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Me and My World

## What does the future of genetic engineering look like?

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### What is genetic engineering?

Genetic engineering, also known as genetic modification or genetic manipulation, is the process of manipulating an organism's *genes*. It is an emerging field within biotechnology.

Within genetic engineering, there are three different types: *analytical* genetic engineering, *applied* genetic engineering and *chemical* engineering.

*Analytical* genetic engineering is the research branch where virtual genetic models are created using computer software. This is also a better way to carry out the trial-and-error stages and can minimise the risk of disaster when experimenting with real organisms, especially animals.

*Applied* genetic engineering is when you use non-virtual genetic engineering tools to manipulate the genes of living organisms for cloning, introducing new characteristics to an organism or anything else to do with physical tools.

The third type of genetic engineering is *chemical* genetic engineering. You can think about *chemical* engineering as the roots of *applied* engineering. *Chemical*

engineering deals with separating, classifying and preparing genes for *applied* genetic engineering experiments and activities.

## Why is it important for humans to understand genetic engineering?

Although genetic engineering may not play a big part in our lives today, it will definitely be a game changer in the up-coming years.

Genetic engineering is essential to human evolution.

There are infinite outcomes and endless possibilities, this could include the cure to contagious diseases and viruses, it could even be the solution for world hunger.

Right now, you're probably asking yourself: how *can* genetic engineering cure world hunger? I'll tell you how. Have you ever thought about this: where does your food come from? Where does that food come from?

Yeah right, it's just a food chain, nothing more; however, if someone had control over the food chain, they would be able to control the world. This is where genetic engineering steps in.

For example, if you changed the genes in bread, you could alter the amount of carbohydrates, energy or sugar in the bread. This could be positive or negative, you could decrease the amount of nutritional benefits in the food and force people to buy more to survive, or you could increase the nutritional benefits so everyone would be able to have food.

## How will genetic engineering affect our future?

Future technology is greatly anticipated by our community, especially if it can improve life. Some scientists plan on achieving the goal of de-extinction using genetic modification, which is the process of bringing back extinct animals.

We could genetically modify crops to allow them to grow in certain conditions that otherwise couldn't be possible. With genetic engineering, it would be possible to study gene functions and come up with vaccines, life-saving drugs and many other things like the reduced need for pesticides. We may even find a cure for cancer.

## Conclusion

In summary, modifying genes can be seen as a very difficult and consequential process, but presents great possibilities. Therefore, scientists will continue their research into this field, in hopes of achieving what would have been impossible without this technology.