a word that begins with “oct”, it often has something to do with the number eight. For example, an octopus has eight legs.

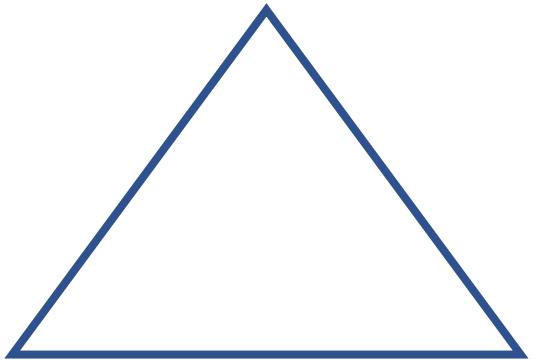
Quiz yourself on shapes



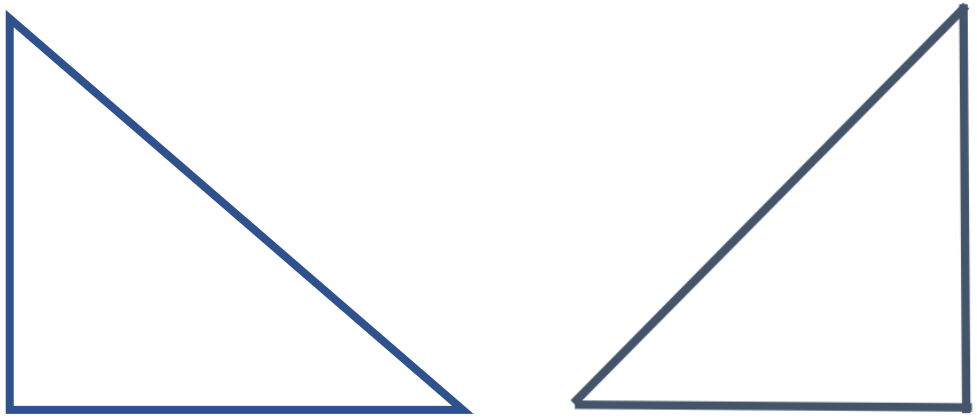
https://www.dkfindout.com/uk/maths/geometry/octagon/

Don’t imply that

- All triangles look like this:



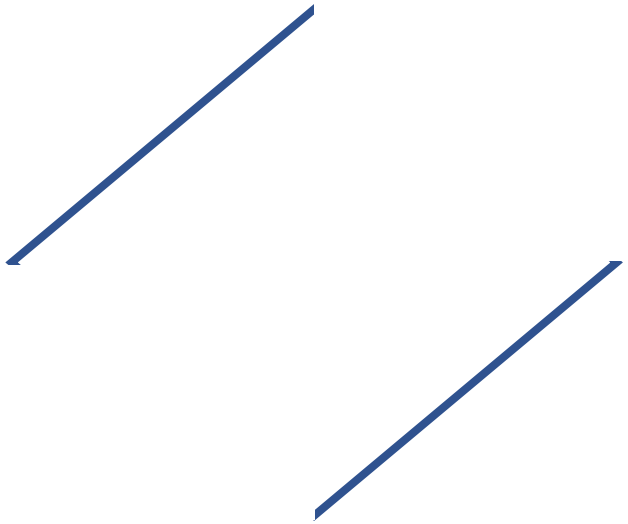
- All right-angled triangles look like this:



Don’t imply that

- These are parallel lines:

- Therefore, these lines are not parallel:



