

Mindset: The Psychology of Learning and Achievement



Mindset: The Psychology of Success

Two mindsets

Are people born smart?

'People are made, not born'

Prime Minister



Winston Churchill
REPEATED a grade
during elementary
school

He was placed in the
LOWEST division of
the **LOWEST** class

Composer

Beethoven's teacher
called him a
HOPELESS composer

He wrote **5** of his
greatest
SYMPHONIES while
DEAF



Writer



Leo Tolstoy **dropped**
out of college

He was described as
both "**UNABLE** and
unwilling to **LEARN**"

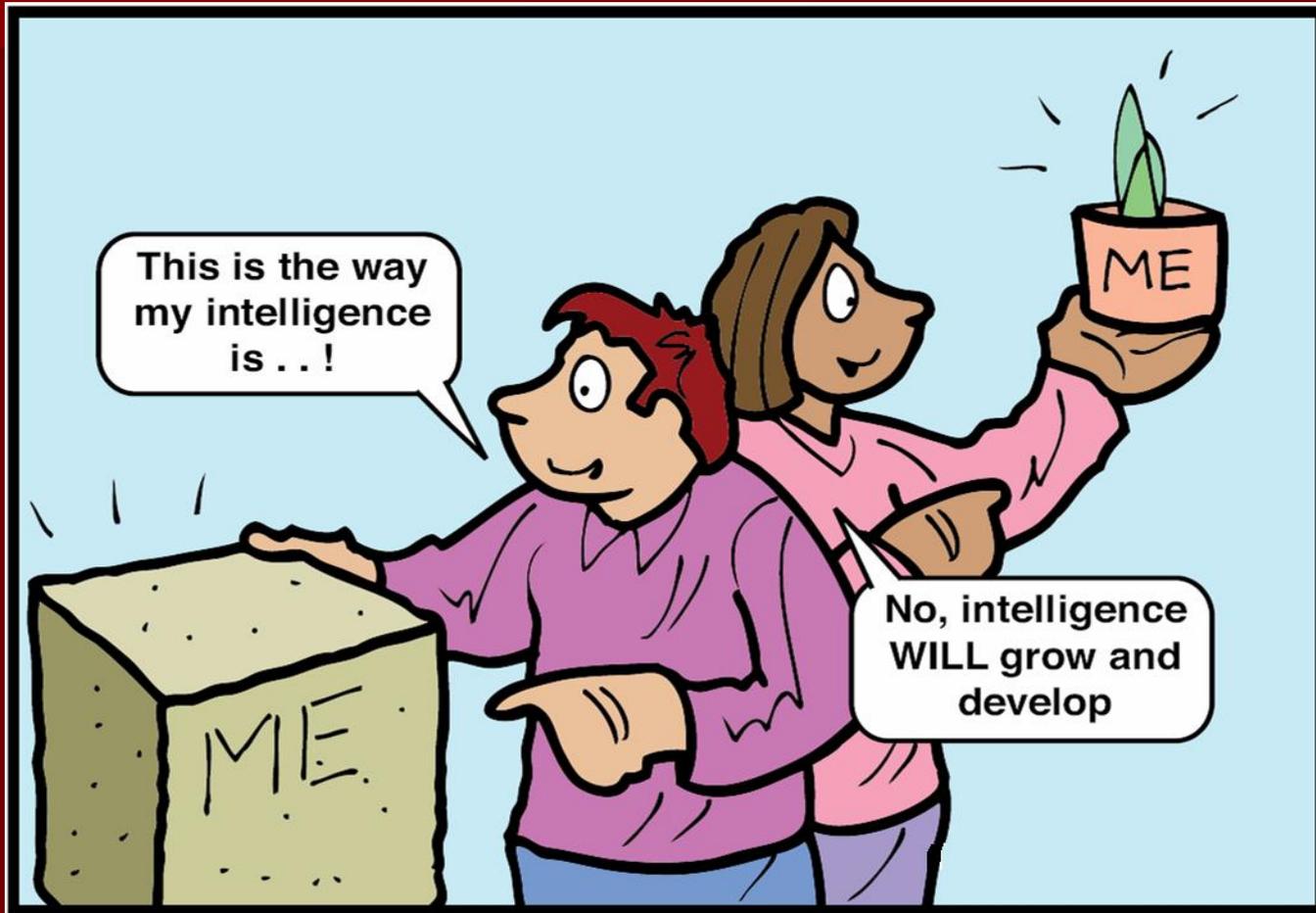
Role models

....**Einstein's** teacher said that he was
'academically subnormal'

....**Michael Jordan's** coach said that he wasn't
more talented than other people...

