

VISD & SABP

- So much of our world is changing, and not for the better. If a child grows up never walking in the woods, digging in soil, seeing animals in their habitat, climbing a mountain, playing in a stream, or staring at the endless horizon of an ocean, they may never really understand what there is to be lost. The future of our planet depends on our children; they need to learn to appreciate it.

What I thought.....



Or maybe....



And perhaps....



But believe it or not, it was even better!!











WHY HANDS-ON LEARNING EXPERIENCES ARE ESSENTIAL IN SCIENCE/STEM.

Learning by Doing Helps Students Perform Better in Science

[Research from the University of Chicago](#) showed that students who physically experience scientific concepts understand them more deeply and score better on science tests. Furthermore, brain scans showed that students who took a hands-on approach to learning had activation in sensory and motor-related parts of the brain when they later thought about concepts.

According to [The National Assessment of Educational Progress](#), “Teachers who conduct hands-on learning activities on a weekly basis out-perform their peers by more than 70% of a grade level in math and 40% of a grade level in science.”

Real Benefits of Hands on Learning in Science

According to [Dr. Robert Knott of UC Berkeley](#), hands on science lessons have the following benefits:

- **Students have an even playing field on which to participate.**
- **Students are forced to think** by requiring interpretation of the observed events, rather than memorization of correct responses.
- **Students learn that they can interpret data**, often with various and differing interpretations.
- **Students are encouraged to question observed events and the resulting data.**
- **Students practice cause-and-effect thinking.**
- **Students rely less on authority and more on practical experience.**

STEM Experiences Are Not Just About the Present but About the Future as Well

According to Elizabeth Maricola, Publisher of *Science News*,
“Encouraging students to explore new ideas can lead to increased confidence and competence in the science, engineering, technology, and math (STEM) fields. STEM skills remain in high demand in the workforce and are useful in technical and non-technical careers. Nurturing these skills will help today’s students find satisfying careers and solve issues plaguing humanity across generations.”

“NO ONE WILL
PROTECT WHAT THEY
DON'T CARE ABOUT;
AND NO ONE WILL
CARE ABOUT WHAT
THEY HAVE NEVER
EXPERIENCED.”

– Sir David Attenborough

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Children need more of this...





Community Collaboration
Benefits Everyone.