



The structure of DNA

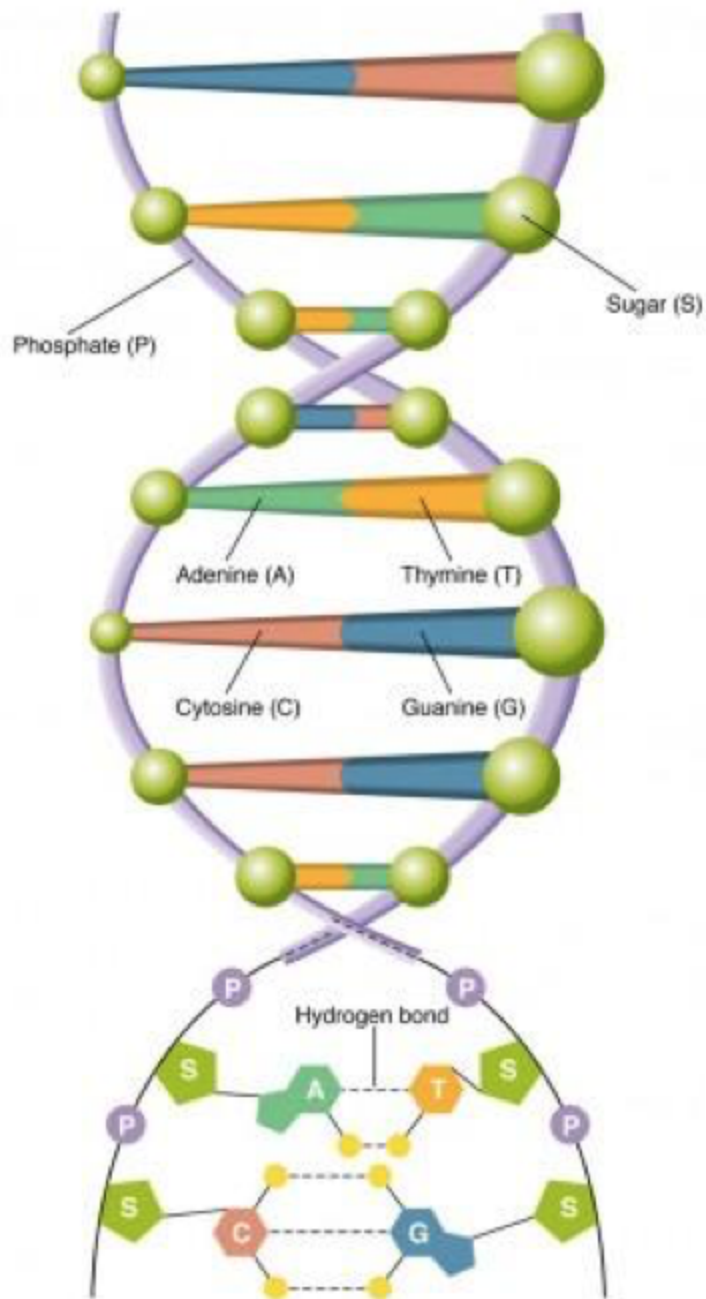
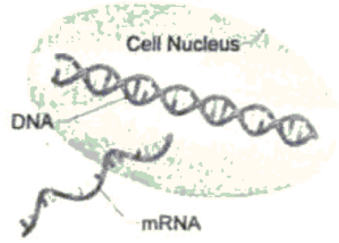


FIGURE 3.3

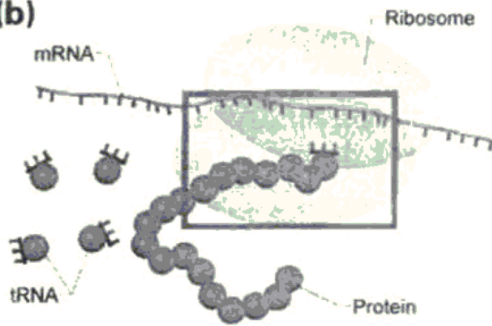


Figure 3.4. Transcription and Translation of DNA

(a)



(b)



(c)