.....**Walt Disney** was told that he lacked
'creative imagination'

Two mindsets



Mindset

- Related to your belief about ability
- Creates a whole mental world for you to live in
- **Fixed** mindset – ability cannot change
- **Growth** mindset – ability can change (grow)

Set of 6 studies of children

	Praised for effort	Praised for ability
goals	90% of the group created learning goals	66% of the group created performance goals
enjoyment	continued	decreased
persistence	continued	decreased
performance	improved	declined
lied about scores	one individual	40%

Motivational Framework supporting mindsets

Goals

Responses

Effort

Strategies

Goals:
are the things we aim for



Goals: performance

- Those with a **FIXED MINDSET** tend to create **PERFORMANCE** goals.
- They believe that a person's **POTENTIAL** can be **MEASURED**. They aim to receive validation from others.
- Receiving low marks mean that they are not smart.
- Both success and failure cause **ANXIETY**.

Goals: learning

- Those with a growth mindset tend to create **LEARNING** goals.
- The goal is **MASTERY** and **COMPETENCE**.
- Scores and marks reflect how people are doing **NOW** and do not measure a person's potential.
- Creating goals for learning has shown to **INCREASE PERFORMANCE** and enjoyment and decrease negative emotion.

Responses:
are how we react to events



Response: helpless

When faced with failure or challenge, people with a FIXED mindset:

- do not pay attention to learning information
- get depressed, become de-energised and lose self-esteem
- denigrate their intelligence: 'I am stupid', they'll think
- under-represent past successes and over-represent failures (pessimism)
- explain the cause of events as something stable about them.

Response: mastery

- Pay attention to learning information, and so do better on future tests.
- Focus on what they are learning, rather than focusing on how they feel.
- Try out new ways of doing things.
- Use self-motivating statements such as 'the harder it gets the harder I try'.
- When faced with tests which are impossible to pass they will factor in other reasons and not blame their intellect i.e. this test was beyond my ability for now.

Effort:
is it required for success?



Effort

- Those with a **fixed mindset** view effort as a **reflection of low intelligence**.
- Those with a **growth mindset** see effort as a necessary part of **success**.
- Hard work means 'I don't get it', 'I'm unintelligent'
- They **try harder** when faced with a setback.
- Effort = lack of ability
- Effort = success.
- They use effort to **overcome** difficulty.

Effort

- People were asked about intelligence and how much they thought it was down to effort and how much they thought it was about ability

Intelligence = _____% effort _____% ability

- Fixed = 35% effort vs. 65% ability
- Growth = 65% effort vs. 35% ability

Effort: mindset



Strategies: how to reach success



Strategies: growth mindset

- People adopting a growth mindset tend to generate other, and new, ways to do things.
- If one route doesn't work they will try others.
- They will think 'outside of the box' to solve problems because they believe that they 'can'.