Don’t imply that

You never get a minus sign

at the beginning of an equation…

Solve the Quadratic Equations Name:_____

Complete the Square **Worksheet # 1**

1.) $10x^2 + 20x - 71 = 9$

2.) $x^2 - 20x + 49 = -2$

3.) $2x^2 + 16x - 70 = -4$

4.) $x^2 + 12x - 20 = 8$

5.) $x^2 - 16x + 50 = 2$

6.) $10x - 20x - 83 = -3$

7.) $x^2 - 18x - 56 = 7$

8.) $3x^2 - 18x - 42 = 6$

9.) $x^2 + 4x - 25 = 7$

10.) $x^2 - 16x - 20 = -3$

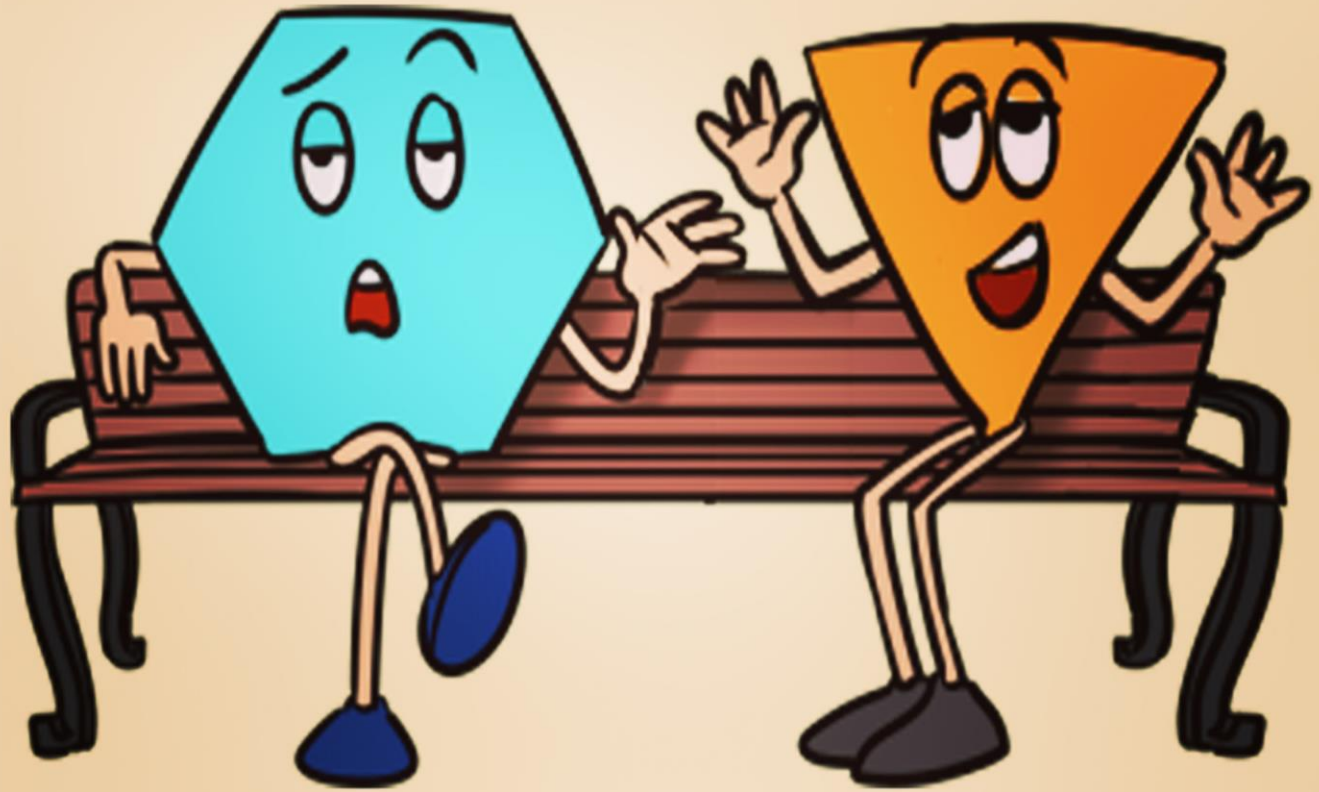
http://math.about.com Score: /10

Be careful what you say!

Language in the Maths classroom

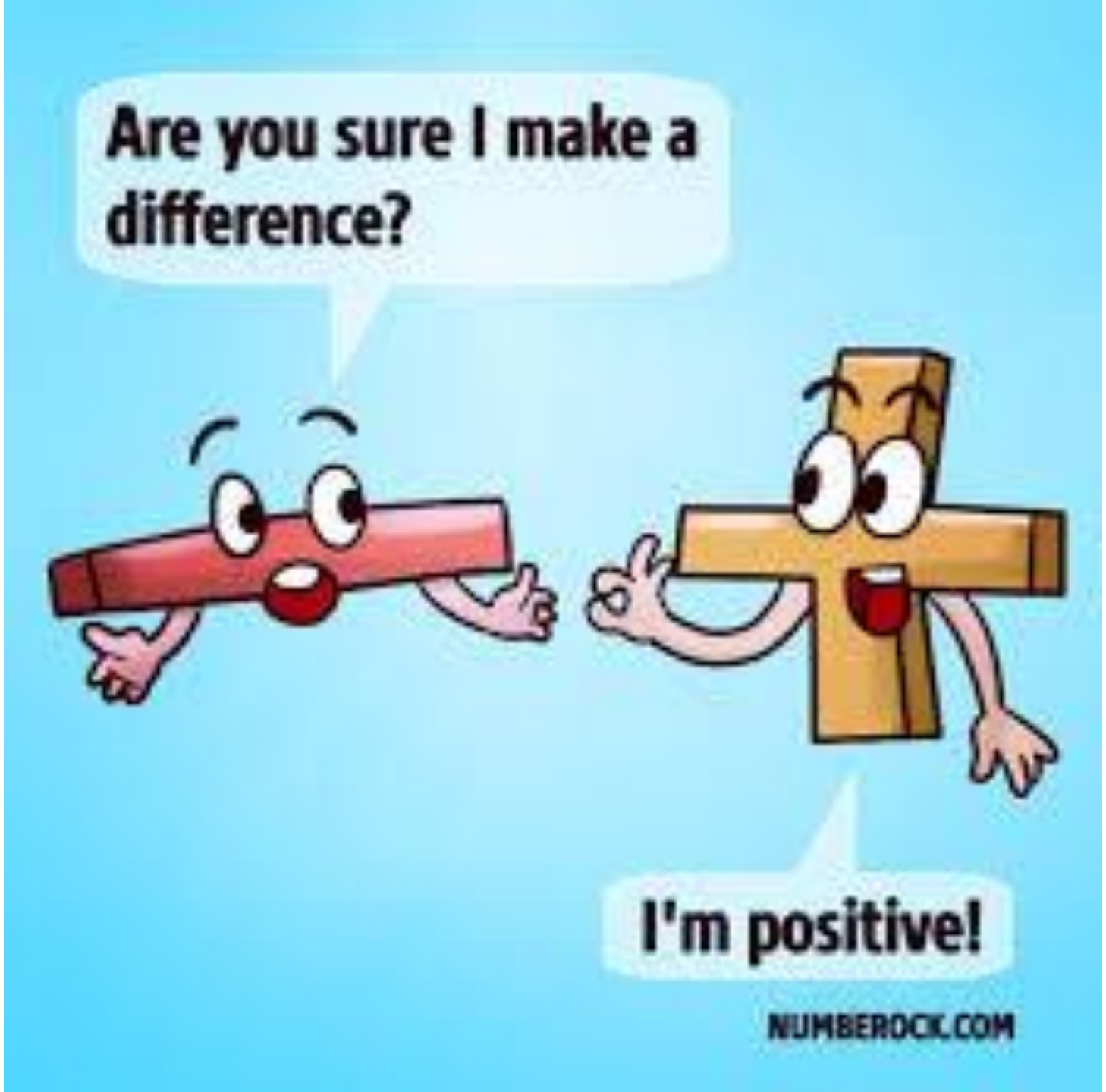
Label your axes!

