

Complex Process Essay

Reason for learning

Statement of topic

Background information

Steps 1 and 2

Elaboration

Definition

Elaboration

Steps 3 and 4

Elaboration

Explosive Information: How a Car's Engine Works

Are you looking forward to the day you'll slide into the driver's seat of your own car and insert the key into the ignition switch? Are you picturing a new convertible gleaming on the showroom floor? Are you shuddering as you imagine long lines of traffic snaking through a city? What you're probably not thinking about is what most of us never actually see—the mechanical processes that make it possible for cars to move. We often take it for granted that our cars will work, without ever stopping to wonder how they work. Here is a look at a few of the processes that take place under the hood of a running car.

Most cars are powered by a four-stroke internal-combustion engine, so called because of its repetition of four basic processes. The first two of these processes are intake and compression. When a car is started, stopperlike valves called intake valves open to allow air and gasoline to enter the engine's cylinders. Cylinders are like hollow tubes cut out of the core of an engine, and they work much like the syringes used by doctors. Once air and a small amount of fuel enter the cylinders, pistons—devices that act like plungers—push the mixture upward, compressing it.

After intake and compression come ignition and exhaust. The compressed air and fuel mixture in the top of the cylinder is highly explosive. At just the right moment, a spark plug emits a tiny spark that ignites the mixture, causing an explosion that pushes the piston back

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down. The cylinder fills with exhaust gases—the leftover product of the explosion—but the piston is still in motion from the explosion. This motion pushes the piston back upward, and the exhaust gases are forced out through the car's exhaust pipe.

Then, the process starts all over. The piston falls, air and fuel enter the cylinder, the piston rises and compresses the mixture, the spark plug ignites it, and so on. Again and again, the engine produces controlled explosions. These explosions produce the energy that, when transferred to the wheels, makes a car move.

New technologies for powering automobiles are constantly being explored. For now, however, the internal-combustion engine is still the least expensive and most efficient means of making a car move. The next time you hop into a car, remember all those little explosions that have to happen right on time in order to get you where you want to go.

Interesting fact

Restatement of reason

Complex Process Essay

Definition

A **complex process essay** is an informative essay that describes the steps or events that occur in a particular process. A good complex process essay answers the question "How did *that* happen?" or "How does *this* work?"

Many complex process essays use the structure illustrated in the framework below. Print this framework and use it as a guide when you write your own complex process essay.

Framework

Directions and Explanations

Introduction

- Reason why people should understand this process
- Clear topic statement
- Background information

Name your process Clearly tell your readers what process you will explain and why they should learn how the process works.

Provide background If you think your readers might be very unfamiliar with the process you will describe, provide background information to help them understand it.



Body

- First step plus elaboration
- Second step plus elaboration and so on

Step through it Use chronological order to describe each step of the process.

Elaborate on each step Use sensory language and step-by-step descriptions to explain what is involved in each step and how each step relates to the other steps of the process.

Define any unfamiliar terms Explain any special technical language that your readers might not be familiar with.



Conclusion

- Final comment about the process and/or
- Restatement of its importance

Bring it home Remind readers why the process is important to them. You may also want to tell your audience what happens after the end of the process.