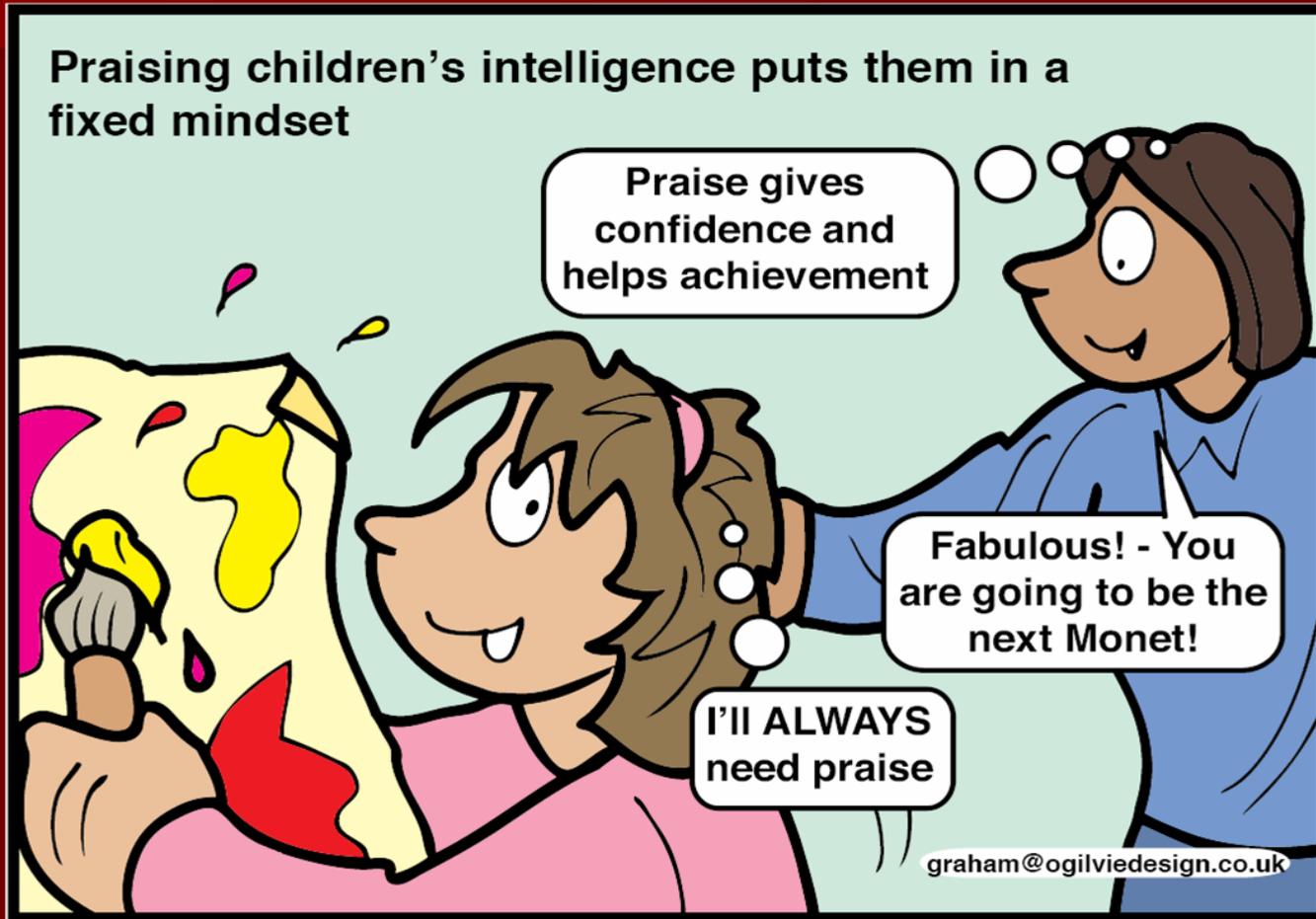
Strategies: fixed mindset

- Carol Dweck has found that students with a fixed mindset keep using the wrong strategy when faced with a problem.
- Then they disengage from the problem.
- Finally, they give up.

Praise

- People are very sensitive to the messages they receive about themselves.
- The way we interact with young people can foster either a growth or a fixed mindset.
- Praise for effort v. praise for ability.