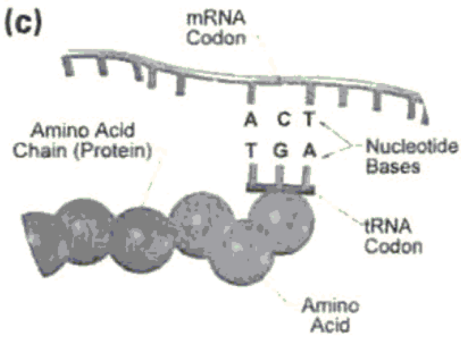
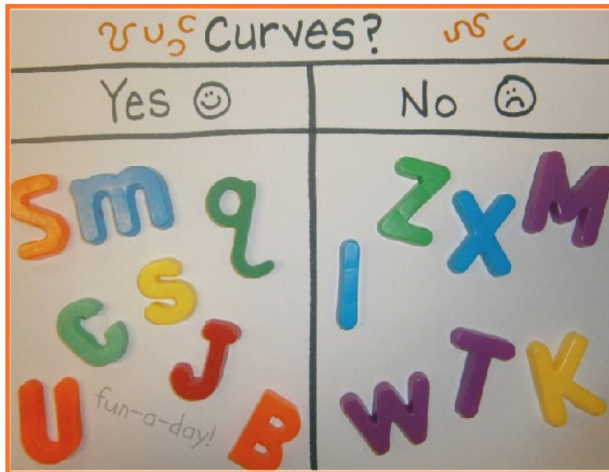


FIGURE 3.4



ADDITIONAL IMAGES

What is the difference between these two?



Not Random

- The letters stick to the board by magnetic force
- But the “sequence” or the “order” of the letters is put by someone who knows the Alphabet





Let us learn a bit more from a movie

- Pay attention to the part that says it is like a “book”
- Indeed – each organism is like a book that is written
- And this book is the DNA molecule

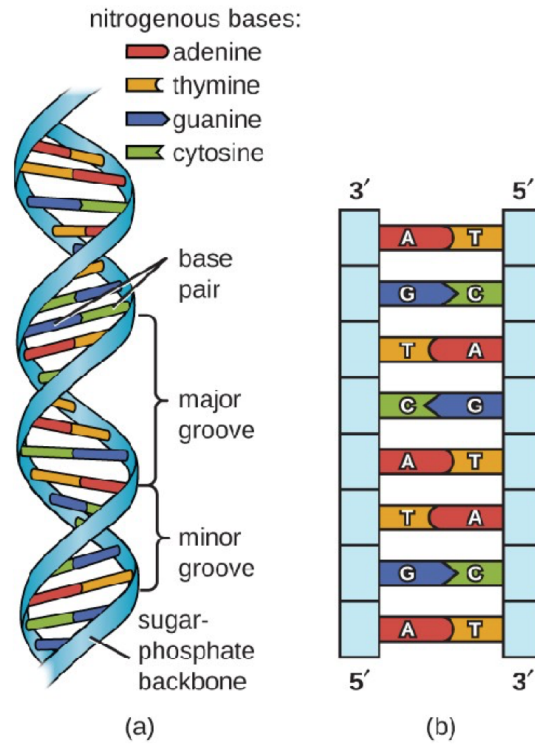
DNA

- It is a small piece called a molecule that stays in every cell of your body



The "order" of the letters

- A
- G
- T
- C
- A
- T
- G
- A
-
-
-



Each Species is its own book

Chimpanzee (*Pan troglodytes*)
 G T A T T G T G G A A A C C C A G T G

Butterfly (*Danaus plexippus*)
 A T G A T C C C G A C T A T T A C T A T G

Brown trout (*Salmo trutta*)
 T A C A T C A G C A C T A A C T C A A G G

Malayan spitting cobra (*Naja sputatrix*)
 A A C C G A C C G C T G C A A C A A C T G

Human (*Homo sapiens*)
 T C T G A G T T C T T A C T T C G A A G G

Flesh-eating microbe (*Mycoplasma alligatoris*)
 C A A C A G T G A T T A G G T T A C A C

Human (*Homo sapiens*)
 T C T G A G T T C T T A C T T C G A A G G

Sweet orange (*Citrus sinensis*)
 T G C T A C A G T T G T G T T G T T G G



It is exactly like “writing a book”

- Except the Writer of the Book has only 4 letters to use

- A
- T
- C
- G



A book –

- When you open a book what do you see? Or What is a book made of?

- A book contains **information** that is written in the form of **letters**
- There must be a **MIND** that has this Information

