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Air Quality Project

Have you ever just needed a breath of freash clean air from the great outdoors after a long day of being inside? This makes sense, as acording to multiple studies and the data collected in this class, the air quality inside our homes and work spaces is often extremly poor compared with that of the outdoors. This can lead to many health concerns and can be particularly detremental to those with asthma. In addition to serious health concerns, poor air quality can lead to minor annoyances such as headaches, coughing and sneezing, dry eyes, nose, throat, and skin. This information goes to show that the quality of our air, both indoors and outdoors, should be taken seriously as it has an effect on everything that we do.

As can be clearly seen in the graph (see below), air quality is much worse indoors than outdoors. This is due to multiple reasons. To start with, in the outdoors there is a constant flow of air and it is difficult for dust and other chemicals to build up in one place for very long when air is constantly moving them around. In contrast, the inside of a home or any other type of building allows for the buildup of many chemicals and dust if not regularly cleaned. In addition to this, other factors can have an effect on indoor air quality; different paints that are used in buildings can release VOCs. VOC stand for volatile organic compounds. These compounds can lead to many health concerns and can cause cancer as well as a host of breathing problems. VOCs are found in many construction materials such as particleboards, plywood, glues, personal care products, and cleaning agents. To try and limit the number of VOCs in a household, it is suggested that low VOC products are purchased. Besides VOCs, indoor air quality can be made worse by the buildup of dust in the air. If not well ventilated or properly cleaned, dust can build up in large amounts in the air or on surfaces inside of buildings. One way to try and improve the air quality inside of a building is to open the windows and let some fresh air in from the outdoors. This fresh air can help push the buildup of chemicals and other airborne particles out of the building. The ventilation of a building by opening up the windows is almost always a good idea, even in cities where air pollution is high. If the outdoor air quality of an area is not very good, then it is still recommended to ventilate the building in this way. However, it may be best to do so at night when there is less pollution in the air.

One major contributor to poor indoor air quality is the type of stove that is used in a household. While both electric and gas stoves each emit some air quality pollutants, gas is by far the worse of the two options. Though the data in my graph does not make this very clear, it has been proven that gas stoves can be very detrimental to the air quality of the building that it is installed. Gas stoves can emit the same levels of pollution that comes out of a car’s exhaust. The burning of gas in a gas stove produces nitrogen dioxide. Homes with gas powered stoves can contain 50 to 400 percent more nitrogen dioxide gas then those with electric stoves. This can cause coughing and for individuals with asthma or other respiratory health concerns, exposer to this gas over long periods of time can lead to the worsening of health problems. One major problem that leads people to often not think about the negative consequences of a gas stove is that nitrogen dioxide lacks any smell and can not be seen by people. Though electric stoves are not perfect, they are in general, a much better option than gas.

It is important to think about air quality both indoors and outdoors when exercising. When a person exercises, they breathe faster and take in larger amounts of air deeper into their lungs than would be normal. As well as taking in more air along with the pollution that is in it, people will generally breathe through their mouth when exercising, rather than through their nose. A person’s nose aids in filtering out harmful particles and stopping them from reaching the lungs. These factors, like with most other air quality issues, can be extremely detrimental to those with asthma or respiratory health problems as well as those with no conditions. Though exercising indoors can be beneficial for those in extremely polluted areas, it is normally considered best for your lungs to exercise outside in the fresh air. As can be seen in the graph (see below), the air quality outside is almost two times lower than that of the indoor air quality. It is possible to limit the amount of airborne pollution you are exposed to by keeping track of the air quality index in your local area and by exercising at time when pollution is lowest such as at night or early in the morning. By doing this, you can ensure that you are exercising at the least harmful time of day.

Air quality is not just something unimportant that only affects those who live in heavily polluted areas; however, it is a factor that affects all of us regardless of where we live. From the inside of homes and workplaces to the great outdoors, the quality of our air matters for our overall health and wellbeing. There are many factors in the type of air quality that an individual breathes in, that one cannot control. However, there are many factors that can be controlled such as the type of stove used to cook with, materials used to clean the house or workplace, opening windows, the type of paints and construction materials used, and the time of day that we exercise. Through a combination of these tactics, we can go a long way towards protecting our short and long term health.

