# *Standard Chart Glossary*

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**Add-Subtract Scale** -- Any scale on which adding or subtracting by a constant amount is represented by a constant distance. The horizontal, or X-axis, of the daily Standard Celeration Chart has an add-subtract scale of Successive Calendar Days.

**Amplitude** -- The absolute value of the maximum displacement from a baseline value during one period of an oscillation; on a chart where frequency is depicted as a rising and falling curve (e.g., a sine wave), amplitude has to do with the height or depth of each curve above or below a baseline; amplitude in that sense is orthogonal to frequency.

**Base Level** -- On a chart the base level indicates where a cycle starts as measured vertically. Two cycles may have a different base level and amplitude even though their phase, period, and frequency are equal.

**Behavior Floor** -- The lowest daily frequency possible for a particular behavior; 1/number of minutes the behavior can occur.

**Celeration** -- The unit of measurement of behavior change; a change in frequency per unit of time; 3 dimensions: number per unit of time per unit of time. A common representative example is count per minute per week.

**Celeration Line** -- A best-fit, straight line drawn through a set of frequency points on a Standard Celeration Chart.

**Circadian** -- Pertaining to rhythmic biological cycles that recur at approximately 24-hour intervals; "circa" = about, "dian" = day.

**Clock** -- A device or instrument for maintaining and displaying time.

**Count** -- Enumeration; the number obtained by counting; total. Count forms one of the two dimensions of any frequency.

**Counting Period Floor** -- The lowest frequency detectable by a given counting procedure; 1/number of minutes spent counting. Also known as a Record Floor.

**Cycle** -- An event or sequence of events that repeats itself apparently indefinitely; cycles may be regular and rhythmic or irregular; from the Greek *kuklos,* a circle.

**Cycle (standard chart)** -- The vertical range or distance on the y-axis of a Standard Celeration Chart between consecutive powers of 10. The Standard Celeration Chart has 6 cycles: .001 - .01, .01 - .1, .1 - 1, 1 - 10, 10 - 100, 100 - 1000 per minute.

**Daily Behavior Chart** -- A Standard Celeration Chart with frequency ranging from .001 per minute up to 1000 per minute on a multiply-divide scale along the y-axis, and Successive Calendard Days on an add-subtract scale along the x-axis; the most commonly used, and "typical" Standard Celeration Chart.

**Day** -- A standard period of time equal to 24 hours (mean solar day), representing one complete rotation of the planet Earth on its axis. A day has 1440 minutes.

**Day Line** -- A vertical or "up and down" line on the daily Standard Celeration Chart. The daily chart has 140 day lines.

**Event** -- Anything that happens or is regarded as happening; an occurrence. A change or displacement that can be observed, detected, counted, and measured.

**Event-Following Celeration Line** -- A celeration line drawn through all of the frequencies within a particular phase of observation or experimentation. For instance, this can be a celeration line drawn through the baseline phase of an experiment.

**Frequency** -- The number of movements or events per unit of time; the standard unit of behavior measurement. In the physical sciences frequency is expressed in cycles per second.

**Frequency Line** -- A horizontal line running across the Standard Celeration Chart. Each cycle has 10 parallel frequency lines, which get closer and closer together as one moves up a cycle.

**Frequency Multiplier** -- The value by which one frequency gets multiplied by to obtain a second frequency; the ratio of two frequencies. A frequency divider would mean the same thing, except the operation involves division.

**Geometric Mean** -- The appropriate measure of central tendency on a multiply-divide scale. On the Standard Celeration Chart you derive a geometric mean by multiplying N number of frequencies and then taking the Nth root of that.

**Hertz** -- Abbreviated Hz. In the physical sciences 1 Hz equals 1 cycle per second. The Hertz represents the standard measure of frequency.

**Hour** -- Standard period of time equal to 60 minutes.

**Minute** -- Standard period of time equal to 60 seconds. A minute is also one-sixtieth of an hour. See the definition for 'seconds.'

**Most-Recent Celeration Line** -- A celeration line drawn through the last 7 to 10 frequency points on a Standard Celeration Chart, for a given movement cycle.

**Movement** -- A pinpointed and recorded behavior; an action performed by an organism.

**Movement Cycle** -- A movement or event that has a start time, a duration time, and a stop time.

**Multiply-Divide Scale** -- Any measurement scale on which multiplying or dividing by a constant amount is represented by a constant distance. The vertical, or Y-axis, of the Standard Celeration Chart has a multiply-divide scale of Count per Minute. We typically depict frequency on a multiply-divide scale in order to cover a range that add-subtract scales cannot handle conveniently. This scale is also known as an Equal Ratio Scale.

**Overall Celeration Line** -- A celeration line drawn through all of the frequency points on a Standard Celeration Chart, regardless of trends, phase-change events, or regular periods of time.

**Period** -- The time between peak amplitudes or crests of waves. Period is in inverse proportion to frequency.

**Periodic Celeration Line** -- A celeration line drawn through al of the frequency points on a Standard Celeration Chart within a specific time period, regardless of trends or phase change events. On a daily Chart, the time period is often biweekly or monthly.

**Phase** -- A difference in starting point for signals or events with the same period. Events can be in phase or out of phase with each other.

**Rate** -- A less scientific term for frequency. (Most dictionary definitions of rate have to do with something other than count per unit of time; conversely, most dictionary definitions of frequency do pertain to the "oftenness" of an event or movement. Frequency represents the word of choice in the natural sciences for measurement of any count per unit of time.) See Frequency.

**Reference Celeration** -- The celeration to which a second celeration gets compared. The basic standard reference celerations on the Chart are X16, X4, X2, X1.4, X1.1, and X1.0, where X means "times."

**Second** -- The fundamental unit of time in the International System of Units, defined as the duration of 9,192,631,770 periods of the radiation corresponding to the transition between two hyperfine levels of the ground state of cesium 133.

**Standard Celeration Chart** -- A standard, six-cycle, "semi-logarithmic" chart that measures frequency as count per unit of time up the multiply-divide y-axis, and that measures celeration as count per unit of time per unit of time. This Chart has standard celeration reference lines such that a line drawn from the bottom left corner to the upper right corner is 33 degrees and has a celeration value of X2 ("times two"). Also known as a Standard Behavior Chart.

**Time** -- The system of sequential relations that any event has to any other, as past, present, or future; indefinite continuous duration regarded as that in which events succeed one another.

**Time Scale** -- A system of unambiguous ordering of events meant to be stable and homogeneous.

**Trend-Following Celeration Line** -- A celeration line drawn through visible trends on a Standard Celeration Chart for a given movement cycle, regardless of event phases or time periods.

**Wavelength** -- In the physical sciences, especially with electro-magnetic phenomena, a substitute measure for frequency. Defined as velocity of current/frequency. The velocity of electro-magnetic phenomena is 300,000,000 meters per second.

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This Glossary has been adapted from several sources, including:

Pennypacker, H.S., Koenig, C.H., & Lindsley, O.R. (1972). *Handbook of the standard behavior chart*. Kansas City, KS: Precision Media.

Playfair, G.L., & Hill, S. (1978). *The cycles of heaven. Cosmic forces and what they are doing to you*. New York: St. Martin's Press.

Standard Celeration Society. (1997). Standard Glossary and Charting Conventions. *Journal of Precision Teaching and Celeration, 14,* 55-57.