***Grade Level/Course:***
Grade 7 Life Science

***Lesson/Unit Plan Name:***
**Chapter 5 Genetics: The Science of Heredity Card Sort**

***Rationale/Lesson Abstract:***
**Genetics vocabulary building, students identify and share vocabulary meaning.**

***Timeframe*:**
**10 to 20 minutes**

***Standard(s):***

**Genetics**

**2. A typical cell of any organism contains genetic instructions that specify its traits. Those traits may be modified by environmental influences.**

As a basis for understanding this concept, students know:

a. the differences between the life cycles and reproduction of sexual and asexual organisms.

b. sexual reproduction produces offspring that inherit half their genes from each parent.

c. an inherited trait can be determined by one or more genes.

d. plant and animal cells contain many thousands of different genes, and typically have two copies of every gene. The two copies (or alleles) of the gene may or may not be identical, and one may be dominant in determining the phenotype while the other is recessive.

e. DNA is the genetic material of living organisms, and is located in the chromosomes of each cell.

*Instructional Resources/Materials:*

***Optional: Prentice Hall 2008 Focus on Life Science text***
***P.148***

- *Paper cutter or scissors to cut out cards.*
- *Genetics vocabulary cards* – printed (class set) Enough for each student (See card sort below)
- Cut up cards, may be laminated for future use.

*Activity/Lesson:*

**Each student takes a genetics vocabulary card and searches for the student with the matching definition.**

**Once a match is found, students sit down together and write out definitions. These can be added to a yearlong vocabulary booklet.**

**There are several ways to have students pair up. Students can work in pairs, search for their match or mix and match in table groups.**

*Assessment:*

1. **Oral check at the end of class "Who can give me a definition of ……."**
2. **Students write a summary using vocabulary words.**

| | | |
|---|---|---|
| heredity | | The passing of traits from parents to offspring |
| trait | | A characteristic that an organism can pass on to its offspring through its genes |
| genetics | | The scientific study of heredity |
| fertilization | | The joining of a sperm and an egg |

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| purebred | | The offspring of many generations that have the same traits |
| gene | | The set of information that controls a trait; a segment of DNA on a chromosome that codes for a specific trait |
| alleles | | The different forms of a gene |
| dominant allele | | An allele whose trait always shows up in the organism when the allele is present |

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| recessive allele | | An allele that is masked when a dominant allele is present |
| hybrid | | An organism that has two different alleles for a trait; an organism that is heterozygous for a particular trait |
| probability | | A number that describes how likely it is that an event will occur |
| punnett square | | A chart that shows all the possible combinations of alleles that can result from a genetic cross |

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|---|---|---|
| phenotype | | An organism's physical appearance, or visible traits |
| genotype | | An organism's genetic makeup, or allele combinations |
| homozygous | | Having two identical alleles for a trait |
| heterozygous | | Having two different alleles for a trait |

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| codominance | | A condition in which neither of two alleles of a gene is dominant or recessive |
| Sexual reproduction | | A reproductive process that involves two parents that combine their genetic material to produce a new organism, which differs from both parents |
| diploid | | Describes a cell that has two sets of chromosomes, one from each parent |
| meiosis | | The process that occurs in the formation of sex cells (sperm and egg) by which the number of chromosomes is reduced by half |

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|---|---|---|
| messenger RNA | | RNA that copies the coded messages from DNA in the nucleus and carries the message into the cytoplasm |
| transfer RNA | | RNA in the cytoplasm that carries an amino acid to the ribosome and adds it to the growing protein chain |
| mutation | | A change in a gene or chromosome |
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