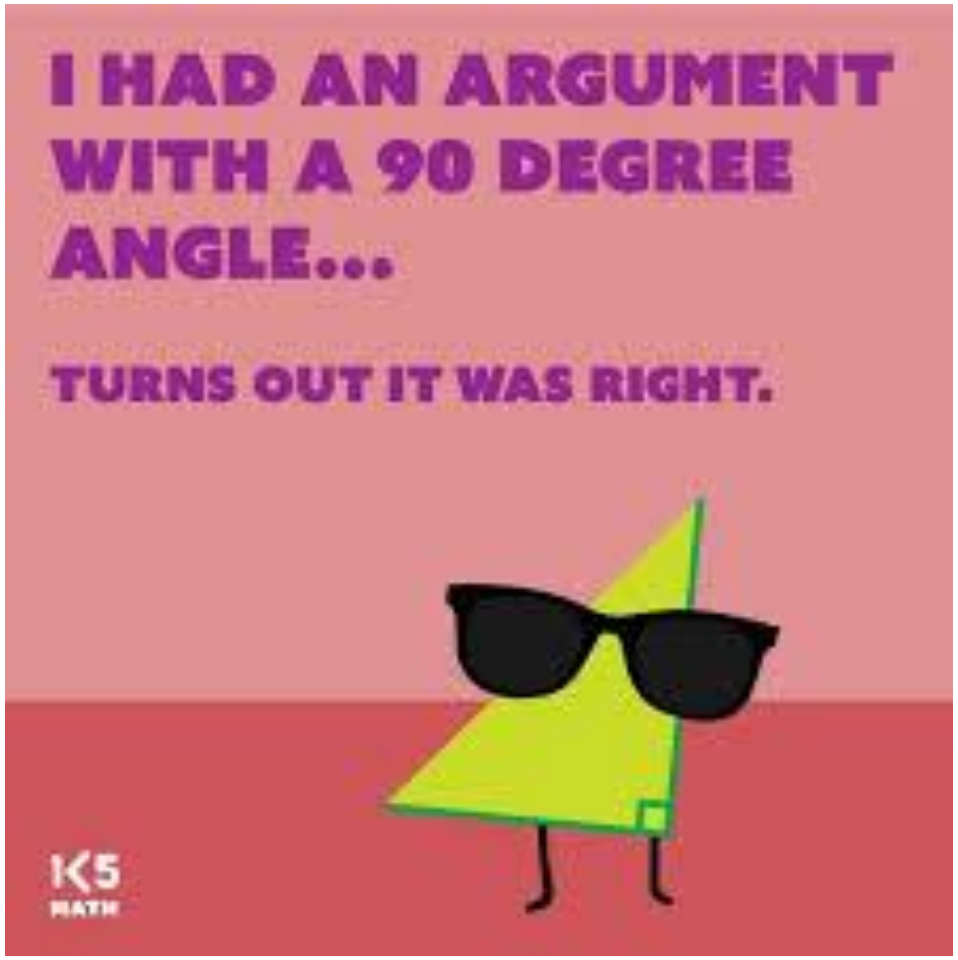
DUDE, AREN'T CIRCLES LIKE, TOTALY POINTLESS.

