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| Science 9 | Unit A |
| Lesson 7: DNA and Heritable | 84 mins |

*We have looked in the past at inheritable traits, but we have yet to talk about how those traits are passed down.*

*There is two ways:*

* *DNA (Genetic)*
* *Environment (Taught)*

DNA

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| * Genetic material found in the nuclei of cells
* Double Helix (Ladder twisted)

Uses* Criminology
* Taxonomy (Classifying organisms)
* Archeology

*DNA Picture: How they saw a double helix in this picture is anyone’s guess…*DNA Structure**DRAW Again**DNA FormsChromosome: Tightly compact DNA standsGene: an uninterrupted segment of DNA, containing the coded instructions for lifeChromosomes * Humans have 46 (23 pairs)
* Dogs have 78 (39 pairs)
* Cats have 38 (19 pairs)
* Fruit Flies have 8 (4 pairs)

Code for Life:* Genes are located on the chromosomes
* Each chromosome contains numerous gene locations
* Like chromosomes, genes come in pairs
* Both genes in a pair carry DNA instructions for the same thing
* The DNA code may not be exactly the same in both locations

Alleles: The possible forms of a gene on a chromosome.  | * Deoxyribonucleic Acid
* **DRAW**

Found by:James Watson and Francis Crick.. and Rosalind Franklin (x-ray tech)A = Adenine T = Thiamine C = Cytosine G = GuanineOur bodies can replicate these molecules but some we have to eat proper proteins to get themMacintosh HD:private:var:folders:K-:K-mnU2zDGJ0SRTGleCBoA++++TI:-Tmp-:TemporaryItems:r22_chromosome.jpgChromosomes are always paired!From fruit fly researchDominate Alleles: that trait will show when paired with recessive or dominate allelesRecessive Alleles: that trait will ONLY show when paired with other recessive alleles |

Cell Division

*WATCH YOUTUBE MOVIE (https://www.youtube.com/watch?v=Ba9LXKH2ztU)*

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| Mitosis – The exact copying of a cell and DNA for reproduction of a cellMeiosis – The making of cells that have half the amount of chromosomes needed for a whole organism. | Examples: Somatic (body) cells for repairing damaged cells, Asexual reproductionExamples: Sex cells (gametes) used for reproductions during sexual reproduction. |

Practice: Pg. 45 #1,3,4,10

 Pg. 48 #1,2,3,7