

# BRAINWAVES

## EXPLANATION AND OPPORTUNITIES

Control your brainwaves and you control your state of mind. By raising or slowing our brainwaves, we can alter how we think, feel and act.

Brainwaves are the electrical movements in the brain. The frequency of these brainwaves can be measured using an electroencephalograph (EEG). Electrodes placed on the scalp measure the frequency of these brainwaves. From highest to lowest frequency, these brainwaves are called beta, alpha, theta and delta.

During our waking and sleeping hours, the brain moves through all four of these stages. At any given level, there is a range in brainwaves that effect how deeply we have entered that state. By knowing how these states function, we can knowingly enter a particular state and control how our thoughts are processed.

### BETA

Beta is the waking, thinking state. During beta, brainwaves range from 14 to 40 cycles per second. In beta, an individual thinks and listens, can solve analytical problems, make decisions, and intake and process information. This is our normal state of mind when working, going to school and shopping. During beta our minds are the most alert.

Beta waves are characteristics of a strongly engaged mind. A person in active conversation would be in beta. A debater would be in high beta. A person making a speech, or a teacher, or a talk show host would all be in beta when they are engaged in their work.

### ALPHA

Alpha is a slower state more indicative of relaxing and reflecting. During alpha, brainwaves range from 9 to 14 cycles per second. In the alpha state, an individual is fully aware of his/her surroundings but in a much more relaxed state of mind than beta.

A person who has completed a task and sits down to rest is often in an alpha state. A person who takes time out to reflect is usually in an alpha state. A person who takes a break from a conference and walks in the garden is often in an alpha state. Meditation is often practiced in the alpha state.

### THETA

Theta is an even slower state perfect for daydreaming and intuitive thinking. During theta, brainwaves range from 5 to 8 cycles per second. It is the state between wakefulness and sleep. In this state of mind, memories, thoughts and facts that eluded a person in a wakeful state can be recalled. It is often in this state that answers to problems seem to appear.

A person who has taken time off from a task and begins to daydream is often in a theta brainwave state. A person who is driving on a freeway, and discovers that they can't recall the last five miles, is often in a theta state--induced by the process of freeway driving. The repetitious nature of that form of driving compared to a country road would differentiate a theta state and a beta state in order to perform the driving task safely.



## DELTA

Delta is the slowest of the four states where sleep occurs. During delta, brainwaves range from 1.5 to 4 cycles per second. At the slowest delta level, sleep is deep and dreamless.

When we go to bed and read for a few minutes before attempting sleep, we are likely to be in low beta. When we put the book down, turn off the lights and close our eyes, our brainwaves will descend from beta, to alpha, to theta and finally, when we fall asleep, to delta.

## DREAMING

It is a well-known fact that humans dream in 90 minute cycles. When the delta brainwave frequencies increase into the frequency of theta brainwaves, active dreaming takes place and often becomes more experiential to the person. Typically, when this occurs there is rapid eye movement, which is characteristic of active dreaming. This is called REM, and is a well-understood phenomenon.

When an individual awakes from a deep sleep in preparation for getting up, their brainwave frequencies will increase through the different specific stages of brainwave activity. That is, they will increase from delta to theta and then to alpha and finally, when the alarm goes off, into beta. If that individual hits the snooze alarm button they will drop in frequency to a nonaroused state, or even into theta, or sometimes fall back to sleep in delta.

## OPPORTUNITIES

### THETA

During this awakening cycle it is possible for individuals to stay in the theta state for an extended period of say, five to 15 minutes--which would allow them to have a free flow of ideas about yesterday's events or to contemplate the activities of the forthcoming day. This time can be an extremely productive and can be a period of very meaningful and creative mental activity.

Individuals who do a lot of freeway driving often get good ideas during those periods when they are in theta. Individuals who run outdoors often are in the state of mental relaxation that is slower than alpha and when in theta, they are prone to a flow of ideas. This can also occur in the shower or tub or even while shaving or brushing your hair. It is a state where tasks become so automatic that you can mentally disengage from them. The ideation that can take place during the theta state is often free flow and occurs without censorship or guilt. It is typically a very positive mental state.

### MEDITATION

Meditation is the process of slowing our waking beta brainwaves to the slower states of alpha and theta. By learning to control these states, we can improve our health and wellbeing.

Meditation allows our minds to move through these states leading us to a healthy lifestyle. When we control our brainwaves, we control how we think, feel, reason and react. Relaxation, creativity and self-awareness flow naturally. As we mediate, our physical health improves as we move closer and closer to a healthy lifestyle. Consciously controlling our brainwaves is a step towards healthy living.