

Genetics Unit

- **Covers: Genetic Materials, Mendelian Genetics and Inheritance Patterns**
- **Lesson & Engaging Activities**
- **Daily Teaching Schedule**



Genetics

Unit - Main Topics

- Genetic Material
- Mendelian Genetics
- Inheritance Patterns

Includes:

- 2 Lessons
- 5 Activities

Includes: Genetic Materials

- Structure of Nucleotides
- Functions of Nucleic Acids
- Humans vs. Chimps
- DNA vs. RNA
- Nitrogenous bases
- DNA Facts
- Genes
- DNA Hierarchy

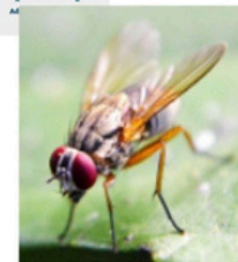
Includes: Genetics and Inheritance

- Mendel
- Laws of Inheritance
- DNA
- Genes
- Chromosomes
- Alleles



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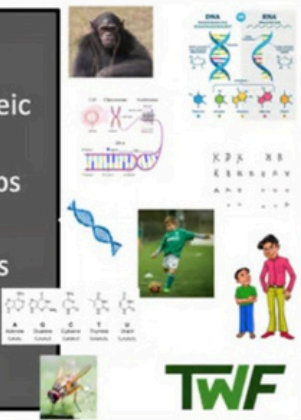
Seed		Flower	Pod		Stem	
Form	Cotyledons	Color	Form	Color	Place	Size
Grey & Round	Yellow	White	Full	Yellow	Axial pods, Flowers along	Long (6-7ft)
White & Wrinkled	Green	Violet	Constricted	Green	Terminal pods, Flowers top	Short (1-2ft)
1	2	3	4	5	6	7



Lessons Include Teacher and Student Versions - Videos Embedded in Lessons

Genetic Material - DNA and RNA

- Structure of Nucleotides
- Functions of Nucleic Acids
- Humans vs. Chimps
- DNA vs. RNA
- Nitrogenous bases
- DNA Facts
- Genes
- DNA Hierarchy



DNA Fact Concluded

- The functions remain unknown for over 50% of discovered genes
- Chromosome 1 has the most genes (~2,968) and chromosome Y has the least (~231)
- There are 100 trillion cells in your body
- If unwound and tied together, the strands of DNA in one cell would stretch 6 feet
- **If all the DNA in your body was tied together, it would stretch to the Sun and back over 600 times**
- The entire human genome requires more than 3 gigabytes of computer storage space
- If a person recited the genome at a rate of one nucleotide per second, 24 hours a day, it would take them a full century to complete



Videos embedded directly into the slides. One-click access.

DNA, Genes, Chromosomes, and Alleles

1. Mendel
2. Laws of Inheritance
3. DNA
4. Genes
5. Chromosomes
6. Alleles



Google Access

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**Google Classroom Ready
One-Click Google Slides Access**

Teacher Version

Genes

- Basic unit of heredity
- Sections of DNA
- Genes are passed down from parents to offspring.
- Code for traits
 - E.g. eye color, seed color, height, etc.



Student Version

Genes

- Sections of DNA
- Genes are passed down from parents to offspring.
- Code for traits
 - E.g. eye color, seed color, height, etc.



Student version contains blanks to be filled in

Engaging Activities

Genetics and Gene Therapy Scientific Reading Comprehension Article



Improve your students **Scientific Literacy** and **Analysis Skills**, use as an **Emergency Substitute Plan** or create **Applicability** in your classroom

Gregor Mendel Scientific Reading Comprehension Article



Improve your students **Scientific Literacy** and **Analysis Skills**, use as an **Emergency Substitute Plan** or create **Applicability** in your classroom

DNA and DNA Replication Word Search and Scramble

THREE Activities in One!

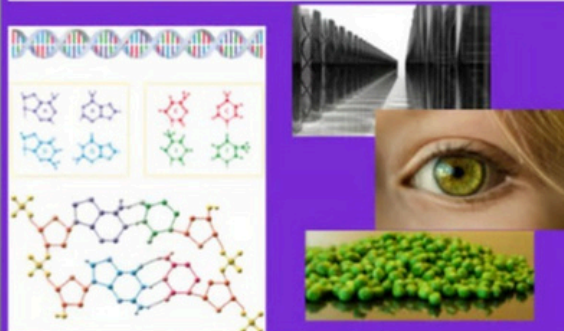
1. Basic 25-Term Word Search
2. Scrambled Words Word Search
3. Word Scramble and Define Activity



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DNA, Genes, Chromosomes, and Alleles Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Device-Based Scavenger Hunt DNA, Genes, Chromosomes, and Alleles



Includes

- 5 Unique Locations
- Online form submission
- Answer Key

Works on all smartphones, tablets, Chromebooks, and laptops

- 100% Digital
- Simulations
- Quizzes
- Videos
- Games
- and more



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Daily Teaching Schedule

UNIT – Genetics **9-10 DAYS TOTAL**

DNA Structure and Function – 7-8 days

Mendelian Genetics

Inheritance Patterns

Number of Day(s)	Course Content	Teaching Resources	NGSS
2	- Structure of Nucleotides - Functions of Nucleic Acids - Humans vs. Chimps - DNA vs. RNA - Nitrogenous bases - DNA Facts - Genes - DNA Hierarchy	Genetic Material - DNA and RNA - Google Slides and Distance Learning	HS-LS1-1 HS-LS3-1 HS-LS3-2 HS-LS3-3 HS-LS4-2 HS-LS4-3
1	- Mendel - Laws of Inheritance - DNA - Genes - Chromosomes - Alleles	DNA, Genes, Chromosomes, and Alleles - A Genetics Introduction Lesson	
0-1	Review activity	DNA and DNA Replication Word Search and Scramble Activity	
1	Hands-on review activity	DNA, Genes, Chromosomes, and Alleles – A Digital Scavenger Hunt Activity	
1	Hands-on review activity	DNA, Genes, Chromosomes, and Alleles - Lab Station Activity	
1	Review activity	Gregor Mendel - The Father of Genetics - A Famous Scientist Reading	
1	Review activity	Genetics and Gene Therapy - A Science Reading Comprehension	
Assessments	There are multiple assessments included throughout this unit. UNIT TEST		

The Following Resources are Included

Genetics Resources

- [Genetic Material - DNA and RNA - Google Slides and Distance Learning](#)
- [DNA, Genes, Chromosomes, and Alleles - A Genetics Introduction Lesson](#)
- [DNA and DNA Replication Word Search and Scramble Activity](#)
- [DNA, Genes, Chromosomes, and Alleles – A Digital Scavenger Hunt Activity](#)
- [DNA, Genes, Chromosomes, and Alleles - Lab Station Activity](#)
- [Gregor Mendel - The Father of Genetics - A Famous Scientist Reading](#)
- [Genetics and Gene Therapy - A Science Reading Comprehension](#)

Who's It For?

- **High School Biology Teachers**
- **Teachers using NGSS**
- **Teachers who want to increase their student's engagement and retention**
- **Teachers not looking to reinvent the wheel**



Save yourself the **STRESS AND TIME**



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Spend your time WISELY



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