



Physics & Biology linked science education: Miracle hair - illustrating the measurement of tensile strength of hair

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Abstract

This science activity integrates tensile force in physics and hair structure in biology to conduct planned measurement including two parts with a total of thirteen units. We introduced to the laymen with the concepts of tensile force, maximum load, diameter of hair, micro-length units, and microscope observations. In addition, we provided an experiment environment containing science apparatus to encourage people to participate in science learning. Moreover, collaboration with enterprises took place in this activity. We were able to lift 7.8 metrics tons of weights and witnesses using a total of 320,000 pieces of hairs and this result could be used to apply for Guinness World Record.

Key words: tensile strength of hair, load, hair diameter, science education, self-regulated learning