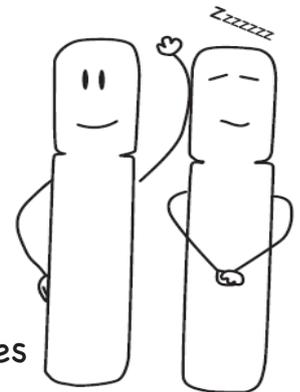


Genes and Chromosomes

In this lesson you should learn and be able to:

- Define the terms 'Gene' and 'Chromosome'
- Identify where chromosomes are found in the body
- Describe the basic structure and features of a chromosome
- Investigate the human Karyotype
- Diagnose conditions associated with chromosome abnormalities



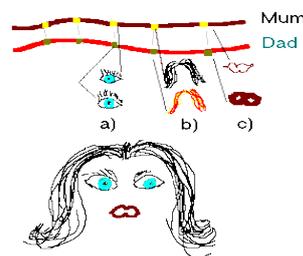
Refer to the PowerPoint on this topic to answer the following questions:

1. What is a gene?

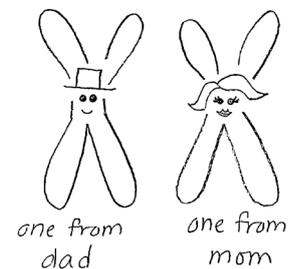
2. What are genes made of and what do they do?

3. Every person has two copies of each gene, one inherited from each parent.

These two, almost identical genes are called _____.



Genes, alleles and the result I



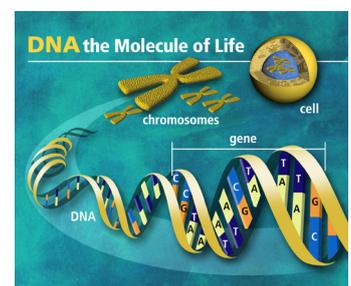
4. _____ are forms of the same gene with small differences in their sequence of DNA bases because they come from two different people – your parents.

5. The physical appearance of an organism, the organisms traits such as size, shape, colour or behaviour is called a _____.



6. What is a genotype?

7. _____ type describes the physical characteristics that we can see when we look at an organism, _____ type is hidden inside the cells, inside the cells' nucleus, and can only be seen with a microscope.

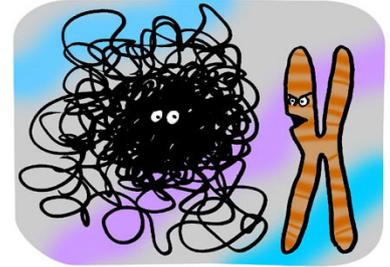


Genes and Chromosomes

8. Chromosomes are thread-like structures made up of _____ .

They are located inside the nucleus of animal and plant cells and can ONLY be seen under the microscope when the cells _____ .

This can happen during: _____ and _____ .



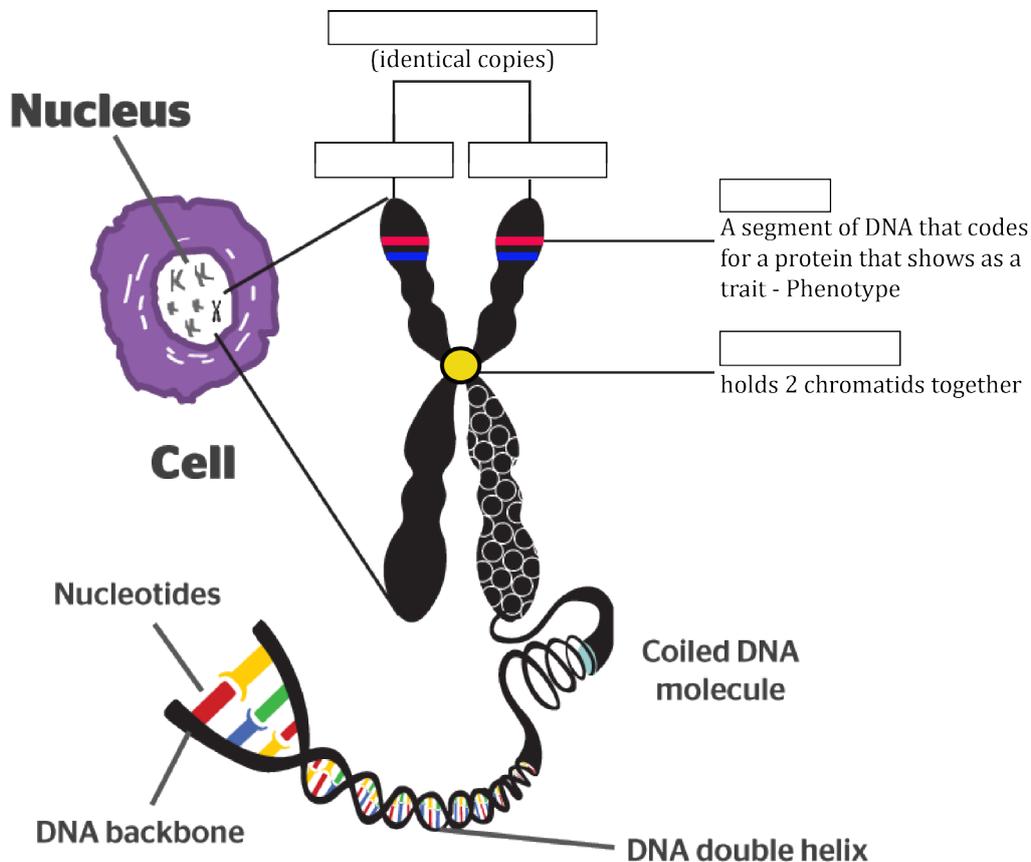
Dude, mitosis starts in five minutes...
I can't believe you're not condensed yet.

9. In human body cells (except gametes - egg and sperm) there are _____ chromosomes arranged in _____ pairs.

10. Do all species have the same numbers of chromosomes in their cells? (Yes/No) _____

11. If each species has a different arrangement (make up) of chromosomes, how do these vary or how are they different? _____

11. In the diagram below fill our the missing words in the squares provided.



12. In what part of a cell would you find a chromosome? _____

Genes and Chromosomes

13. We already know that chromosomes come in pairs...



14. All humans have ____ pairs of non-sex chromosomes called _____, and ____ pair of sex chromosomes.

16. The combination of sex chromosomes distinguishes (tells apart) females from males. There are 2 types of sex chromosomes ____ and ____ .

17. In females the sex chromosomes are the same/different (circle one).
Females have _____ chromosomes.

18. In males the sex chromosomes are same/different (circle one).
Males have an ____ and ____ chromosomes.