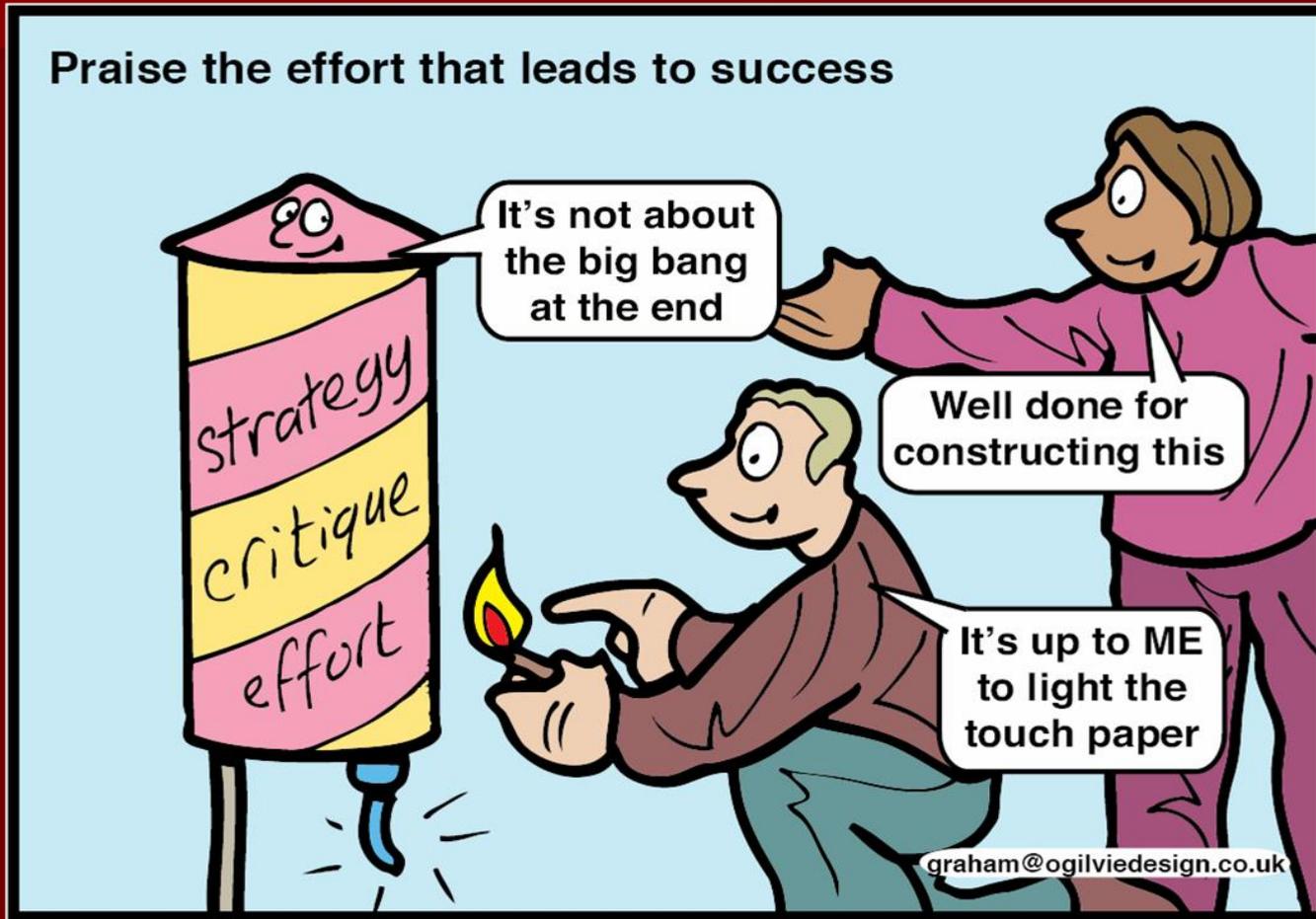
Praise: ability



Praising for ability (e.g. talent or intelligence)

- Can change a young person's mindset from growth to fixed.
- Encourages young people to create **performance goals** and display a **helpless response** when faced with challenges.
- Encourages young people to **lie** about scores.
- **Undermines** motivation and willingness to take risks.

Praise: effort



Praise for effort

- Encourages people to adopt a growth mindset.
- Encourages people to create learning goals and display a mastery response when faced with setback.
- Increases motivation and success.

Praise is not a villain



Good feedback is important

- Constructive criticism is necessary if we want people to develop and learn.
- Praise is not a villain – praising for the effort and the process will help the person become more motivated and ultimately more resilient.

