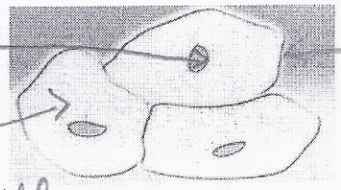
Review for Cell, mitosis, chromosomes, puberty and cycles test

1. Using the picture below label the cytoplasm, cell membrane, nuclear membrane and nucleus. Give the functions of each.

nucleus
brain of cell



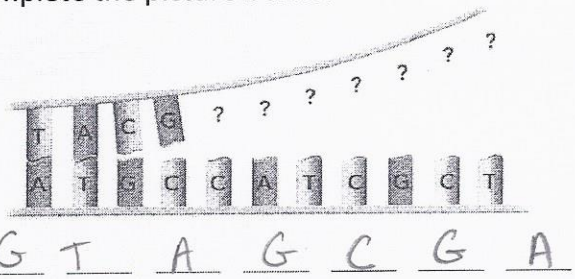
cell mem: protects cell + allows things to exit or enter the cell.

cytoplasm
: transporter of cell.

2. Explain how the terms, Chromosomes, genes, DNA and nucleotide are all connected to each other.

- Nucleotide = 1 DNA strand
- many nucleotides = DNA
- many DNA = gene segments
- genes make up chromosomes

3. a- Complete the picture below.



G T A G C G A

b- What do the letters represent? nitrogen bases

c- If you were to change the order of the letters, what would happen?

different trait would be produced.

4. Why will an area with low population and few tourists result in an increase of certain diseases? Because there is no genetic diversity so disease will continue to be passed on.

5. Give three reasons why cells will divide and determine if they divide from the process of mitosis or meiosis.

heal + grow = mitosis

Sexual reproduction = meiosis

6. Give three differences between diploid and haploid cells.

2n, somatic, 46chr

n, sex cells, 23 chr.

7. What are the functions of the following:

Tissues	Group of specialized cells
Organs	group of different tissues & have a specific function
Systems	Group of organs that work together
Organisms	an individual plant or animal
Genes	a segment of DNA found on chromosome
Chromosomes	46 - carry genes & DNA
Karyotype	organized picture of chromosomes
Hormones	chemicals which travel in the blood cause change
Glands	cells or organs which secrete hormones
Mitosis	cell division of somatic cells - 4 identical cells
Meiosis	cell division of sex cells - 4 different cells
Puberty	all the physiological & psychological changes
Erection	increase in penis volume
Ejaculation	semen released from penis
Pre-ejaculation	semen released from penis before ejaculation
Spermatogenesis	process of sperm production
DNA	carries all genetic material - double helix
Corpus luteum	remainder of the follicle which secretes progesterone

Oogenesis	process to oocyte becoming ovum
Follicle	oocyte
Oocyte	immature egg

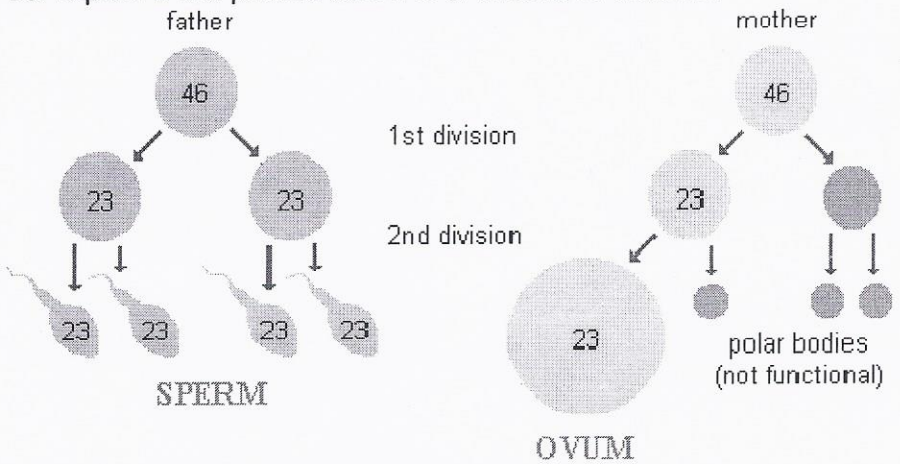
8. Fill in the table below

Meiosis characteristic	Mitosis characteristic
n	2n
sex cell	somatic cell
23 chr	46 chr
haploid	diploid
sex reprod.	heal & grow

9. Fill in the table below

Secondary sexual characteristics in males only	Secondary sexual characteristics in females only	Secondary sexual characteristics in both
- voice - muscle mass - broader shoulders	- breasts - hips - fatty tissues	- body & under arm hair - maturity

10. Explain if the picture below is of mitosis or meiosis.



Meiosis
diploid
becoming haploid

11. If the ovum is fertilized, explain what happens to the corpus luteum and endometrium.

corpus luteum stays intact & continues to secrete progesterone. Endometrium continues to grow because progesterone secreted.

12. Fill in the table below of what happens during the days of the menstrual cycle.

1-5	6-14	15-28	14	1-13	11-14
period	proliferation phase.	secretory phase	ovulation	oogenesis	fertile period

13. What is the follicle responsible for? secretes estrogen

14. What is LH responsible for? ovulation

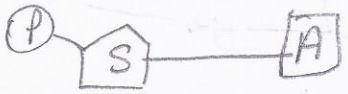
15. What is the corpus luteum responsible for? secrete progesterone

16. What is estrogen responsible for? causes LH to be secreted + start endometrium

17. What are the essential conditions for life on earth?

- time
- water
- chemicals
- energy source

18. Draw a picture on one nucleotide.



or T or C or G

19. In each picture use the appropriate terms from the following list: 2n, n, diploid and haploid.