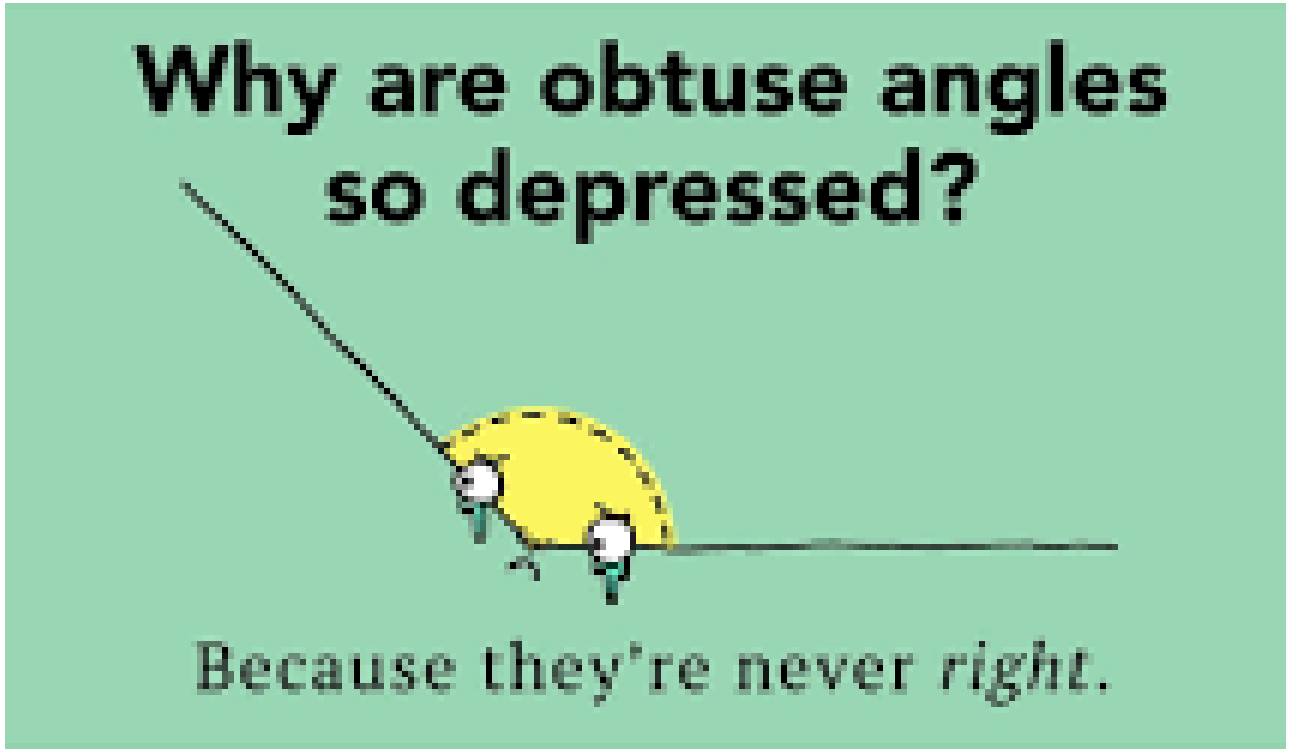


TOTALLY, DUDE.

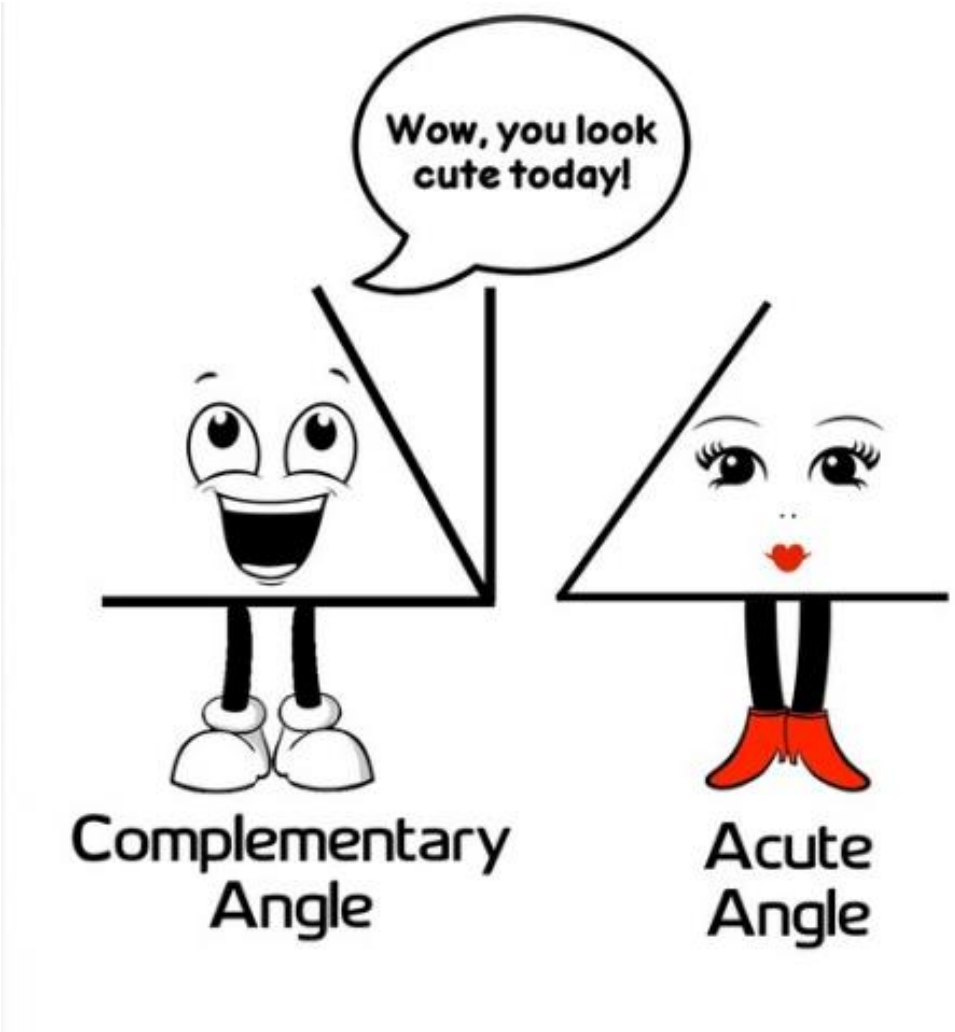
MATH JOKES, SONGS AND GAMES @ NUMBEROCK.COM


Are you sure I make a difference?
I'm positive!
NUMBEROCK.COM


I HAD AN ARGUMENT WITH A 90 DEGREE ANGLE...
TURNS OUT IT WAS RIGHT.
K5
MATH


Why are obtuse angles so depressed?
Because they're never *right*.

Sometimes word play helps them remember!



Never mention the number 288.

It's just two gross.