THE BRAIN

**Frontal
Lobe**



**Parietal
Lobe**

**Temporal
Lobe**

**Occipital
Lobe**

**Frontal
Lobe**



**Parietal
Lobe**



**Occipital
Lobe**



**Temporal
Lobe**



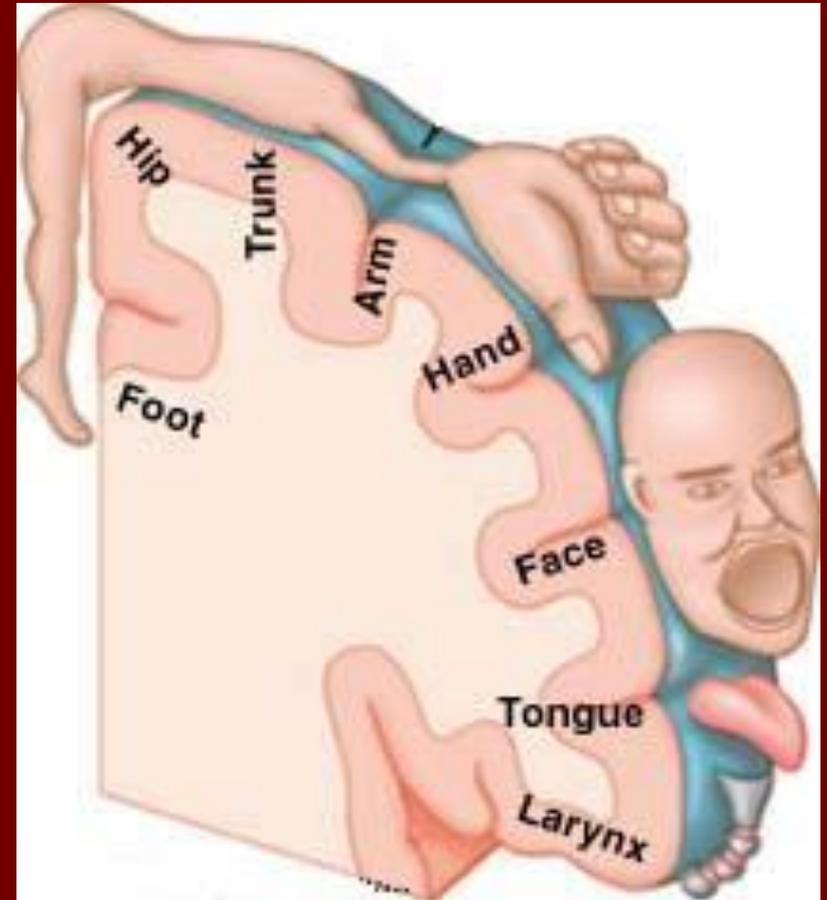
The body in the brain



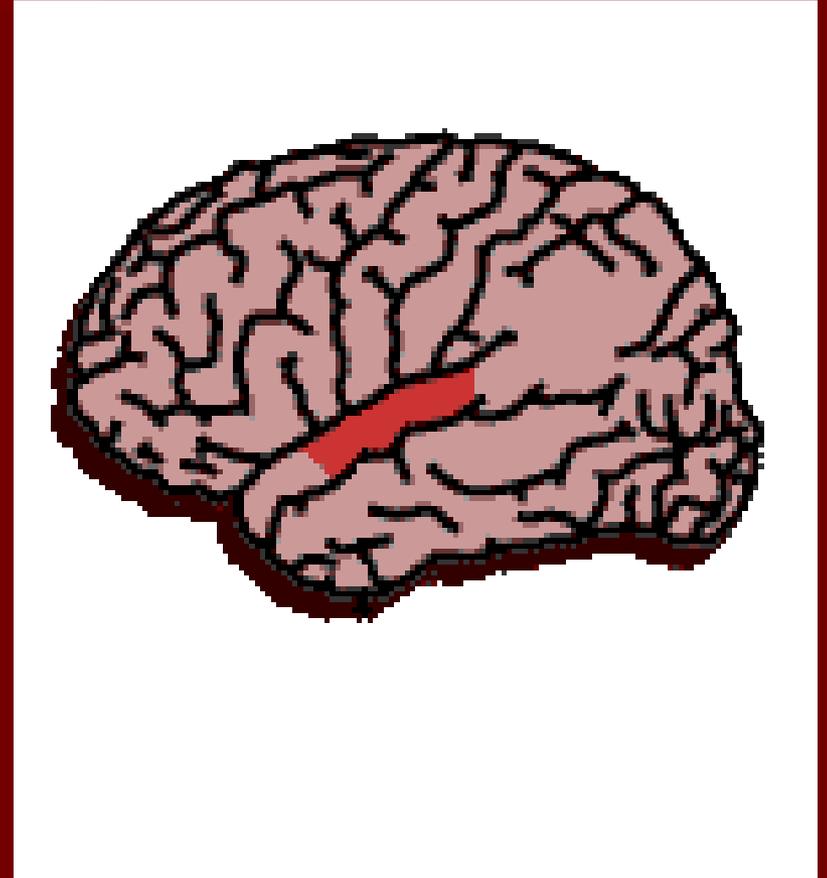
- A homunculus is used to describe the relative amount of space our body parts occupy in the brain.
- In a model of motor functions, some parts are much bigger because we use them much more, or with more accuracy.

The body in the brain

- The more we use a part of our body, the more space our brain needs to control or interpret it.
- In fact, by learning the brain may have to change the space it uses to account for new abilities.



- People who play music have been found to have auditory centres that are **BIGGER** than normal.
- The 'sound' area of their brain grew through practising their music.

