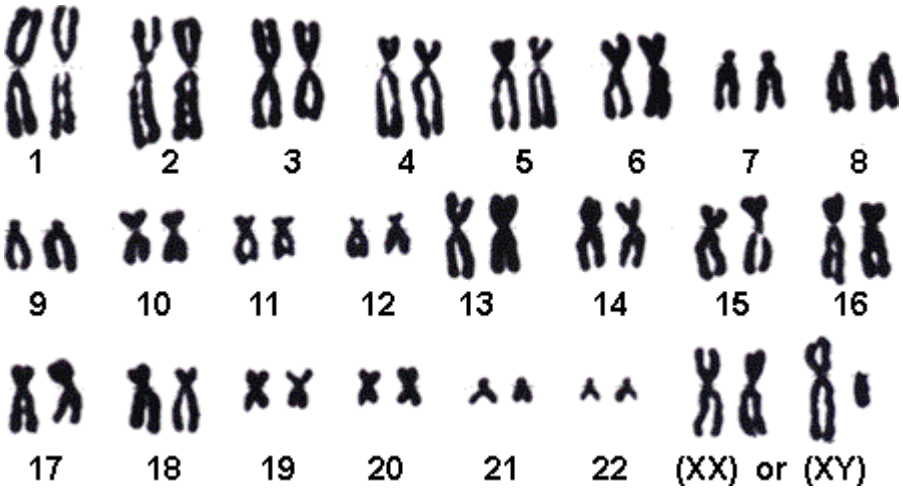
Inheritance

Task 1: Literacy Task

Read the passage below and answer the true or false questions based on the passage.

We have already learned that we inherit all our DNA from our parents and therefore we inherit a lot of traits from our parents, eg hair colour, ability to roll your tongue and eye colour.

Humans inherit 23 chromosomes from their mum and 23 from their dad. **A <u>chromosome</u> is a large tightly coiled strand of DNA**. Genes are found on chromosomes. **A <u>gene</u> is a short piece of DNA that carries the information for a particular trait**, for example the ability to roll your tongue.



You have 2 of each chromosome. 1 from your mum and 1 from your dad.

We inherit 2 copies of each gene (1 from your mum and 1 from your dad). For example, you may receive the gene for rolling your tongue from your mum but a gene that doesn't allow you to roll your tongue from your dad. **These different forms of the same genes are called <u>alleles</u>.**

The allele for rolling your tongue is dominant. **A <u>dominant</u> allele always shows up in the appearance of an organisms, even if only one copy is present**.

Some traits are recessive, such as blue eyes. **<u>Recessive alleles</u> only show up in the appearance of an organism if there are two copies present in the genotype.**

The alleles that an organism has for a characteristic, usually written as letters, **is referred to as it's <u>genotype</u>**. Whereas the **way an organism looks**

is referred to as it's <u>phenotype</u>. An easy way to remember this is to think phenotype – photo!

Genotypes can be <u>homozygous</u> or <u>heterozygous</u>. **Homozygous means that the two alleles you inherited from your parents are the same**, whereas **heterozygous means they are different.**

Correct the false statements

True or False

1. The genotype is the way an organism looks.
2. The phenotype can be homozygous or heterozygous.
3. Heterozygous is when there are two different alleles of the one gene.
4. Chromosomes are short pieces of DNA which code for a particular trait.

Task 2:

Using the passage above match the keywords to their correct definition.

Key words

To DO:

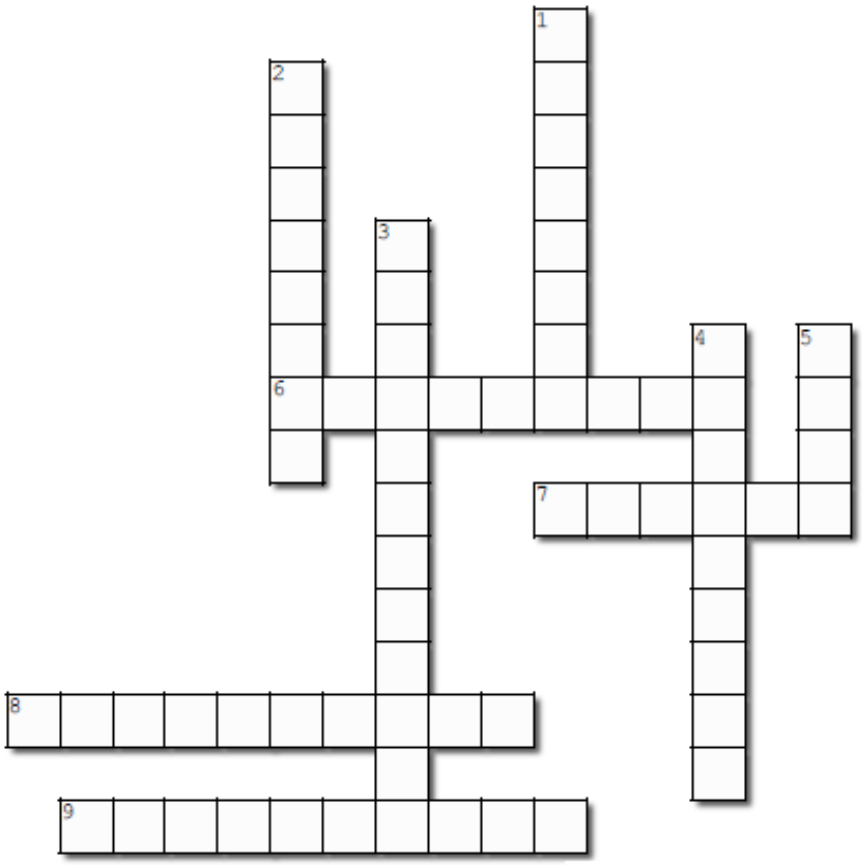
Phenotype	•This allele determines the development of a characteristic
Genotype	•The symbols used to identify genetic information (e.g Bb)
Allele	•This allele will determine a characteristic only if there are no dominant ones
Dominant	•This word refers to a pair of chromosomes being made of two different alleles of a gene
Recessive	•The characteristics a genotype (e.g. Bb) produce
Homozygous	•This word refers to a pair of chromosomes being made of two of the same alleles of a gene
Heterozygous	•Different forms of the same gene

Task 3:

Use your inheritance key words to complete the crossword puzzle.

Inheritance Key Words

Complete the crossword puzzle below using your knowledge of Inheritance.



Across

6. The physical appearance of an organism.
7. Different forms of the same gene
8. Describes a genotype in which the two alleles for the characteristic are the same
9. A very long, tightly coiled molecule of DNA

Down

1. Form of the gene that always shows up
2. The alleles a particular organism has for a characteristic (usually written as letters)
3. Describes a genotype in which the two alleles for the characteristic are different
4. Allele of a gene that only shows in the phenotype if there are two copies of the allele in the genotype.
5. A short section of DNA that codes for a particular characteristic