Top Ten Reasons to Take Physics at Pickerington North!

1. It improves your science ACT score – year after year, students who take physics show significantly higher scores ton the Science portion of the ACT than students who don't. This means taking a physics course as a sophomore or junior can help you when it comes time for college applications! Physics classes also provide practice in both algebra and geometry. These are the types of mathematics most likely to occur on the ACT and SAT. However, physics is not just a math class. To work physics problems, students must be able to read and comprehend short paragraphs then develop problem solving strategies from them.

2. An understanding of physics leads to a better understanding of almost any other science, and is especially important for students interested in taking the MCAT (Medical College Admission Test). Like technology, virtually all branches of science contain at least some physics. Physics has been called the most basic science and in many cases is required in order to understand concepts in other sciences. Physics sharpens skill at performing experiments, as does Biology and Chemistry. However, it differs in that most commonly used sensors are based on a principle of physics. This includes simple pressure and temperature measuring devices all the way to complex devices like mass spectrometers (used in chemical analysis), MRI imaging machines, and electron microscopes. Physics is the basis for all types of analytical and measuring systems.

3. College recruiters recognize the value of physics classes. College recruiters tend to be favorably impressed by transcripts containing challenging classes like physics. They know it is relatively easy to attain a high GPA by taking a light course load. Some technically oriented college programs will deny entrance to students who have not taken high school physics.

4. Physics classes hone thinking skills. Physics is a whole brain subject requiring students to use both right and left brain regions for translating complex verbal information into pictures and finally into mathematical models in order to solve problems. In addition to the subject's content knowledge, physics requires students to develop higher level thinking--a useful skill in any endeavor.

5. The job market for people with skills in physics is strong. Engineers are applied physicists and comprise the second largest profession in America (second only to teaching) with about 1.6 million members in 2015. By comparison, there are just under 1 million medical doctors (of all types) and only around 100 thousand biologists. However, even medical doctors and most biologists have to take college-level physics courses. Knowledge of physics is a prerequisite for many forms of employment. Many careers you may not have thought of such as climate science and meteorology, oceanography, and computer science all start with a sound understanding of physics!

6. A knowledge of physics is helpful for understanding the arts. Physics is the science of sound and is needed for understanding how musical instruments work. Physics is also the science of light and is key to understanding visual artwork including paintings, photograph, stage lighting, filmmaking, etc. Even literary works have been influenced by physics. William Faulkner, for example, used the symbolism of time dilation in *The Sound and the Fury*. Many commonly used expressions in everyday language come from physics, including *quantum leap*, *free fall*, *light years*, *black holes*, *resonance*, and *being on the same wave length*.

7. To understand physics is to better understand politics, history, and culture. Due to global warming, the supply and use of energy is a high-profile 21st century issue. However, it's always been a defining issue--even in primitive cultures. The bow and arrow, for example, profoundly altered the effectiveness of hunting and warfare by giving people a device that stored energy then released it suddenly as a deadly projectile . Changes in energy use and supply produced the industrial revolution in the 1800s and ushered in all kinds of inventions from reliable internal combustion engines to practical electrical devices. The most significant historic event of the 20th Century, WWII, began for the United States, with the bombing of Pearl Harbor by

the Japanese using battle tactics shaped by an understanding of projectile motion physics and ended with a nuclear bomb blast enabled by physicists.

8. Most modern technology involves physics. Cutting-edge technology such as your iPhone, the development of self-driving cars, video-gaming and certainly electric vehicles all deeply rely on applicational physics – there's a reason that Tesla the car company was named after Nikolai Tesla – the famous physicist! Any technology involving electricity, magnetism, force, pressure, heat, light, energy, sound, optics, etc. comes from physics. Even though the basic knowledge required for products like fertilizers, drugs, plastics, and chemicals comes from chemistry and biology, these items have to eventually be manufactured, and manufacturing is dominated by physics-based technology.

9. College success for virtually all science, computing, engineering, and premedical majors depends in part on being successful in physics. College physics is required or all of these majors. Engineering is largely applied physics. Pre-medicine majors typically must take the same number of physics as biology classes! About 25% of the science knowledge required for the MCAT (Medical College Admission Test) is based on physics. Studies indicate that a high-quality high school physics course helps significantly reduce the failure rate in college-level physics. Students themselves typically indicate that high school physics is a significant factor in their ability to handle college-level physics material.

10. Physics offers a deep and unique perspective in itself. There is quite simply no other area of study quite like it! If you've ever wondered about the universe, about space and time, and about what the future holds you're wondering about all things physics! So come on, start the journey!

And a bonus reason … #11

11. Physics helps you look at the world differently. With it so tough to tell what's "fake news" and what's not, why not make yourself a scientifically literate citizen and have the ability to think for yourself? Physics can help you do just that!

Does Art Influence Physicists?

Yes! Einstein played the violin. Richard Feynman (winner 1965 Nobel Prize in Physics) played the bongo drums, composed music, and had a one-man art show. Russian physicist Léon Theremin invented one of the first electronic instruments, the Theremin. Inspired by it, Dr. Robert Moog (PhD in engineering physics) revolutionized electronic music by inventing the Moog synthesizer. Leonardo da Vinci, developed a wave theory of light based on visual observations as an artist. The physics term *quark and boojaum* came from the literary works of James Joyce and Carroll respectively