**Genetic Engineering Guided Notes**

1) Genetic engineering-

2) Recombinant DNA-

3) Transgenic organism-

4) What do we insert into an embryo to make a transgenic organism?

**Genetic Engineering Tools**

5) vector (plasmid)-

6) restriction enzyme-

**4 Steps to get gene of interest into new organism:**

1)

* \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ process



In the example above the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gene is taken from \_\_\_\_\_\_\_\_\_\_\_\_\_ (what species) DNA and put into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2)

3)

**Putting a gene into bacteria**



**Putting a gene into a plant**

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**Some Processes that are used in Genetic Engineering**

1) **Electrophoresis-**

* DNA is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ so it moves towards the positive end
* Which will travel farther- smaller or larger pieces of DNA?

2) **Polymerase Chain Reaction**-

* Uses an enzyme that comes from bacteria that lives in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



3) **Whole organism cloning**

 How is it done?

4) **DNA Fingerprinting-**

 - How is it made?

 -Give an example of 2 individuals that would have the same DNA fingerprint: