OPTIONS AND OPPORTUNITIES

Access to accurate information is key to Student Success.

Why Do I Have to Take Geometry?

Did you know?

Have you ever wondered why bees store their honey in hexagonal rather than octagonal honeycombs? Or, why a three-legged stool doesn't wobble? Have you ever considered why you need a mirror that is at least half your height in order to see your entire body? Indeed, from the alignment of the solar system to the structure of an atom, from rocks to crystals to flowers to rings on a snake, from architects to mechanics to artists to musicians, from bike gears to cure balls to Snowboards and Rollerblades, geometry pervades our world.

Geometry

The study of geometry is crucial in the mathematics education of our children. Students begin to develop the cognitive structures that allow them to reason within a linear, deductive system of thought. Simultaneously, they continue informally to observe the boundless activity of their environment, tapping into native curiosities and intuitions that can, if nurtured, provide the foundation for inductive discoveries and reinventions of many of our fundamental mathematical concepts.

As learners progress through the study of geometry they begin making the transition from empirically based, inductive reasoning to the deductive use of rules and abstract thinking. Also, the development of mathematical arguments promotes the transition from informal to more-formal thinking, which leads to an emphasis on mathematical reasoning, including inductive and deductive processes, formulating and defending conjectures, and classifying and defining geometric objects.

Geometry enables students to describe, analyze, and understand our physical world, so there is little wonder that it holds a central place in mathematics. It not only provides a means for describing, analyzing, and understanding structures in the worlds around us but also introduces an experience of mathematics that complements and supports the study of other aspects of mathematics such as number and measurement. Geometry also offers powerful tools for representing and solving problems in all areas of mathematics, in other school subjects, and in everyday applications[1].

Links:

NCTM - http://www.nctm.org
The Math Forum - http://mathforum.org
Geometry Online - http://math.rice.edu/~lanius/Geom/
Granite School District Mathematics - http://www.graniteschools.org

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[1] Excerpts taken from "Navigating through Geometry", National Council of Teachers of Mathematics