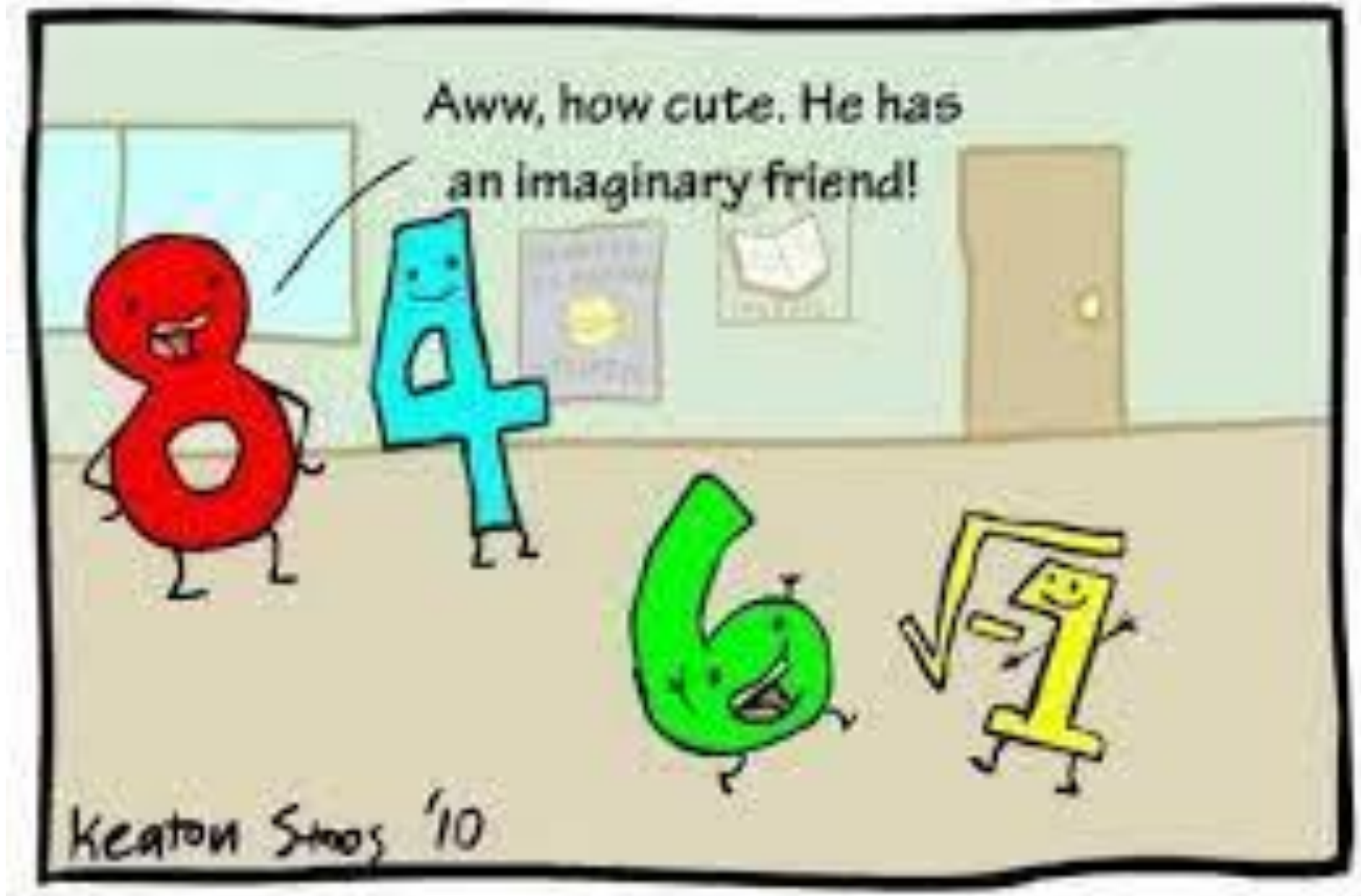
Maths words can confuse learners

complex
degree
differentiation
digit
even
function
gross
integration
key
metre (meter)
odd
operation
power
plot
prime
problem
product
root
table
series
volume
yard

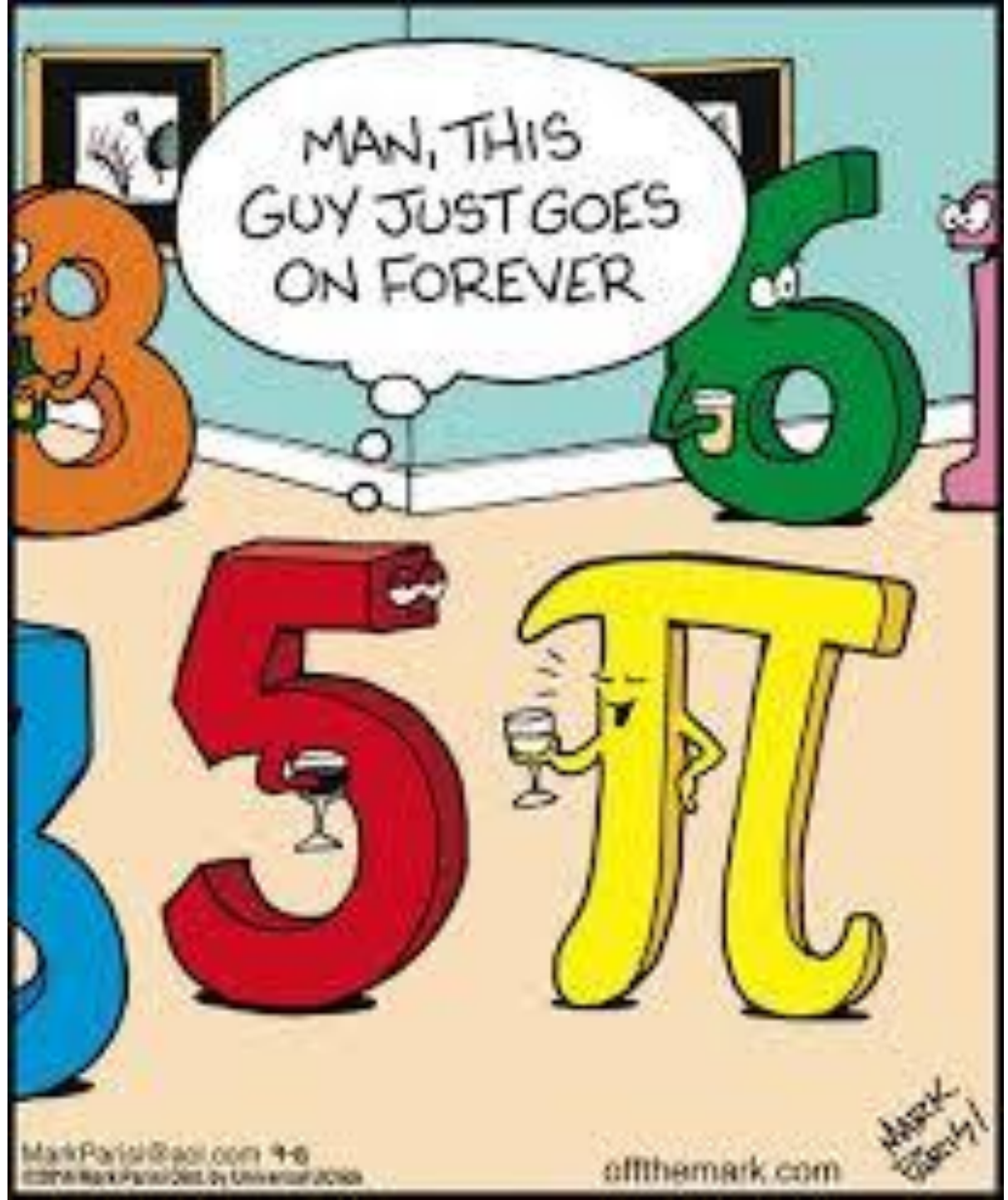
Can you think of any more words which mean one thing to the general public and something different in the Maths classroom? Type them into the chat.

