

So process that they
naturally do and
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So first of all, I am going to explain what it is: It's the process of developing a genetically identical copy of a cell or organism. This process can happen at any time in nature when a cell replicates itself asexually (it's type of reproduction by which offspring arise from a single parent). There is also such a thing as natural twins, also known as identical twins. They occur in humans and as well in other mammals. These twins are formed when a fertilized egg splits, creating two or more embryos that can carry nearly identical DNA (they do not occur that often though). Identical twins have pretty close genetic makeup as each other, but not the same as their parents do.

In today's science we have three different types of artificial cloning (made or produced by a human rather than produced naturally): gene cloning, therapeutic cloning and reproductive cloning. In a typical gene cloning procedure, the gene or other DNA fragment is first inserted into a circular piece of DNA called plasmid. The insertion into the DNA is done using enzymes (highly selective catalysts, which speeds chemical reactions in our cells), and it produces a molecule of recombinant DNA (genes can be taking from different sources).

When the recombinant DNA gets created it gets introduced into bacteria. It carries the plasmid and gets grown up there. As bacteria reproduce, they replicate the plasmid and pass it on to their offsprings, making copies of the DNA it contains. In some cases scientist are making many copies of DNA sequences in a plasmid so they could experiment on them. In other cases, scientists turn bacteria in to 'factories' to produce protein in the body. For example, human insulin gene is expressed in E.

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coli bacteria to make insulin, which is used by diabetics. Stem cells can build and repair the body. That is the process that they naturally do and scientists found a way to manipulate them to make stem cells to repair damaged organs and tissues. Unfortunately you can not transfer stem cells from one person to another, because the body reacts to it as foreign and it usually the body may trigger immune response and so, received stem cells would get rejected. But if we use the so called 'Therapeutic cloning' we can get those stem cells that are in need to repair the tissues, because it produces embryonic stem cells in the way that the body can accept them. In the process goes like this: Embryo would be allowed to grow for around 14 days. It's stem cells by then would be extracted and encouraged to grow, for instance into a piece of human tissue. The end result wouldn't be a human being, but a replacement for organ, piece of nerve tissue, or some skin.

And the last one of artificial types of cloning is reproductive one. Both in reproductive cloning and in therapeutic cloning scientists are using embryos to come to the result that is wanted to be reached. The difference though is that reproductive cloning involves creating a whole animal and not just DNA of it, where in therapeutic cloning it all stays in the lab, rather than be implanted into female's uterus where it can develop and become a living being. The most well known example is Dolly the sheep.