- The "Fish Tomato" is another great example:
 - Tomatoes (and other fruits) are important sources of ______ and other nutrients for the heart, liver, and other organs
 - They can't be grown in cold climates they _____ and die!
 - Fruit is very ______for people who live in these areas, and they suffer from malnutrition because they can't afford to buy them.
 - A fish called the Winter Flounder can live in freezing temperatures because it has a

_____that prevents ice crystals from forming,

preventing _____!

- The gene for the _____ protein is removed from the fish's DNA.
- It is inserted into the DNA of the tomato plant.
- The tomato plant now makes the antifreeze protein it doesn't !
- People living in places where it gets cold can now grow fruits like ٠ tomatoes!

- Biotechnology is the use of ______ to follow product or accomplish a task.
 Three examples of biotechnology include ______.
 Genetic engineering _____. Genetic engineering involve changing an organizate _____ information to give it new _____. Two examples of genetic engineering are _____ rice and the _____.
- 4.
- 5. Would you eat golden rice and/or fish-tomatoes? Why or why not?

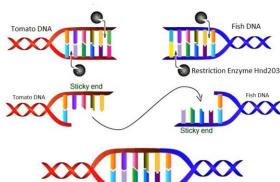
How Does It Work?

- Genetic engineering is possible because ALL living things use ______ to make ______ in the same • way
 - DNA \rightarrow RNA \rightarrow Protein; The
 - _____ enzyme is used to remove the gene to be inserted. Α_
 - Restriction enzymes cut DNA at ______ nucleotide sequences
 - When the gene is cut, it has a " end"
- The DNA of the organism that will get the new gene is also cut with the same restriction enzyme.
 - It gets the _____ "sticky ends"
 - The gene's sticky ends ______ to those of the DNA molecule
 - The gene is now inserted!





, and



Tomato-Fish DNA