

# Essay: an introduction to cloning

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The National Human Genome Research Institute describes cloning as, “ processes that can be used to produce genetically identical copies of a biological entity.” The result is called a clone and the practice of cloning living things has raised a lot of controversy over the years. In the lab, scientists have successfully cloned cells, genes and even a sheep. But is it a good idea? Natural Cloning Cloning occurs naturally in some cases. That includes living organisms, such as bacteria, that split and clone on their own. Cloning also occurs in organisms that reproduce using asexual reproduction. Identical twins are also considered clones, as the original cell “ copies” itself and produces another human being or animal. Artificial Cloning Artificial cloning can be done using one of three processes – therapeutic cloning, gene cloning or reproductive cloning. Therapeutic cloning involves creating new tissue to replace injured or dead tissue. Gene cloning creates new copies of specific genes or segments of DNA. Reproductive cloning is when an entire organism is cloned, and is also what most people think of when they hear about cloning.

How is Cloning Done? Artificial cloning is done by scientists and involves taking a gene from one organism and inserting it into the genetic material of another carrier organism. The combination of material is then placed in a safe area and allowed to clone, which occurs as the materials copy themselves over and over again. In the case of reproductive cloning, when an entire animal is cloned, the process is a bit different. First, scientists remove a somatic cell from the original animal. This often comes from the animal’s skin.

The DNA from that cell is transferred to an egg cell that has had its DNA material taken out. The egg is then able to become an embryo that is later implanted into the womb of an adult female animal. The female then gives birth to the clone. The most famous instance of this type of cloning was Dolly the sheep. Human Cloning Despite what people have heard, human cloning is not something that is even close to happening.

There is no evidence that any scientist or research facility has ever successfully cloned a human being. While there are some groups claiming to have cloned a human, the clone never reached the birthing stage. According to experts, it would be nearly impossible to clone a human as one of the proteins needed for the process is too close to a human cell's chromosomes and removing the DNA without also damaging those proteins is very difficult to do. Benefits of Cloning It might sound like something out of a science fiction movie, but there are scientific benefits to cloning certain animals. By doing so, researchers are able to learn more about the animal, which can be beneficial to agriculture.

When the FDA approved cloned material for human consumption, entities that raise animals for meat or milk were able to begin producing on the best meat and milk, though doing so costs more, which means that consumers would have to pay more. Another possible benefit to cloning is to rebuild endangered species before they become extinct. By cloning these animals, their numbers could be increased, something that ensures that the stability of an ecosystem isn't compromised. People across the world have also driven research into cloning beloved pets. Drawbacks of Cloning One of the biggest problems with cloning is that the clone isn't always healthy enough <https://assignbuster.com/essay-an-introduction-to-cloning/>

to live and using clones to rebuild a species results in a lack of the variability needed for a species's survival.

Cloning adult animals means that the clone is born with “ older” DNA, which shortens its lifespan. Cloning continues to be a hot topic that is debated all over the world. What side are you on?