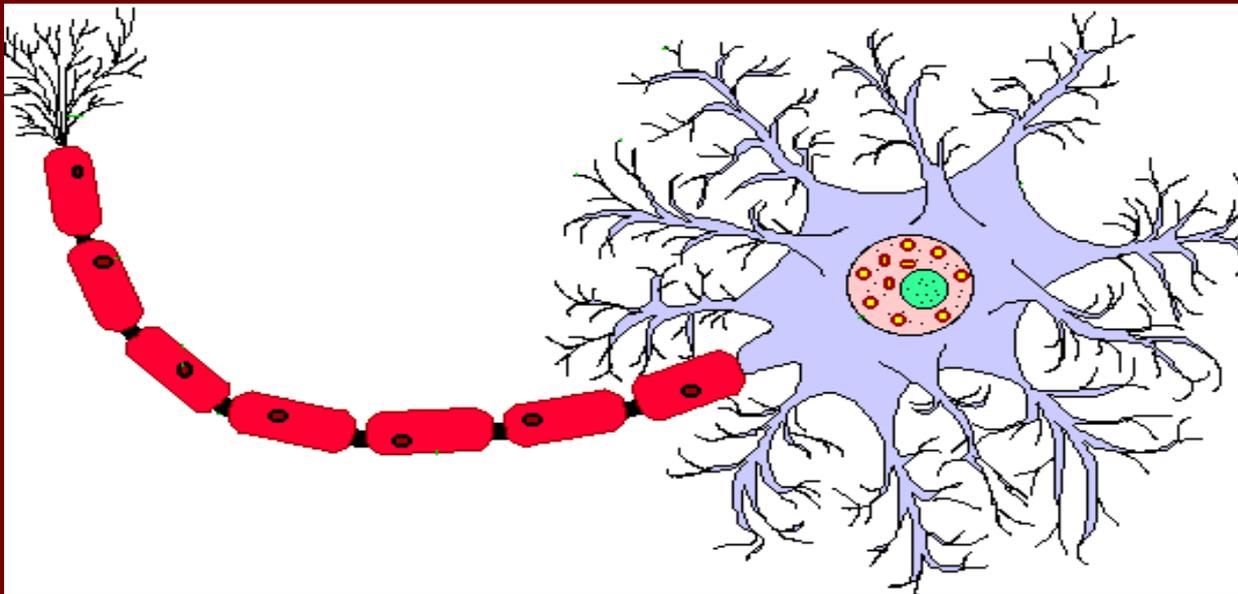


Evidence from neuroscience

- Rats in a rich environment have heavier brains, by 10%, than those in a boring environment.
- Taxi drivers have bigger areas which deal with 3D space – the hippocampus - than non-taxi drivers.
- Musicians have a larger auditory cortex.

