11/10/11

* Biotechnology
	+ Genetic engineering
		- Adding, deleting or transplanting genes from one organism to another, to alter the organisms in useful ways.
	+ Advances human health
		- Produces medicines to treat diseases
		- Curing diseases
		- Preventing diseases from occurring in the first place
	+ 5 steps to biotechnology
		- Chop: use restriction enzymes to isolate specific code
		- Amplify: make billions of copies of the code
		- Insert: put into bacteria as a plasmid (cause bacteria are too stupid to not spread genetic code)
		- Grow
		- Identify
	+ Treating diseases and producing medicine with biotechnology
		- Cure diseases
		- Treating diseases
			* Treatment of diabetes
				+ Some bacteria produce human insulin
				+ With this advancement, came other things
			* Human growth hormone (HGH)
			* Erythropoietin
	+ Curing disease
		- Some things cannot be cured without severe side effects
		- Sometimes the cure is only temporary
	+ Gene Therapy difficulties
		- Difficulty getting the working gene into the specific cells where it is needed
		- Difficulty getting the working gene into enough cells and at the right rate to have a physiological effect
		- Problems with the transfer organism getting into unintended cells
* Preventing diseases
	+ The chance that a certain set of parents will give birth to a diseases baby
	+ Will a baby be born with a genetic disease?
		- Cystic fibrosis
		- Sickle-cell anemia
		- Down syndrome
		- others