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Teeny Tiny Wonders: Nanotechnology and Machines

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Nanotechnology is a wondrous new realm of science that deals with extremely small objects. These particles are so small it is hard for humans to comprehend them. Being that this is a new realm of science it is important and imperative that students have an opportunity to find out about this field as it is quickly becoming a part of our everyday world with many products already released using nanotechnology. Although this field of science is exciting and expanding rapidly there are few references to nanotechnology in current middle school science textbooks thus making the creation of this unit plan an important resource in teaching some basic concepts about nanoscale and nanotechnology. In order to better acquaint oneself with nanotechnology it is important to understand how many of the ideas of physics change as the size of the objects also change. This unit will look at some of the main areas of nanotechnology including: size and shape, strength vs. weight, effects of gravity, motion of these objects, chemical make-up. It will take these main concepts to look at a few of the areas where nanotechnology is currently being used, and where it might be used in the future.

(Developed for Physical Science, grade 8; recommended for Physical Science, grade 8, Biological Science, grade 7, and Physics, grades 10-11)