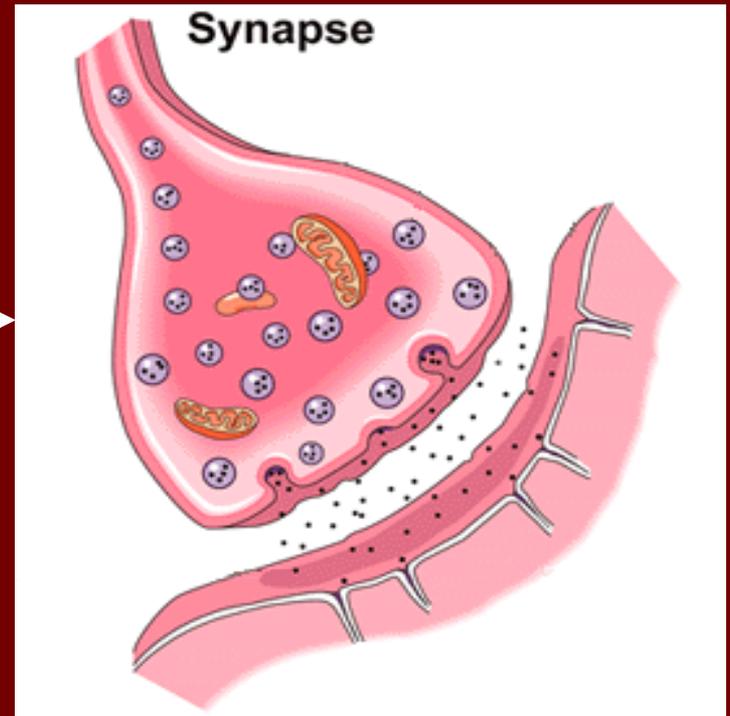
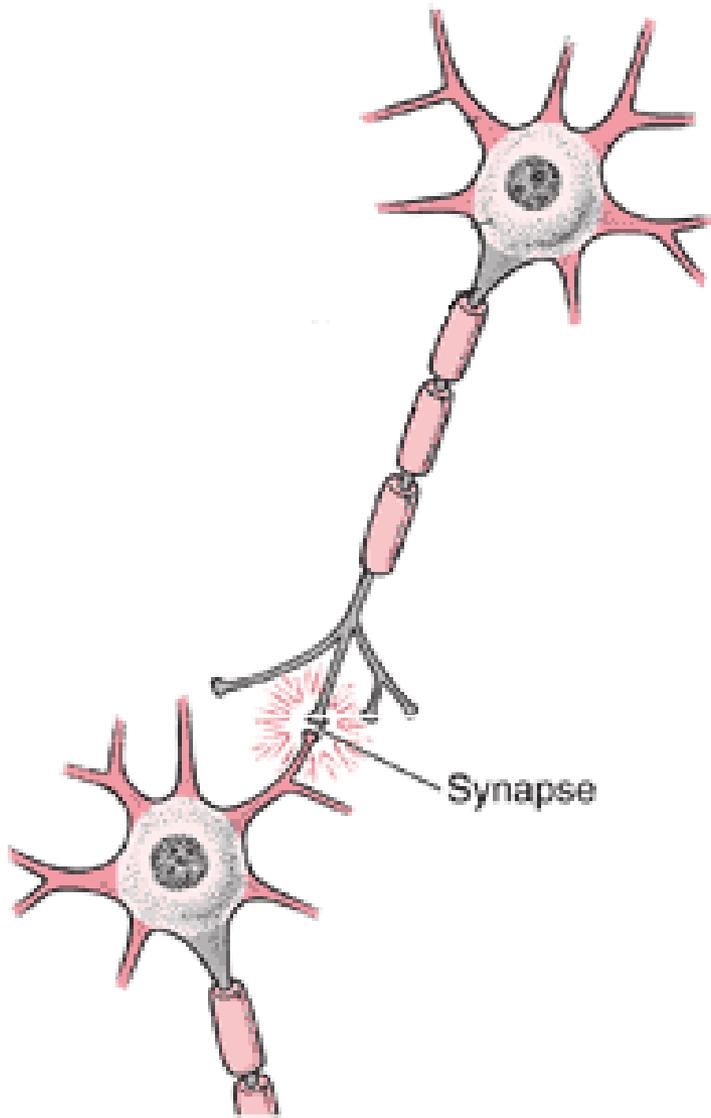
All of the areas of the brain
...like sound, communication, problem-solving...
are made of cells called

NEURONS



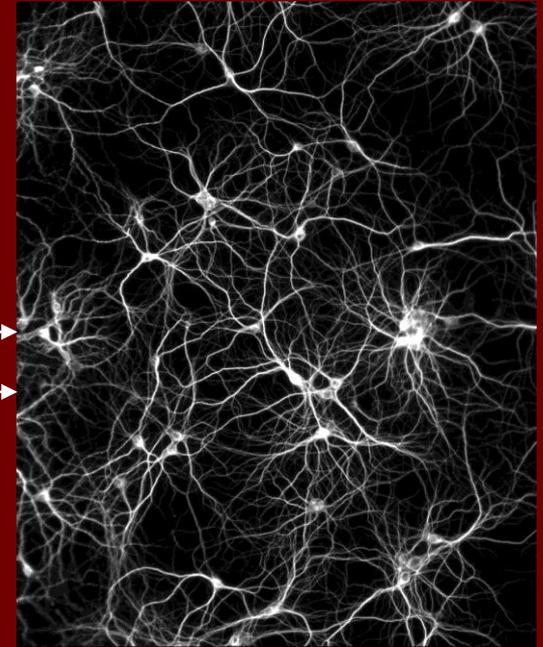
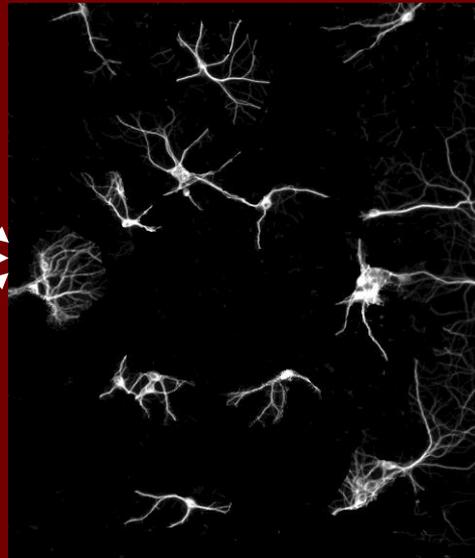
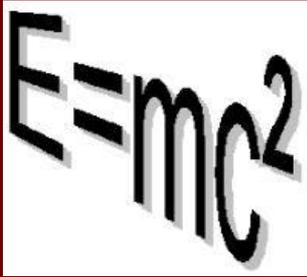
They transmit information all around the brain.

