



Can Playing in the Dirt Make You Smarter?

Reprinted from Huffington Post – June 14, 2010
By Linda Buzzell

"If you need yet another good reason to convince yourself or your kids to go outside and get your hands in the dirt, here it is: *new research reveals that a bacterium in the soil not only lowers depression and anxiety but also can make you smarter!*"

Science Daily reports that "exposure to specific bacteria in the environment, already believed to have antidepressant qualities, could increase learning behavior." The new research was presented at the 110th General Meeting of the American Society for Microbiology in San Diego.

"*Mycobacterium vaccae* is a natural soil bacterium which people likely ingest or breathe in when they spend time in nature," says Dorothy Matthews of The Sage Colleges in Troy, New York, who conducted the research with her colleague Susan Jenks.

Previous research studies on *M. vaccae* showed that heat-killed bacteria injected into mice stimulated growth of some neurons in the brain that resulted in increased levels of serotonin and decreased anxiety. "This research suggests that *M. vaccae* may play a role in anxiety and learning in mammals," says Matthews. "It is interesting to speculate that creating learning environments in schools that include time in the outdoors where *M. vaccae* is present may decrease anxiety and improve the ability to learn new tasks."

The science supporting the mental health benefits of gardening and outdoor activities in general just gets stronger with each new study. We need to help our kids -- and ourselves -- recover from what author Richard Louv (*Last Child in the Woods*) calls "nature deficit disorder."

communities by building a school garden at every educational institution in our area, increasing the availability of community gardens for everyone who wants a plot of soil to dig their fingers into and -- perhaps most important -- shrinking our lawns and growing some of our own food.

Smart moves!

References:

American Society for Microbiology (2010, May 25). Can bacteria make you smarter?. *ScienceDaily*. Retrieved July 12, 2010, from <http://www.sciencedaily.com/releases/2010/05/100524143416.htm>



Potting Mix—Handle with Care

Potting mix may contain bacteria *Legionella longbeachae* that is harmful to adults and children. When using potting mix *Kidsafe NSW* recommends:

- Read the manufacturer's instructions printed on the bag before you use the mix.
- Before exposing the potting mix to children, be careful not to inhale airborne particles. Wear a paper mask that fits over your nose and mouth. Open the bag slowly. Dampen the mix with a light spray of water to reduce the risk of airborne particles.
- Always wear gloves when handling potting mix. Rinse or dispose of gloves afterwards.
- If children are using the potting mix, provide children with adequate fitting gloves if available. Alternatively, encourage children to use tools (such as a trowel, spade or old spoon).
- Wash hands thoroughly with soap and water after using potting mix.
- Store potting mix securely away from children.

Rocks and Boulders—Love them!



Children are born climbers. Climbing keeps them motivated and engaged for hours. Climbing over rocks and boulders:

- Improves coordination, agility and balance;
- Develops muscles through the use of both gross and fine motor skills;
- Enhances problem solving skills, sense of adventure and creativity skills;
- Increases mental focus through exploring various routes of difficulty; and,
- Engages social and cooperative play.



Creative placement of rocks and boulders around a playspace can provide children and adults with easy to challenging “routes”. Rocks and boulders can be great for learning climbing skills or just good old fashioned fun.

Children almost always gravitate toward rocks and boulders, they become the immediate favourite place for children of all ages to explore and hang out.

In addition to defining areas such as a sandpit or dry creek bed, rocks and boulders provide opportunities for challenging and fun play, and add to the natural materials used in playspaces. Children’s balancing skills are tested when they make their way along a boulder border or use the boulders as stepping stones. The boulders can also be a good place to sit and rest, talk or watch.

Cleverly arranged rocks and boulders are safe. Children have a healthy respect for the solidity and hardness of rocks and boulders and develop their own sense of care, concern, and safety when they climb on them.

Boulder sizes vary with the age of the children using them, however, ensure that the boulder measures less than 500mm from playing surface level for ease of access and to avoid tested surfacing requirements. When positioning boulders, take care to prevent entrapment hazards such as gaps or tunnels where children can injure their legs/feet/ankles. It is recommended that rocks and boulders are buried into the ground with at least 1/3 of the boulder mass being below ground surface. Make sure boulders are stabilised (this may be assisted with the use of cement mortar) so that no movement occurs as children and adults travel over them. Ensure that any sharp exposed edges are scuffed from rocks and boulders used in playspaces.

Incorporated into a mound or embankment, climbing rocks and boulders are excellent for building upper and lower body strength and are a must have in any natural playspace. They can provide both vertical and horizontal movement challenges depending upon available space. Children learn to coordinate their feet and hands to keep themselves balanced as they move along the rocks and boulders. Mastering a boulder or rock scramble is an accomplishment that children can achieve over and over again and never be bored!



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