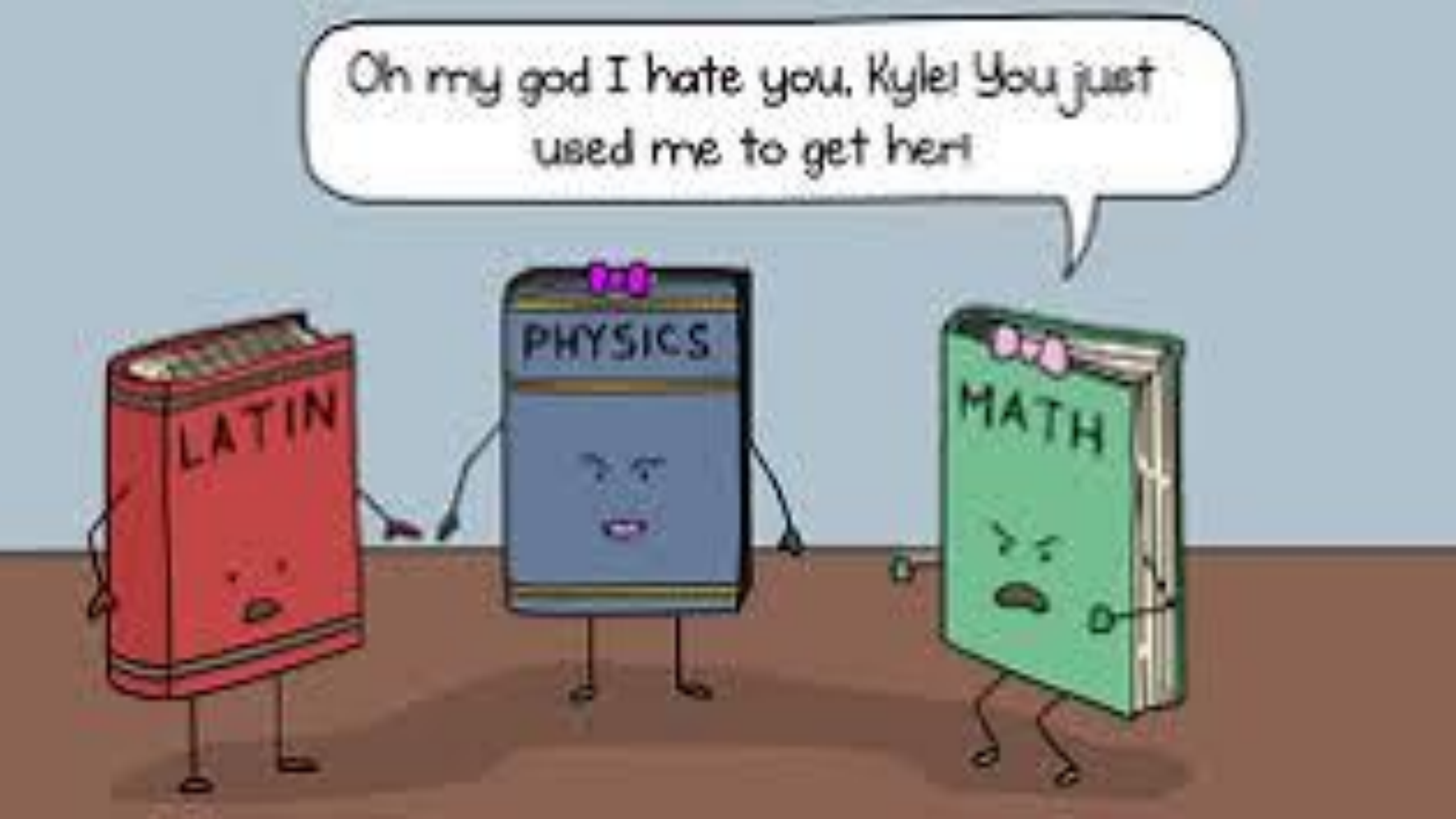
Correlation between reading ability and GCSE results

GCSE subject	Correlation
English Language	0.65
Geography	0.65
Maths	0.63
History	0.61
Science Combined	0.61
English Literature	0.60
Drama	0.57
Citizenship	0.56
German	0.55


Aww, how cute. He has an imaginary friend!
Keaton Sims '10


BOY OH BOY, GOOD OL' SEVEN WAS IN PRIME FORM TONIGHT.
I GUESS. THEY JUST STRIKE ME AS SUCH AN ODD COUPLE.
7 3
6 2
DAN THOMPSON
1-23
GOCOMICS.COM/BREVITY ©2014 Universal Uclick
HAT TIP TO DAN HARBEKE
BREVITYCOMIC@GMAIL.COM


MAN, THIS GUY JUST GOES ON FOREVER
offthemark.com


Oh my god I hate you, Kyle! You just used me to get here!
LATIN
PHYSICS
MATH

Do say this!

