

Brainwaves

Modern science has revealed that the activity of the brain is electrochemical. This means that when it receives a stimulus, it will react chemically and electrically charged neurons will be 'fired up'.

In very simple terms, brainwaves can be described as electrical movements in the brain. These movements are measured with an electroencephalograph (EEG). EEG machines monitor and record brainwaves in the standard frequency measurement known as 'cycles per second' or Hertz (Hz), as they change while a person is engaged in any kind of activity, whether asleep or awake.

Brainwaves resonate at specific frequencies. Different frequency ranges have been classified under different 'brainwave states'.

Current classifications distinguish between five brainwave states:

1. Delta waves: 0 Hz - 4 Hz
2. Theta waves: 5 Hz - 8 Hz
3. Alpha waves: 9 Hz - 12 Hz
4. Beta waves: 13 Hz - 40 Hz
5. Gamma waves: 41 Hz and higher

The next sections will briefly elaborate on the different brainwave states.

What Are Delta Waves?

You probably like to get a good night of sleep. One of the ways that your brain helps you to achieve a truly sound recuperative sleep is to slip into a Delta brainwave emission, which is absolutely essential to your emotional, mental and physical health.

Delta brainwave activity is the state where brainwave activity is at the greatest amplitude and the slowest frequency. With a range that is typically around 1 Hz to 4 Hz, Delta brainwaves represent the most calm and restful state that is possible for the brain to generate and still be functioning.

What Are Theta Waves?

Theta brainwaves are associated with daydreaming for no apparent reason, or driving along a highway and suddenly realizing that you don't remember the last couple of miles. Both of these situations are common examples in which your brain emits Theta waves.

Theta brainwaves, which are said to have a frequency range between 5 Hz and 8 Hz, are the link between Alpha waves (which indicate a relaxed state that is perfect for learning, see further on), and the Delta state, which (as we discussed) is the frequency level that your brain emits when you are asleep.

Theta waves are usually produced during low impact activity, especially activities that are repetitive in nature. For example, driving on a straight highway requires far less concentration than driving on a curvy country road. As a result, Beta activity would be prevailing on the country road, but Theta activity would be produced while driving on the predictable highway. The latter requires less conscious focus.

What is interesting about the Theta state is that many people experience flashes of ideas or thoughts that just seem to come to them without any effort on their part. Some people theorize that the Theta state is a good example of the subconscious taking over from the conscious mind to work on some problem or issue that has been bothering you to some degree. When an acceptable response has been formulated, it is then pushed back into the conscious mind, where the individual then perceives it while in the Theta state.

This can be seen as the 'intuitive connection'. Flashes of unexpected creativity come in these brainwave states. Some scientists call this the 'ultradian rest response'. These appear to be the moments when your mind gets silent, and all communication lines with your intuitive levels are opened.

One sign of Theta activity is a feeling of drowsiness. As we lay still, our minds become calmer and we can feel our whole bodies begin to feel lighter, almost as if we are drifting. When you begin to experience this kind of state, you're moving into an ultradian rest response.

A Theta state is very healthy, and as mentioned, often brings the intuitive wisdom stemming from the core of who you are to the front.

It also gives you a chance to rest from the common Beta activity (see further on), and allow our minds to wander into areas where it cannot go when we are focused on executing a difficult task. When you are freed from the need for focused thinking for a while, your mind can perform many wonderful tasks, including coming up with those intuitive and creative responses to issues that have been in the backs of our minds for some time.

What Are Alpha Waves?

Your brain emits Alpha brainwaves when you are in a conscious yet relaxed condition. Physical activity is at a minimum and while thought is taking place, it is not characterized by attempts to apply information rationally to a task or solving a problem.

The Alpha state usually follows up on a period of Beta activity, in which the individual has been engaged in a task that requires significant conscious focus.

Considering its relaxation characteristics, the Alpha state is a natural step for your brain to take on its way towards 'falling asleep'.

What Are Beta Waves?

In a Beta state, your brain is actively engaged and focused on a mental activity that may also result in some sort of physical expression. Generally, your brain emits Beta waves when you engage in an activity that requires significant levels of concentration, when you engage in physical activity and when you try to call up previously learned information.

The frequency of the Beta brainwaves will increase with the level of activity that is taking place in your brain. A casual discussion will generate a consistent but relatively low frequency. However, if you are engaged in a more focused discussion like a debate, then the Beta activity will increase into what is sometimes referred to as a 'high Beta state'. Prolonged activity such as speaking, acting in a play, teaching a class, or just any activity requiring much conscious focus, will result in the highest output of Beta waves.

The range of frequency of Beta brainwaves usually varies from 13 Hz to 40 Hz.

What Are Gamma Waves?

Gamma waves are the most rare of all brainwave states. They can only be sustained for short periods of time, when your brain is processing huge amounts of information and is operating at extremely high levels of cognition and comprehension.