

Bio

## Ch. 5 DNA, Gene expression + Biotech (revisited)

10-25-12

- > DNA: contains instructions to make us (~5%)
  - 1/2 DNA gets passed down to offspring
  - Function, Structure, Replication?
  
- > DNA Structure = double helix
  - helix = two twisted strands (backbones)
  - Watson + Crick developed DNA model
  - A + T = relative to each other a C + G = relative to each other
    - A + T = relative to = C + G
  - Roselin Franklin: recognized for assisting Watson + Crick for discovering DNA structure
  - A + T: double bond } held by weak Hydrogen bonds
  - G + C: triple bond
  
- > DNA Function
  - not all DNA contains instructions (~95%)
    - instead they act as on/off switches
  - Inside nucleus DNA is transcribed into RNA (copy, T → U)
    - only RNA is allowed out of nucleus
  - Outside nucleus RNA is translated into DNA @ Ribosome
  
- > Steps for DNA copying
  - 1) unzip
  - 2) Take complement
  - 3) Change T's → U's
  - once a start code is found (AUG) it is translated into DNA

## Practice

#1 unzip	T A C	C A T	G A C	C C T	A T G	G G A
	↓	↓	↓	↓	↓	↓
#2 complement	A T G	G T A	C T G	G G A	T A C	C C T
#3 T→U	A U G	G U A	C U G	G G A	U A C	C C U
(Amino Acid)	Met	Glut	Leu	Gly	Tyr	Pro

> DNA > RNA > Protein

> Replication:

1-3) Same "Function" steps

4) DNA Proofread

5) Mistakes corrected

6) Process resumes