Raising maths attainment through enhanced pedagogy and communication

Results from a 'teacher-level' randomised controlled trial

Richard Churches
Fiona Allan

Providing education for public benefit worldwide

Research summary

CfBT Education Trust has had a long engagement with the adult learning sector and particularly with the area of adult numeracy. The organisation has also published two research papers on neuro-linguistic programming (NLP) and its potential in education, including a systematic literature review. The literature on adult numeracy suggests that pedagogy may be less effective if the relationship between teacher and learner does not reflect sensitivity to attitudes, beliefs and classroom emotional climate, areas in which advocates of NLP claim effectiveness.

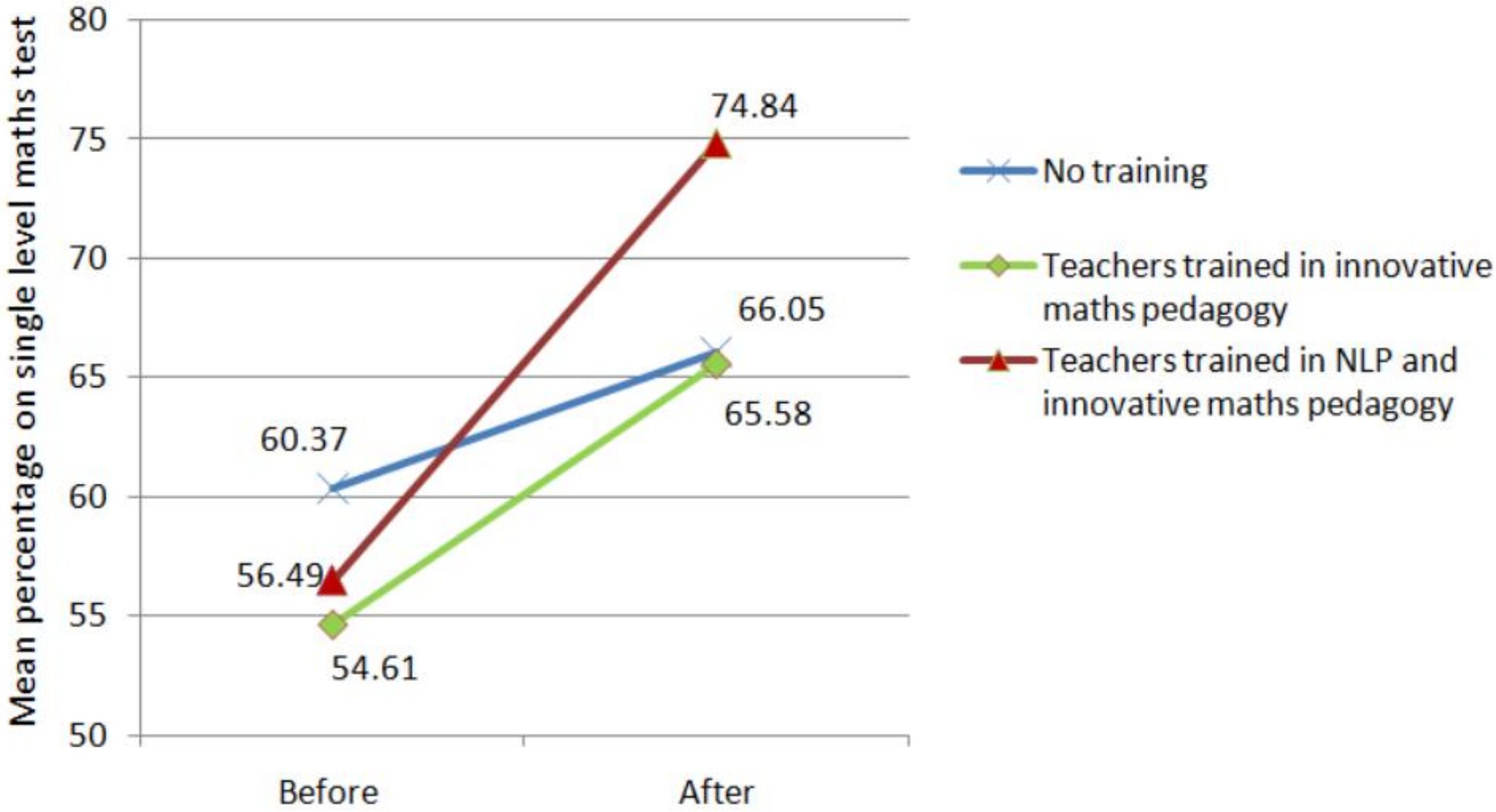
The research design for the present study took the form of a large-scale randomised controlled trial carried out over a six-month period. The study used established government adult numeracy tests before and after the three interventions. The analysis compared the effects of: a) teachers trained in approaches to hypnotic language and body language (as they appear in the NLP model) combined with innovative maths pedagogy, with b) teachers who just received maths continuing professional development (CPD), and c) a baseline control condition (learners whose teachers received no training or CPD).

The addition of NLP training produced a significant improvement in maths attainment. The increase in mean difference for this group was over three times that of the control group and approximately one and a half times that of the 'maths training only' group. Results suggest that some NLP training may be helpful to maths teachers where a baseline of effective pedagogy is in place.

