Fires the longest. fire can be in

Fires come in several different temperatures and colors depending on several different things that may affect the fire.

There are also several types of materials that can fuel fires and make them burn in different ways. All of the materials I will use in my experiment are very commonly found in the average household. Fire can come in very different unique forms depending on the conditions. Fires have are able to burn gases, liquids, and solids. Fires are useful for lighting rooms with light bulbs, torches, and candles. Also fires can be used for heating. Most of the time fires are useful and used in everyday life but people just don’t notice. But, there are also fires that can be harmful and destroy several things.

There are several industries today that use fires to make other things. For example fire is use to burn oil, coal, and natural gas to make electricity. With advances in fuel people can make fires burn for several different purpose. The cost of material to use as fuel for a fire varies because you can use almost anything but, some are better than others. For example in the right condition things like metal will burn but, it is much easier to burn things such as gasoline which is easily combustible and easily sustains flames as long as there is enough for the fire to burn. In the first paragraph it will talk about the materials that can be used for a fire.

In the second paragraph it will talk about the spread of fires outside and some of the dangers fires. In the third paragraph it will talk about some of the variables like wind and how it can affect fire in different ways. In the fourth paragraph it will talk about airflow, and how different surfaces in enclosed areas and in open areas affect the flames. In the fifth paragraph it

will talk about how fires act in enclosed areas. In my tests I will show what kind of household oil will burn the longest.

Fire can be in a plethora of different forms and all of which in some way involve some sort of chemical reaction between the oxygen in the surrounding air and the combustible materials that are being used as fuel. Fire can have an effect on several different things and on several people from several different flocks on life. Fire can cause human suffering by destroying things. Most of the time fires are burning a lot of different combustible materials for fuel that are usually solid in form, but there are some combustible materials that can be used as fuel that are liquid or gas in form such as oils or natural gases.

In the experiment a very wide range of different fuels were considered in it from soils of high molecular weight to gaseous hydrocarbons and also things with much chemical complexity, some of which are found naturally, for example cellulose in plants and things that are artificially made by man such as polyurethane and polyethylene. Anything will burn under the certain conditions reacting with oxygen from the air surrounding the the combustible material that are being used as a fuel for the fire. The product of the combustion is different energies being released such as heat and light and the release of different gases. Combustive solids alcomt invisibilly involves decomposition thermally or also known as pyrolysis of polymer molecules at temperatures at the surface on the combustive solid being used as the fuel for the fire. This is produced by melting which depends on the substance and the properties of the substance.

A small number of polymers also called polymethylmethacrylate and known at the time as acronym PMMA at temperatures that are high will go through a reverse process of polymerization also known to some people as unzipping of end – chain scission to enable high yields of monomers in the decomposition of products. The intensity of the fire will directly influence the height of the scorch of the fire, therefore, will determine how much the fire burns. The rate at which the fire spreads is the determinant on residence time. Some combustible materials that can be used as fuel for a fire spread more quickly as well as, are more plausible to ignite in the first place. The maximum amount of energy available to the fire is determined by the fuel load of the fire. How the materials that are used as fuel for the fire are arranged can have an effect on aeration, vertical spread, horizontal spread of the fire.

The size of the materials used for fuel and the distribution of the fuel may affect the possibility of the fuel being ignited in the first place. The chemistry of certain fuel can increase flammability such as resins and oils and other things can decrease flammability. Wind dries materials and also increase oxygen available to the fire which in turn make the fire burn better. The more oxygen that the fire has accessible the easier it is for materials to combust. Materials that are preheated of ignition fuel that is in advance of the front on the fire can produce ignition far ahead of the current fires front.

Preheated materials and ignition fuel can also change the size of the fire’s front and the direction the fire’s front is traveling in. The success of burning as a hazard-reduction technique depends upon a realistic assessment of the proportion of total fuel which will become available in serious fire conditions

and the ability of materials to burn frequently enough to maintain the levels of available fuel below the threshold. The heat required for ignition depends on ignition temperatures moisture content of fuel and the amount of fuel involved in the ignition process. The amount of fuel involved in the ignition process is the effective bulk density. The effective heating number is defined as the ratio of the effective bulk density to the actual bulk density . The energy released rate of the fire front is produced by burning gases released from the organic matter in the fuels. Therefore the rate of change of this organic matter from a solid to a gas is a good approximation of the subsequent heat released rate of the fire.

