**What is Gene Therapy?**

Gene Therapy is one of the ways to cure disease of gene. To add modified gene will help diseased tissues and organs work accurately.

Most commonly, it is used vector to carry the genes.

 Vector is a carrier that introduces other genes(DNA)

 into the body or cells from the outside.

**For successful Gene Therapy**

If you plan to tale gene therapy, you must be careful about vector.

1. Target the right cells
2. Integrate the gene in the cells
3. Active the gene
4. Avoid harmful side effects.

There are some advantages and drawbacks using virus vector.

 **Advantages Drawbacks**

Questions

1. Greatest advancement

Even though gene therapy has been slow to reach patients, its future is very encouraging. They need to investigate a lot of things to reach gene therapy

such as…

* Designing safe and effective vectors
* Targeting different types of cells
* Managing and minimizing immune responses in patients

 These are some examples of how gene therapy has contributed to society.

 Immune deficiencies (SCID, ADA)

 Hereditary blindness

 Hemophilia

 Blood disease

 Fat metabolism disorder

 Cancer

 Parkinson’s disease

1. How is this form of biotechnology best used?

I think gene therapy will be used remedy of disease and I also think it is the best used of gene therapy. Because, gene therapy was developed to cure many diseases originally.

Recently, patients of cancer are increasing every year. In some cases cancer is difficult to cure and anti-cancer drugs are associated with terrible side effects. Gene therapy for cancer has fewer side effects than anti-cancer drugs. So if gene therapy will be used more situations, the possibility of remedy is going to spread at all over the world.

1. How is this form of biotechnology changing the world as we continue to advance towards the future?

As I wrote No.2, gene therapy is spreading the possibility remedy of diseases. It isn’t just case of cancer. There are so many diseases in the world. However, diseases that treatment hasn’t found yet are also a lot. I think the fact that some patients are being helped by gene therapy means that medicine is also continuing to advance as part of biotechnology. I lost my grandfather last year by cancer. I and my father spent a lot of time to search treatment. We did our best to help our grandfather but unfortunately, he passed away. I think people who lost their family by disease are so many in the world. I hope gene therapy will help as many people and family as possible.