

Good example of the use of physics in daily activities essay

[Sociology](#), [Communication](#)



Introduction

Physics refers to the branch of science that primarily deals with nature and properties of matter and energy. Its key components are heat, mechanics, light, sound, magnetism, structural orientation of atoms, and electricity. Any technology we use in our daily lives has a relation to physics. Physics is more of the backbone for most daily life activities. Examples include electric light in our homes, cell phones, , computer, CD player plasma TV set, wrist watches, radio, and working of our vehicles.

Physics plays a key role in the production of energy. These various energies are then transformed into electricity for eventual use in powering machines in the industry, as well as powering utilities such as phones, computers and televisions. Hydropower is critical in hydroelectricity production (Krane, 1995). Falling water creates enough energy that can be harnessed and transformed into electricity. A dam on a river is usually used to store water in a reservoir. This water is then released where it flows through turbines, spinning them aggressively. Consequently, a generator is activated to produce electricity that is supplied to the grid lines (Krane, 1995). Wind energy is harvested from wind farms. Wind turbines are, usually, mounted on very high towers to capture much of the wind energy. At a hundred feet above ground, the wind turbines utilize the advantage of faster and wind that is less turbulent. The propeller-like blades found on turbines will catch the energy of the wind. This will cause the rotor to spin around; turning shaft will spin connected generator resulting in the generation of electricity.

Moreover, physics is widely applied in production of solar electricity (Krane, 1995). Solar cells incorporate semi-conducting materials in their make-up.

The mentioned materials are responsible for the absorption of sunlight. The solar energy present knocks electrons that are loose in the atoms. The electrons produced will flow through the material leading to the generation of electricity. Essentially, the conversion of geothermal energy into electricity requires the knowledge of physics and how it can be applied. Geothermal is the heat resulting from bottoms of the Earth. The steam from beneath the Earth's surface is tapped and used to turn turbines activating a connected generator resulting in the production of electricity (Krane, 1995). The resultant electricity generated with great use of physics knowledge has numerous uses in farms, businesses, homes, and industry. In our homes, the everyday activities that use electricity are in, refrigerators (preserving food), cooking (ovens), lighting our electric bulbs, powering televisions and radio and heating water. Farms and industries use also use it a lot. There are several farm machinery that utilize electricity. Industry equipment such as conveyor belts, driers, air conditioning systems use much of the electricity. The electricity also lights up our streets; shopping malls and markets enabling people to run their businesses smoothly (Krane, 1995).

Secondly, communication is one sector that has been enhanced so much by application of various fundamentals and knowledge of physics. There are many communication systems have thrived due to physics (Berche, 2009). The various communication systems that borrow a lot from physics knowledge include electronic, optical and computer communication. Additionally, telephones, radio, television and mobile phone communication fall under this category.

For telecommunication, people communicate with each other by use of

electromagnetic waves. A telecommunication system is generally made consists of three principal units: transmitter, transmission medium and receiver (Berche, 2009). The transmitter will take the information and convert it into a signal. The transmission medium will carry the signal and the receiver ultimately converts the signal back into information that can be used. Communication that happens from a radio broadcasting station to a person via radio is an example of telecommunication. Optical communication is the relaying of messages using light as the carrier of the information. The optical communication system employs a transmitter that encodes a message into an optical signal. A channel will carry the signal to the intended destination, and the receiver ultimately reproduces the received optical signal (Berche, 2009).

Currently, computer communication is widely used in the world. It is a telecommunication network that enables interconnected computers to share and exchange data (Berche, 2009). Data connections enable passage of data among computing devices in the network. The form in which data is transferred is called packets. Cable media or wireless media provide the connections or network links. Internet is the computer network that is best-known. In a computer network, the devices that originate data, route it and subsequently terminate it are referred to as network nodes (Berche, 2009). They include phones, servers, personal computers and networking hardware. Two devices can only be networked together when one node can exchange information with the other one regardless of the existence of a direct connection or not.

Computer networks offer support to a wide range of applications:

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accessibility of the Wide World Web, email use, use of storage servers, fax machines and printers that is shared (Berche, 2009). Applications involving instant messaging also gain support from these networks.

Use of computer communication in our daily lives is immense. Essentially it has revolutionized communication greatly. Email provides a fast, reliable and secure mode of communication among people be it business people and their clients, or among family members. Social media platforms such as twitter, face-book and Google Hangout enable us to connect with our friends and family each and every moment. Use of short messaging services and WhatsApp offer people a chance to chat and connect in real time thus sharing numerous experiences, their escapades and news items.

Telephones permit two users or more to converse when they are in different vicinities (Berche, 2009). It converts sound, typically that of a human voice, into electronic signals that can suitably be transmitted using cables over distances. The signals are replayed in audible form to the person at the other end of the line. In a telephone, the transmitter is a microphone that one speaks into. The earphone essentially plays the role of the receiver that reproduces the voice of the person calling at a distant. Pairs of wires connect landline telephones to the network whereas mobile phones are portable and communicate with telephone network via radio transmissions.