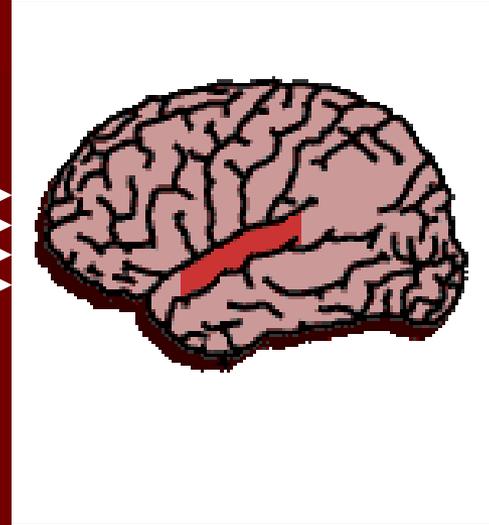
Neurons pass information through CONNECTIONS with other neurons at SYNAPSES



Learning helps our neurons GROW.

The more we learn, the more connections they make.





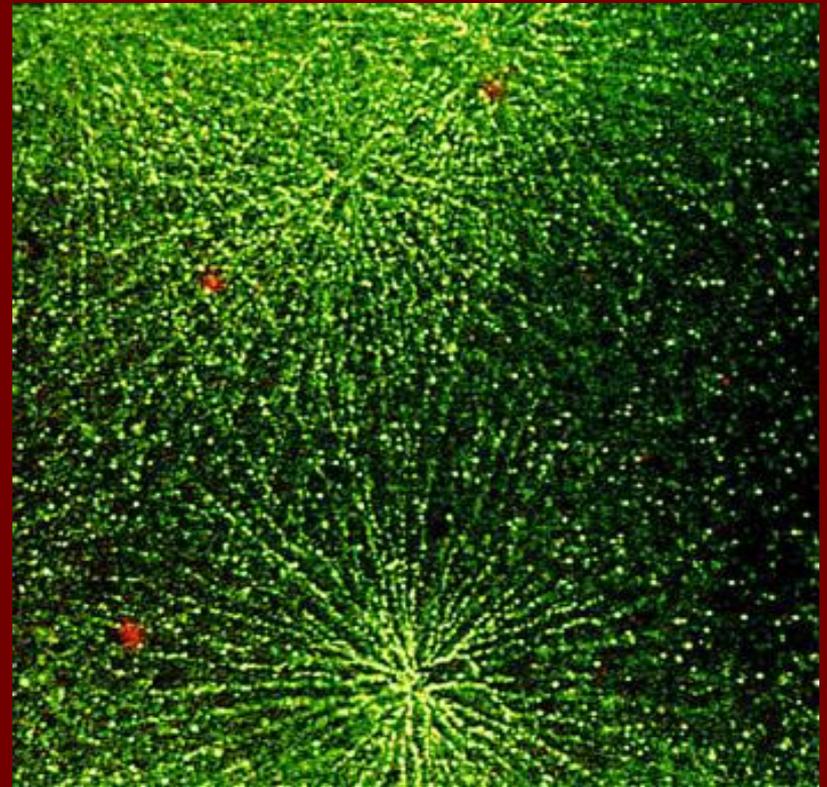
People with large auditory areas in their brain grew lots more neuron connections in the sound area through lots and lots of practice.

Final proof? Babies aren't stupid! They grow connections.



The brain must develop billions of connections:

every green dot is a junction between one nerve and another



Lasting change

- Dweck suggests that we need to present young people with information on the brain and its huge potential. Including how the brain learns.
- Praise for strategies, effort and processes rather than for intelligence or ability.
- Positive stories provide people with role models of those individuals who have succeeded because of a growth mindset.
- Writing about your growth mindset experiences, in order to convince others, will deepen your own growth mindset.

Summary

- A growth mindset helps people to be motivated and to succeed.
- A growth mindset can be learnt.
- We can foster a growth mindset in others by the type of feedback we give and by teaching them about the brain's huge potential.
- Role models give people evidence of the growth mindset in action.

The Centre would like to thank the Scottish Government for their support in helping to produce this resource.