

## **Sounds Of Science: 60 Facts**

### Education Application:

Source 1 - Brown, Laura Lewis. "The Benefits of Music Education." PBS. PBS, n.d. Web. 23 Sept. 2013.

- 1) When students use music as an educational tool they use and develop simultaneous neural functions that improve and enhance their abilities.
- 2) Music can also improve a students ability to comprehend and dissect sounds and words improving their language skills.
- 3) Studies show that weekly voice and piano lessons have improved the neural structure and increased the IQ of students.
- 4) Students in musical study have increased neural activity than students who are not in musical study.
- 5) Some students in studies have improved on fine motor abilities and sound discrimination.
- 6) There is a connection between music and spatial intelligence.
- 7) Spatial intelligence may also improve math solving skills and the ability to put together multiple elements.
- 8) Students in a musical education programs scored 22% higher in english and 20% higher in mathematics that students not in musical programs.
- 9) There is a connection between the focus of music study to educational concentration.
- 10) Music education does not make one smarter but does improve skills and add skills.

Source 2 - "Music Education Can Help Children Improve Reading Skills." ScienceDaily. ScienceDaily, 16 Mar. 2009. Web. 23 Sept. 2013.

- 1) Routine musical education can increase skills mainly focused in the areas of literacy and language.
- 2) Students with keyboard instruction have better verbal sequencing abilities and better vocabulary.
- 3) There is many positive connection between musical education and non-musical skills.
- 4) Neural responses to music are widely distributed throughout the brain.
- 5) Over a period of three year students were subjected to different musical approaches and were tested, the students with the piano musical approach scored much higher in literacy and vocabulary.

- 6) A complexity showed up where the students who had received two years of piano previous scored identical to the control.
- 7) The changes in cortical neural activity exert fairly quickly.
- 8) Lengthy absences of the education can reverse the cortical reorganization.
- 9) Another explanation is that there is a specific time in a child's growth that they begin the process of actual development.
- 10) The study of music may also improve cognitive development.

#### Medical Device:

Source 1 - "American Music Therapy Association." What Is Music Therapy. N.p., n.d. Web. 24 Sept. 2013.

- 1) Music therapy is the clinical and evidence based way to accomplish individualized goals
- 2) Music therapy can be used to promote wellness, manage stress, alleviate pain, enhance memory, promote physical rehabilitation, and more.
- 3) Music therapy has effectiveness in both medical settings and educational settings.
- 4) Music therapy has applications in social problems for individuals.
- 5) Music therapy is conducted through creating, singing, or listening to music.
- 6) Effects and benefits of music therapy can be transferred into other aspects of the patients life.
- 7) Music therapy also provides help in communication for people who have trouble expressing themselves.
- 8) Research shows that music therapy is effective in physical and overall facilitating movement.
- 9) It can also motivate people into their treatment.
- 10) Music therapy overall provides rehabilitation and support as well as emotional and and cognitive support.

Source 2 - "Music Therapy Treatment Process." Music Therapy Treatment Process. N.p., n.d. Web. 24 Sept. 2013.

- 1) The music therapy process includes 4 steps.
- 2) The first step is for the therapist to select an instrument and examine skills and areas to improve on.
- 3) Then they set goals that they want to achieve.

- 4) Step 2 is the actual sessions where the therapist and the patient work with musical instruments and music.
- 5) After the sessions the therapist takes notes and records the progress of the client.
- 6) The progress of the patient then can be used to recommend alternate treatment.
- 7) Step 3 is when the therapist re-adjusts the goals of the patient to improve other areas.
- 8) The therapy does not work for everyone and sometimes can be ended early.
- 9) Step 4 is closure, ending the therapy over a few sessions.
- 10) During this the patient reflects and expresses any concerns and then close their sessions.

#### Music as a Life Enhancer:

Source 1 - Boothby, Suzanne. "How Music Affects Our Moods." Healthlines RSS News. N.p., 17 May 13. Web. 24 Sept. 2013.

- 1) Scientist at the University of Missouri have shown that you can improve your mood just by listening to upbeat music.
- 2) Benefits from increasing mood can extent into multiple aspects of daily life.
- 3) It only works if there is an attempt to improve the mood.
- 4) As well asking consistent questions such as "Am I happy" because it can have negative effects.
- 5) "Focusing on the journey to happiness" is more effective than focusing on the destination.
- 6) Music choice can reflect the mood of a person.
- 7) An interpersonal loss can increase preference for sad music more than a impersonal loss.
- 8) A study showed that there was a great connection between interpersonal violation and specific types of music.
- 9) Music therapy can change your mood.
- 10) Listening to music has great health benefits however making your own can have a therapeutic approach.

Source 2 - Cohen, Kimberley. "How Music Can Enhance Your Life." The Insight Technique. N.p., 2011. Web. 24 Sept. 2013.

- 1) Music is used in different places to relax people.

- 1) Music has a powerful effect on many people by motivating or effecting the mood of people.
- 2) When listening to a song people can recall memories from previous times they listened to it more vividly than normal.
- 3) People who have stress filled or anxiety filled days can shift their mood by listening to music they like.
- 4) Different people react differently to different types of music and it can have different effects on people.

Source 3 - Harvey, Jason. "How Music Can Change Your Life." Pick the Brain Motivation and Self Improvement. N.p., 6 June 2010. Web. 24 Sept. 2013.

- 1) Specific tones can reduce stress.
- 2) Music can alter brain waves and bring it to an aloha state.
- 3) Music can enhance your ability to approach problem solving.
- 4) Music has also been shown to increase the level of neurotransmitters including serotonin, which are directly linked to mood.
- 5) Building on the recalling of memories, people can experience changes in mood by listening to music that reminds them of happy times in their past.