Notably, most people nowadays communicate using mobile phones. This has made communication be easy and fast enabling convenient access to information thus bettering the lives of users.

Still on communication, radio and televisions have massive reach in homes and a great source of entertainment and information (Berche, 2009).

Entertainment, for example, comes in the form of music, comedy programs and cartoons. In addition, information is usually transmitted via radio and television through news bulletins and advertisements. Radio and television play a great role in the business world. Television remains a leading medium for advertising products and services. The result is growth and increased visibility of business while consumers get information about products in the market.

Radio refers to the wireless transmission or transfer of electromagnetic signals through free space (Berche, 2009). The information is carried systematically modulating properties of radiated waves such as frequency, amplitude, or a phase. The radio waves then strike an electrical conductor inducing a current that alternates in the conductor. The information present in the waves is extracted and undergoes through a transformation back to the original form. In the case of television, transmitted and received information is both moving images as well as sounds (Klauder & Skagerstam, 1985). For these functions to be achieved, physics knowledge is applied in the manufacturing and assembly of the various elements to come up with a complete unit.

Thirdly, physics concepts, methods and theories find wide application in the field of medicine. Some of the specialties of healthcare that incorporate a lot of physics are medical imaging, radiotherapy and nuclear medicine. When we fall sick and visit hospitals, sometimes our X-rays images are taken, we undergo mammography, fluoroscopy or non-ionizing radiation such as MRI and ultrasound. All these are performed by imaging physicists (Klauder & Skagerstam, 1985). Moreover, the development of the various pieces

equipment used requires a wide knowledge of physics. Therapeutic physics encompasses fields such as optical radiation and Photo-medicine which involve the use of light in diagnosis and treatment of diseases. Additionally, for nuclear medicine, radiation is employed to bring forth information about how specific organs of a person functions and the disease can be treated. This information enables physicians to make a quick diagnosis of the patient's illness. This diagnosis normally has high accuracy. Organs that are often imaged are the, heart, thyroid, bones and liver. Moreover, the diseased organs can in some cases be treated by radiation.

Application of physics in medicine has its downfalls. For example, exposure to harmful or dangerous ionizing radiation, for example, X-rays is one of these downfalls (Klauder & Skagerstam, 1985). These rays can be a health hazard if the exposure exceeds recommended levels. The effects range from causing damage to tissues of the body. This can result in cancers or skin burns. Study of the rays and their characteristics in physics enables people to develop good protection mechanism from the harmful effects (Klauder & Skagerstam, 1985). Of importance also, the environment can be protected efficiently from these harmful rays rendering clean and conducive.

Clearly, physics is a key ingredient of the medical field. This essentially enables the growth and development of the healthcare sector. The trickle-down effect of this is easy disease management, accurate diagnosis thus improved healthcare of people.

The use of physics in the development of automobiles, trains, aero-planes and ships cannot go without mention. On a daily basis, we use these modes of transport to transport goods and for ourselves to move from one place to

another. These have to be designed with regard to the center of mass, aerodynamics and safety features. Today, armed with the knowledge of physics, engineers can design vehicles that can reduce drag force considerably, increase output of the horsepower, and finally increase acceleration and the safety of the vehicle (Fraden, 2010). Superb understanding and a good grasp of physics has constantly improved the ability of manufacturers to create automobiles that are cheap, safe and more enjoyable. Additionally, speed is an attribute that affects performance of vehicles or aero-planes. Factors that contribute to speed of a car are drag force, horsepower, torque, handling and aerodynamic lift when at high speed (Fraden, 2010). Horsepower provides a measure of the amount of force the engine applies to the car in a given amount of time. These can be manipulated and be overcome by incorporation of correct and efficient engineering. In a nutshell, physics plays an important role in our everyday transportation. Its essence in this sector cannot be wished away.

Finally, magnetic storage is something people encounter on a daily basis. It involves the storage of data on a magnetized media (Fraden, 2010).

Magnetization of media is undertaken using concepts and theories of physics. This form of data storage is non-volatile. Hard disks usually store audio signals, computer data and video signals (Fraden, 2010). Hard drives use their magnetic memory to large amounts of data in computers. Magnetic storage media include magnetic stripes on credit cards, floppy disks and magnetic recording tapes. Flash disks provide convenient storage and transfer of data among various devices. Magnetism and magnetization are components of physics. This has led to the development of excellent

products that we encounter daily and incorporate them in our daily lives.

This makes our lives easier and enjoyable.

In simple terms, the application of physics is wide and far-reaching. The significance of this cannot be underestimated. Physics theories and concepts when efficiently incorporated in products hugely improves the quality of human life.

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