

Newspaper in Education Presents
Inquizi
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Adult, Career &
Technical Education



SCHOOL
Biz



Measurement is Critical

Growing up on Florida's east coast, Jim McDonald watched NASA rockets hurtle into outer space. Standing in the school playground, feeling the earth shake, and hearing the tremendous roar that accompanied every lift-off fueled Jim's interest in learning all he could about the latest technology. After working thirty years in the manufacturing and engineering industry, Jim—now a technology teacher and Technology Student Association (TSA) advisor at Braden River High School—brings a wealth of experience and real world understanding to his classroom. Providing reliable and relevant information to his students is Jim's number one priority.

"Measurement is critical and everything is measured," Jim pointed out. He stressed the importance of teaching students how to measure properly. Technology is everywhere you look in Jim's engineering and manufacturing classroom. "Our county has great resources that help make it real for students. Each student has a computer. Valuable hands-on experiences are provided with the use of computer numerical control (CNC) lathes and manufacturing machines. We have great industry support from Sun Hydraulics and Tropicana."

One more piece of wisdom from Jim: "The more skills you have, the more money you can make!" (By the way, check out the employer websites in the WebWise section; look for their careers listing and see all the high-tech jobs available!)

KIDZ
Biz
& Buzz



Dynamic Draftsman

Jeremy Petty is a busy sophomore enrolled in the Engineering Technology and Leadership Academy at Braden River High School. Always on the lookout for new opportunities and experiences, Jeremy joined the Technology Student Association (TSA) and discovered the world of computer aided drafting (CAD).

Jeremy was always good at spatial concepts, and learning CAD added a whole new dimension to his drafting talent. His favorite hobby became taking a set of blueprints and transferring them into a CAD program. Jeremy competed at the TSA State competition held in Orlando and placed second in the CAD Animation Architectural event. For this event, Jeremy designed a house in CAD, furnished it, and then led the judges on a virtual tour through the house. Jeremy has had invaluable opportunities to develop and practice leadership and teambuilding skills with TSA and is looking forward to running for office this year. This dynamic draftsman also plays the tuba for the BRHS Marching Band of Pirates and is active in his church youth group.



InnoVators

GIVE AN INCH, TAKE A MILE

Inch, foot, yard, mile—what do these words call to mind? How about length, height, width, depth?

We use measurement every day, especially in the various fields of technology. If an architect draws plans with inaccurate measurements, the materials used to build the house won't fit together properly. If the builders don't pay attention to the measurements on the house plans, it could make the house unstable or dangerous to live in.

When astronauts configure a course for a rocket or satellite, one slight alteration in the measurement at the beginning of the flight could take the object millions of miles away from its target. Inaccurate measurements can ruin entire projects, so precision is crucial.

From where do we get our measurement standards and words? A long time ago people would use parts of their bodies to measure things. An inch was the width of a man's thumb or the length of the forefinger from the tip to the first joint. A foot was simply the measurement of a foot; the king's foot length was the standard. A cubit was length of a forearm or the distance from the tip of the elbow to the end of his middle finger. A yard was equal to two cubits or the length of one pace. A span was the distance from the tip of the thumb to the tip of the little finger when the fingers were spread out; a hand was half a span. Hand is still the unit used to measure horses. Since people have different sized thumbs, feet, forearms, hands, and strides, this system didn't work very well and measurements became standardized.

As technology changes, some unusual measurement standards—and their names—have been invented. A *Mickey*—named after Mickey Mouse, is defined as the length of the "smallest detectable movement" of a computer mouse. In radio astronomy, the unit of electromagnetic flux is the *jansky* named after the radio astronomer Karl Jansky. The Scoville scale is a measure of the hotness of a chili pepper, named after its creator, American chemist Wilbur Scoville. Some hot sauces use their Scoville rating as a selling point. Who knows—maybe you'll invent a new unit of measurement!



Explore
IT

Measure Without a Ruler

For this activity, you will need: a ruler, a pencil, and a piece of paper.

1. Measure these body parts: your thumb from the nail to the knuckle, your forearm, foot, hand, and stride. Stride is measured as the heel-to-heel distance covered by right and left steps.
2. Write down the measurements on a piece of paper.
3. Now using these parts of your body, measure common objects without a ruler or measuring tape. For example, if your foot is 6 inches long, you know that two of your feet together make one standard foot. Measure your bedroom's length and width using only your feet.
4. Try the other rooms in your house, or pick something smaller like a TV set, using your hands or forearms. Measure your fridge, doors, windows, mirrors, or your little brother.
5. Don't cheat! Try to use your body parts instead of the ruler.



Now that you've experienced how our ancestors measured, aren't you glad an ancient Greek invented a ruler?

DISCOVER
the
Future



Regional Careers: Occupations involved in *measurement* and current wages in the Suncoast Workforce Region.

Occupational Title	Entry Level	Experienced
Architectural and Civil Drafters	\$11.99	\$24.08
Computer and Mathematical Occupations	\$17.18	\$34.00
Machinists	\$8.31	\$17.35
Mechanical Drafters	\$16.94	\$23.51
Mechanical Engineers	\$24.14	\$36.22
Surveyors	\$13.15	\$30.81
Weighers, Measurers, Checkers	\$11.35	\$14.08

Source: <http://fred.labormarketinfo.com> FL Labor Market Statistics, Occupational Employment Statistics & Wages Program

Career Pathway: Students desiring a career in any of these areas can find related educational programs at these schools*:

Braden River High School
Manatee Technical Institute
Manatee Community College
University of South Florida

WEB
Wise

Check out the following websites:

- www.lockheedmartin.com
- www.boeing.com
- www.northropgrumman.com
- www.nasa.gov



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