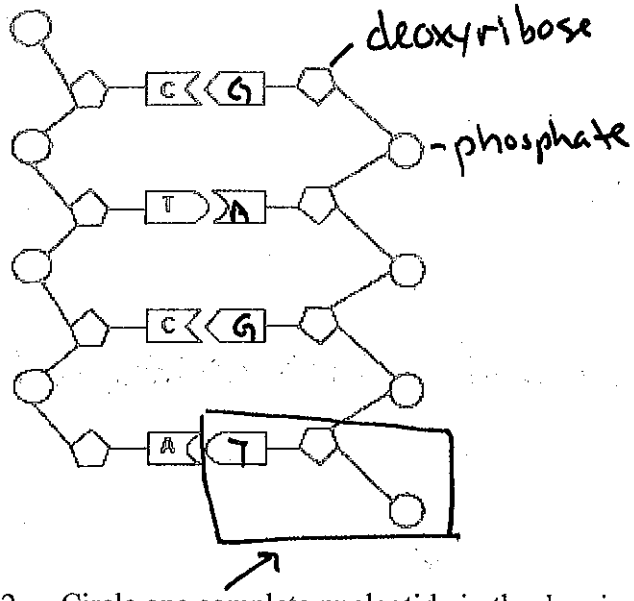
DNA:

1. Color in the diagram below using this key:
   - Deoxyribose – red
   - Phosphate – blue
   - Adenine – yellow
   - Cytosine – green
   - Guanine – orange
   - Thymine - black



2. Circle one complete nucleotide in the drawing above.
3. What are the parts of one nucleotide? 1 phosphate, 1-5 carbon sugar (deoxyribose), 1 nitrogenous base

Mitosis: - use internet activity to look at pictures

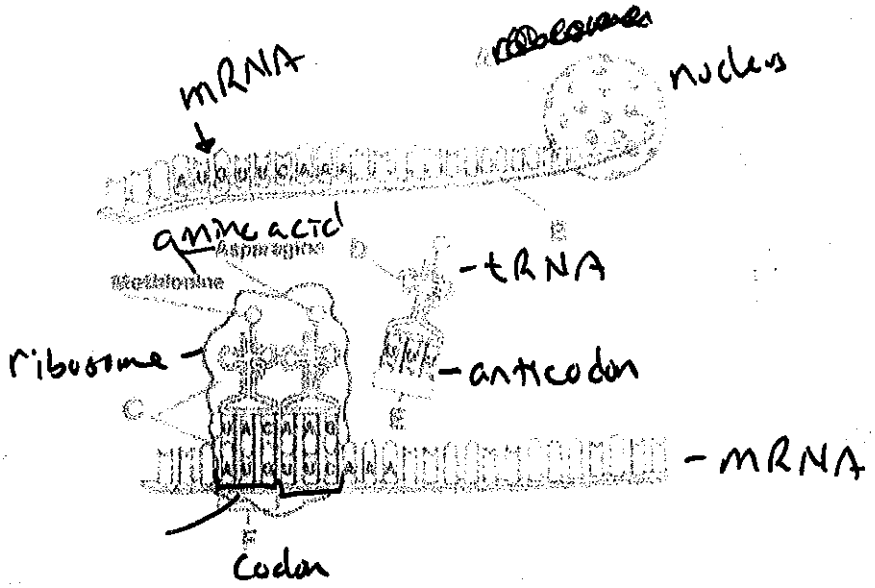
1. Be able to identify a drawing of each phase, the major events that occur in each phase, and the correct order in which the phases occur. Interphase, Prophase, Metaphase, Anaphase, Telophase

Protein synthesis:

1. Fill in the blanks in the following chart.

DNA - Template Strand	Complimentary DNA	mRNA	Amino Acids
TTACGG	AATGCC	AAUGCC	asn, ala
CCGCCG	GGCGGC	~~CCG~~ GGCGGC	Gly, Gly
TGCATC	ACGTAG	ACGUAG	Thr, stop
AGACTC	TCTGAG	UCUGAG	Ser, Glut
CTATTC	GATAAG	GAUAAG	Asp, Lys
GACCGATGT	CTGGCTACA	CUGGCUACA	Leu, Ala, Thr

2. Label the picture below using the following words: codon, anticodon, ribosome, nucleus, tRNA, mRNA, amino acid



3. Distinguish between transcription and translation.

Transcription: reads template strand of DNA → creates RNA.
replaces T w/ U

Translation: reads mRNA to create polypeptide (protein chain)

4. Fill in the table below:

	DNA	RNA
5-carbon sugar	deoxyribose	ribose
Nucleotides	A T G C	A U G C
Single or double stranded	double	single

Inheritance:

1. Buttercup flower color is determined by a gene with 2 alleles. Yellow (Y) is the dominant allele, and white (y) is the recessive allele.
   a. Draw a Punnett square for the cross between a white flowered plant and a heterozygous yellow plant, providing the probability of each resulting phenotype and genotype. yy Yy
   b. What is the probability that the resulting offspring will be yellow?

	Y	y
y	Yy	yy
y	Yy	yy

50% Yy
50% yy

50% yellow*
50% white