

# OUR AMAZING BRAIN QUIZ

Consider the 10 statements below and decide which are **True** and which are **False**. Put a **T** or **F** in the right hand box.

1	The brain has 100 billion neurons, each one can connect with as many as 15,000 other neurons	
2	To all intents and purposed the female and male brain are identical	
3	Habit is the brain's way of saving its resources for the things that really matter - things like survival and managing threats	
4	The brain accounts for 20% - 25% of the body's oxygen and calorie consumption – even though it is only 3% - 4% of body weight	
5	The brain is 20% more active while we are sleep compared to when we are awake	
6	Challenge, exercise and a healthy diet can all help the brain to generate and repair neurons	
7	Research shows that as much as 80% of our daily thinking and behaviour is based on habit rather than conscious control	
8	The brain is 3 – 4 times more likely to see external change as a threat than as a reward	
9	When it comes to providing information to the brain vision trumps all other senses	
10	Mirror neurons are brain systems that show similar patterns of activation when observing others engaged in activities as when we are engaged in the same activity ourself	

# Brilliant U Brain Facts

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| <ul style="list-style-type: none"><li>• You have 100,000,000,000 (a trillion) neurons in your brain.</li><li>• Each neuron is connected on average to 10,000 other neurons in the networks of connections.</li><li>• These makes a circuit of over 1,000,000,000,000,000 (a quadrillion) connections.</li><li>• This circuit is governed by a set of complex rules which mean these connections are plastic and adaptive.</li><li>• What you think, is the outcome of many, many, many connections and complex processes which in turn are shaped by your experiences of the world. Your brain make new connections all the time. This is learning.</li><li>• Your brain is very good at doing complex things and adapting to the constantly changing environment which is your world.</li></ul> | <ul style="list-style-type: none"><li>• Most computers have 2,000,000,000 (2 billion) transistors.</li><li>• Each transistor is connected to two others in a sequence of connections.</li><li>• This makes a circuit of 8,000,000,000 (8 billion) connections.</li><li>• This circuit is governed by a set of simple rules in which a signal can only be off (0) or on (1).</li><li>• Computation is the outcome of this lightning fast repetition of very simple tasks.</li><li>• A computer needs to be programmed to perform ad can only obey those instructions.</li><li>• A computer is very good at doing things which can be broken down into simple steps and doing these things very quickly.</li></ul> |
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# OUR AMAZING BRAIN ANSWERS

## All 12 statements are in fact TRUE

1	<p><b>The brain has 100 billion neurons, each one can connect with as many as 15,000 other neurons</b></p>
2	<p><b>To all intents and purposed the female and male brain are identical</b>          Whilst there are some differences in male and female brains they do not consistently add up in individuals to create “male” and “female” brains. The differences mix together in each individual brain to create a unique mosaic of features, some of which are more common in females and others are more common in males. Our brain is not a fixed, hard-wired machine – rather it is highly malleable and changes throughout our life through property known as “plasticity”. Our brain affects our behaviour and our behaviour also affects our brain.</p>
3	<p><b>Habit is the brain’s way of saving it’s resources for the things that really matter - things like survival and managing threats</b>          Over 80% of what we do every day is HABIT. Our brain turns daily actions and behaviours into habits, so we can do them automatically &amp; without too much thought. This takes less energy &amp; is fuel efficient therefore conserving energy to deal with anything that might threaten our survival in some way. Remember the first time you did something, it required a lot of your concentration and brainpower. But as you repeatedly do it, it became easier &amp; the mental power you need decreases significantly. This process is called “chunking” &amp; it’s the root of habits &amp; every day, we rely on these “chunks” of behaviour unconsciously.</p>
4	<p><b>The brain accounts for 20% - 25% of the body’s oxygen and calorie consumption – even though it is only 3% - 4% of body weight</b>          So any kind of learning, or doing something the brain isn’t familiar with takes effort and the brain requires lots of energy to do this. If we want to change our Thinking and Behaviour we have to learn NEW HABITS by making new connections between neurons in our brains, then do them often enough (repetition) until they become a new habit, thus overriding the old habit.</p>
5	<p><b>The brain is 20% more active while we are sleep compared to when we are awake</b>          This is because many biological processes happen during sleep that are related to energy conservation, brain function, cellular repair and restoration, emotional wellbeing, weight maintenance, insulin function, immunity &amp; heart health.</p>

6	<p><b>Challenge, exercise and a healthy diet can all help the brain to generate and repair neurons</b></p> <p>Physical activity may benefit the brain by promoting cardiovascular health, improving blood flow to the brain, reducing depression, reducing inflammation and lowers the levels of stress hormones. Research also suggest engaging in mentally stimulating activities help build your cognitive reserve and resilience by improving reasoning, memory &amp; speed of processing. Typically, unused parts of the brain stop working so challenging the brain with new activities wakes up new areas of connection in the brain. As a general rule, good nutrition for the body is good nutrition for the brain.</p>
7	<p><b>Research shows that as much as 80% of our daily thinking and behaviour is based on habit rather than conscious control</b> - See answer to number 4</p>
8	<p><b>The brain is 3 – 4 times more likely to see external change as a threat than as a reward</b></p> <p>Brain is fundamentally <b>CHANGE AVERSE</b> <b>If-in-Doubt</b> our default emotion is <b>FEAR</b> which can switch our “thinking” brain offline because our subconscious brain’s reaction to threat comprises Flock, Fight, Flight, Freeze</p>
9	<p><b>When it comes to providing information to the brain vision trumps all other senses</b></p> <p>68% of the brain that deals with sensory input, is dedicated to vision. So vision is actually more important than the other senses for learning. The McGurk Effect, demonstrated in the videos, will create a lasting impression of just how important sight is to learning. Research has found that after one week, you will remember around 10% of what you hear and 35% of what you see. But if a teacher can tie hearing and seeing together, you can raise learning to 65%.</p>
10	<p><b>Mirror neurons are brain systems that show similar patterns of activation when observing others engaged in activities as when we are engaged in the same activity ourself</b></p> <p>A <b>mirror</b> neuron is a neuron, or brain cell, that fires both when someone acts and when that someone observes the same action performed by another. Thus, the neuron "<b>mirrors</b>" the behavior of the other, as though the observer were itself acting. Such <b>neurons</b> have been directly observed in human and primate species, and birds. Mirror neurons make up 30% of brain cells in certain parts of the brain.</p>