The heat release rate per a unit of area of the front is called the reaction intensity. Wind and slope changes the propagation net flux by exposing the potential fuel to additional convection and radiant heat. The heat of the preignition and the effective bulk density are the two terms that head to be evaluated before the prerogatives flux could be computed. Slow and fast burning fires that reached loss kw in six hundreds and one-hundred fifty respectively spread in a certain way. The predicted flame spread rate was within 0. 3 m/s from any point in time during the analysis.

The comparison at quasi-steady burning rate when one of the full slab was burning shows over estimated amount of flame spread radiation burning rate. An extensive amount of flame spread variation was done and there is differen ways flames can spread in enclosure opposed to outside and on flat surfaces. When there is flames it makes soot and the soot can attach on surfaces. And in certain times if the condition are right the soot has the

ability to combust. Flames have a variety of heat fluxes and it can affect the way materials burn in the flames.

The smoke produced from the the fire and the airflow around the flames can have an effect on the way the fire burns. If there is no more oxygen left in an enclosed area is filled with smoke the flames will start to die down from the lack of oxygen need for the materials to burn and eventually go out completely. When airflow is good the the airflow can cause the fire front to spread rapidly and different from being in normal airflow. Fire is a physical and chemical phenomenon that is astonishing nonlinear andquantitative that the process that is involved is often complex. Fires mainly involves mass fluxes and heat fluxes to and from the fuel and the surroundings.

After ignition the fire grows and produces increasing amounts of energy mostly due to flame spread in the early stages. Also in the early stages of the fire the enclosure the fire is in has little to no effect on how the fire burns and spreads. Fire can be developed in a multitude of different ways mostly depending on the enclosure geometry and the ventilation of the enclosed area and the type of fuel in the enclosed area and the surface area of the fuel in the enclosed area. Other than releasing energy in the form of heat and light a variety of toxic and non- toxic gases and solids are produced in a fire. The generation of energy and combustion of materials is a very complex issue as there are several factors the plume the hot gases in the flame that are surrounded by cold gases and the hotter less dense mass will raise upward due to the density difference or the buoyancy of the of the cold substances versus the hotter substances that have been in the fire. The

gases around the flame in an enclosed area can be categorized as cold and hot layers.

In conclusion fire is very useful and can be used in everyday life, so finding a material that is easily accessible and burns for an extended period of time may be helpful. Fire has several different uses as it can be used for cooking or used as heating, or used as lighting. Fire is easily made because of the variety of materials you can use for fuel for the fire such as liquids, solids, and gases. Fire can also can easily be sustained by adding more fuel and giving it access to oxygen. Also an important thing to remember is if there is no more oxygen left in the area where the fire is the area will be filled with smoke then flames will start to die down from the lack of oxygen need for the materials used for fuel to burn and eventually go out completely. Another important thing is fire is not all good fire can cause much human suffering by destroying things.

Also fire is very complex and every fire is different even when burning the same materials. In the early stages of a fire they are usually pretty similar but as time goes on depending on the material the fire is burning the flames can have a large range of temperatures and colors. Fires release energy in the form of heat and light which can be converted into different forms of energy to power things such as cars. In areas where the fire is enclosed like inside your house the fire burns the same as if it were in an open area.

Another important point is that fires depending on the materials used for fuel and release different gases some toxic and some non – toxic. And the edge of a fire is called the front and can spread at different speeds depending on

the conditions. When fire burns it also releases soot and it will stick onto things surrounding the fire for example if you have a fire place and you burn a fire in it the fire will release soot and the soot will stick to the chimney and in certain condition the soot can burn this is why some people’s houses light on fire. Because, people burn a lot of fire in there fire place and they do not clean the chimney so in consequence the soot in the right conditions combust then the flame shooting out the chimney lights the roof on fire and your house burns down. Fires are both useful and harmful and be in a multitude of different situations.