



## Why Do STEM Labs Matter? And How To Do Them Better

Here's a fact worth tweeting: the Bureau of Labor Statistics says "The median annual wage of STEM occupations in 2019 was \$86,980. This is well over double that of non-STEM occupations." Did you catch that last part? Wages in STEM occupations are more than double the wages for non-STEM occupations.

But it's not only about money. STEM occupations are satisfying, exhilarating, challenging and world-changing.

And actually, the Census Bureau reports the majority of STEM college graduates don't even work in STEM fields. STEM training involves critical thinking, integration, and collaborations — training that is useful in every field.

When it comes to introducing children to STEM, earlier is better. The educational environment plays a critical role in this learning process, and a dedicated STEM lab supports and promotes new technologies and collaborative learning that students need to be successful.

### Wait - What's This Acronym?

STEM, STEAM, STREAM, iSTEM, ESTEM...SMET?

In 2001, the National Science Foundation (NSF) used the acronym SMET to refer to careers in or integrated knowledge from science, math, engineering, and technology. American biologist and assistant director of education and human resources at NSF, Judith Ramaley, rearranged SMET to form STEM.

Well, that explains STEM, but what about STEAM? For STEAM, the intrigue comes from the definition of the 'A'. For some, A means Art, while others think it represents Aeronautics. (Who is to say it couldn't be Architecture?)

But STEM/STEAM has less to do with the first letter of the subject and more to do with how the subject matter is taught.

### Do STEM Labs Matter?

What a fabulous time to be a student. Every day there are advancements in Robotics, Artificial Intelligence, Coding, Animation, Physics, Biomedicine, Design, and much more — all delivered directly to the handsets of students at a time when they are the most curious.

STEM is advancing at a staggering pace. In fact, experts predict that 65 percent of the jobs that today's elementary-aged kids will hold haven't even been invented yet.







1 space suitable for a variety of collaboration team sizes

2 flexible location for utilities especially electrical

3 vision into the Lab to draw interest from the greater student body

4 adjustable furnishings appropriate for all ages of students

5 space adapted to curriculum requirements

6 adaptable technology and plentiful tools

7 suitable presentation and demonstration areas

Creating a dedicated space to bolster STEM education will build a foundation for discovery, creativity and growth in today's students.

## Opportunity For Equity

Disney contributed attention to STEM education when they announced they would donate \$1 million from the proceeds of the recent "Black Panther" movie. Why? Simple: one of the movie's themes is how technology can empower young people, including and especially children of color.

Industry demand is high, but minority applicants are scarce in STEM fields. From the Pew Research Center: African-American workers make up 11% of the U.S. workforce but represent 9% of STEM workers. Hispanics make up 16% of the workforce but only 7% of all STEM workers. In 2019, women accounted for only 27% of workers in STEM-qualified industries. Can an early K-12 STEM education help bridge the ethnic and gender gaps found in science, technology, engineering and math fields?

<sup>1</sup> Hallinen, Judith (Oct 21, 2015). "STEM Education Curriculum". ENCYCLOPÆDIA BRITANNICA.

## Does STEM Lab Design Matter?

Some might argue that STEM classrooms are just science labs. However, it's quite the opposite. STEM classrooms require an inherent flexibility that most traditional science labs don't have.

Sure, access to plumbing, electricity and gas are typical science labs amenities, but built-in cabinets and utilities located in stationary locations hinder most STEM curriculums. So how do we make them better?

STEM labs designed with enhanced functionality and offering robust technological tools have the power to spark new ideas and enrich experiential learning of all students, encouraging not only STEM-related career paths but important life skills like critical thinking, collaborative problem solving and active learning.