The results of this study support approaches recommended by the National Centre for Excellence in the Teaching of Mathematics, while indicating that teachers' communication skills amplify or attenuate the effectiveness of such pedagogy, and that where teachers receive training in communication strategies from therapy that aims to create a stable emotional climate, attainment is significantly greater.

Future research may wish to look at whether simply training language patterns or body language still results in the same increase in attainment.

Maths attainment before and after treatment as a function of three conditions



The principals of suggestion (as defined in NLP)

There is a surface structure to language (the actual words) and a deeper structure (their meaning and what is suggested)

Notice the difference between:

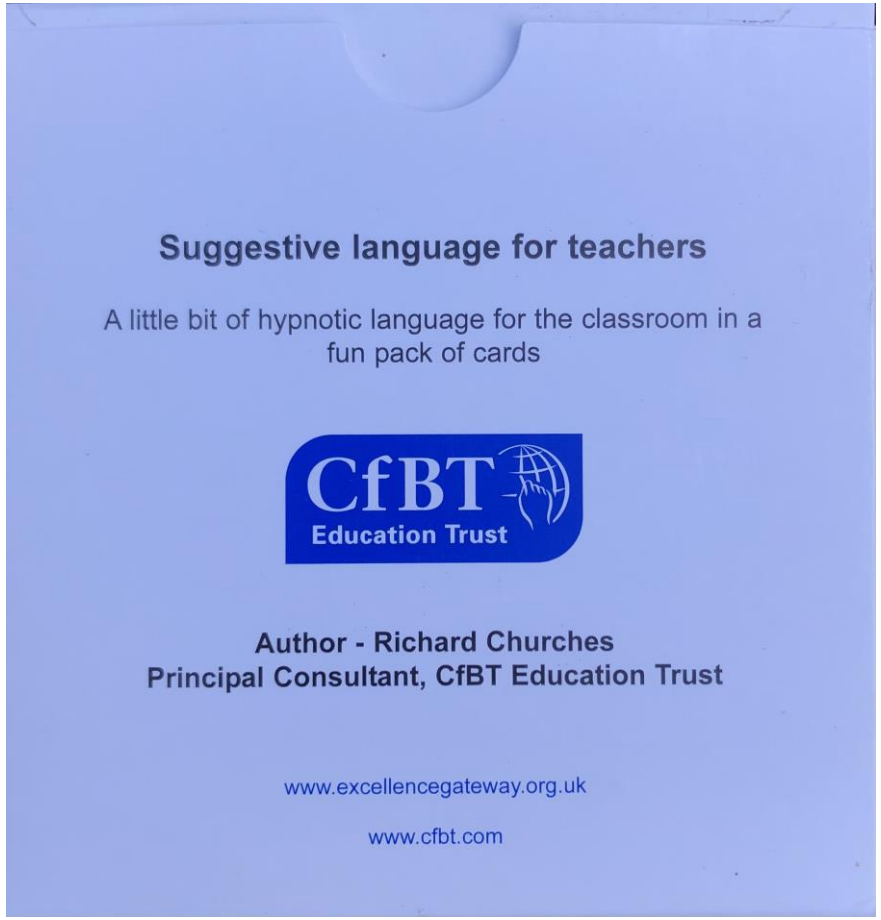
If *you do this you* **might**…..

and

When *you do this you* **will**…….

It is also about avoiding implying what you do not want. ‘Try’ for example implies possible failure.

Suggestive language for teachers



Don’t think of

You cannot not think of something

- I am not going to tell you that you are going to enjoy this.
- I’m not suggesting you will understand division straight away.

Suggestive language

- The order of words isn't important – '*This is the easiest way*, **isn't it?**' is the same as saying '*isn't this the easiest way?*'

Changing mindset with a question

So how interested *are you in this option?*

I'm wondering **how quickly** *you will begin to learn this?*

Would it *now be an opportunity to do some measuring?*

Phrase a question to include a suggestion; so that the person the question is directed at, will think of what you want.

Mentioning a desired state

Mentioning the desired state of mind or emotion (what you want) in your suggestion can help to encourage that state of mind by bringing it to the attention of the person you are talking to.

- *I am* **curious** *to know when you will* *enjoy number bonds*.

- *Another* **fun** *way to do this calculation is to ….*

Because

If you connect a suggestion to something that is undeniably true it is likely to make the suggestion more likely to be accepted.

- **As you read this** *you could* begin to think of your own version of this pattern.

- *Completing this activity* **means** *that you will find the next one easier*.

- **Now that you know** *you can work out equivalent fractions and you know percent means 'out of 100'* **you will** *be able to turn simple fractions into percentages.*

Yes tags

Adding a ‘yes tag’ (isn’t it, doesn’t it, wouldn’t it, can’t it?) after a suggestion particularly at the end of a sentence makes it more likely to be accepted. This works even better if you nod while you do it.

- Now you can multiply by 10, you can divide by 10, can’t you?
- Your group had the correct answer 36. Now you could make up similar questions, couldn’t you?
- This is a quick way, isn’t it?

Command with a question

- Can you think of a question to ask?
- Can you work more quietly?
- Could you put your pens down, look at me and listen?

That’s right

- That’s right, label the x and y axes carefully
- Talking quietly in groups, that’s right

Choice with no choice

- Would you like to do the odd numbered examples or the even numbered examples?

- Which maths worksheet would you like to do for homework?

- Would you like to use the traditional method or would you like to use the grid method?

Mirroring body language

And finally

A talking sheepdog rounds up all the sheep into the pen for his farmer. He comes back and says, “Okay, Chief — all 40 sheep accounted for”.

The farmer says, “But I’ve counted them and I’ve only got 36!”

The sheepdog replies, “I know, but I rounded them up.”

Questions

Comments

fiona.m.allan@gmail.com


"That's Mathematics"