**Course Title: Science 9**



**Course Number:** 0\_SC091

**Course Length:** Year

**Course Credit:** 1.00

**Prerequisite(s):** Successful completion of Science 8

**Instructor(s):** Ms. Gracida, Ms. Leal, Ms. Wendt

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**Course Description:**

Grade 9 Science, through the use of group projects, activities, labs, critical thinking, problem solving, and data collection and analysis, students learn basic principles and concepts of the four major disciplines of science: biology, ecology, chemistry and physics. Topics include human impact on ecosystems, DNA structure and function, meiosis, human reproduction, electron configurations, chemical formulas, types of chemical equations, balancing chemical equations, radioactivity, vectors, and momentum. Students will be involved in a seven-month investigation of a science topic of their choice.

**Course Materials:**

**Textbook(s):**

*The textbook for this course is currently under review.*

**Novel(s):**

None

**Other:**

None

**Course Outline:**

Note: For more detailed information relating to the standards and benchmarks check the school website. Dates below are approximate.

**Chemistry-Quarter 1 (Aug 16-Oct. 12)**

STD 8 Understands the structure and properties of matter

STD 9 Understands the sources and properties of energy

**Ecology-Quarter 2 (Oct. 13-Dec. 12)**

STD 6 Understands relationships among organisms and their physical environment

**Biology-Quarter 3 (Jan. 8-Mar. 7)**

STD 4 Understands the principles of heredity and related concepts

**Physics-Quarter 4 (Mar. 8-May 25)**

STD 10 Understands forces and motion

**Nature of Science-Quarters 1-4**

STD 14 Understands the nature of scientific knowledge

STD 15 Understands the nature of scientific inquiry

Grading Policies and Practices:

Grades earned during the year, prior to the semester exam, will be based upon the content grading categories listed below. The final grade calculation for the year will consist of 80% of all grades earned in the content grading categories from the year and 10% from each semester exam for a total of 100%.

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| **Year-Long Grading** | |
| **Content Grading Category Names and Abbreviations** | **Percentage (total = 100%)** |
| 9SC - Chemistry (CHEM9SC) | 17 |
| 9SC - Ecology (ECOL9SC) | 17 |
| 9SC - Biology (BIO9SC) | 17 |
| 9SC - Physics (PHYS9SC) | 17 |
| 9SC - Science Fair (SCIF9SC) | 17 |
| 9SC - School-Wide Dispositions (DISPS9SC):  Group Work, Self-Discipline, Work/Study Habits | 10 |
| 9SC - School-Wide Skills (SKILLS9SC):  Comparing, Non-Fiction Writing | 5 |
| **Final Grade Calculation** | |
| **Final Grading Category Names and Abbreviations** | **Percentage (total = 100%)** |
| All Grading Categories Above (A0) | 80 |
| 9SC - Semester Exam 1 (EX19SC) | 10 |
| 9SC - Semester Exam 2 (EX29SC) | 10 |

Grade 9 Science is a standards and benchmarks based program and grades are broken down by the standards and/or benchmarks studied each quarter. The purpose of grading by standards and/or benchmarks is to allow the student to view the grade in parts as a way to prepare for unit and semester exams and as teacher feedback about how well you understand the material presented. Each assignment, project, test, quiz, and exam will be linked to a standard to be sure the student identifies with the conceptual knowledge they should gain from the course. The major components of the grade are as follows:

65% from Academics:

\*Assignments, projects, quizzes, tests, presentations.

\*Split between standards and/or benchmarks for the quarter.

\*Standards of greater importance and that require more time to study will receive a higher percentage.

All students are expected to complete all work and turn it in on time. The work assigned is directly related to the standards and/or benchmarks listed in the course outline and all other assessments will check your understanding of these major concepts.

5% from Skills:

This bin will mainly focus on the skill of compare and contrast.

10% from Disposition:

This bin includes group work, self-discipline and work/study habits.

**20% from Exams**

Each semester has an exam on the semester’s content. Students may exempt the second semester exam if the teacher consents and their overall grade is 90% or higher.

NOTE: The teacher reserves the right to make modifications to the list of graded assessments, their point and weight values as necessary for instructional purposes.

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| **Graded Assessment Tools: Chemistry** | | | | | |
| **S-B Addressed** | **Assessment Name** | **Assessment Type** | **Grading Category** | **Points Possible** | **Weight** |
| SC9.8.1 | PERIODIC TABLE | QUIZ | CHEM | 58 |  |
| SC9.8.3 | ATOMS AND IONS QUEST | TEST | CHEM | 50 | .20 |
| SC9.8.2 | MIXED NAMING WORKSHEET | HW | CHEM | 40 | .12 |
| SC9.8.1-3 | COMPOUND NAMING QUIZ | QUIZ | CHEM | 24 | .21 |
| SC9.8.5 | CONS OF MASS LAB | LAB | CHEM | 30 | .20 |
| SC9.8.5 | WORD/SKELETON EQS | HW | CHEM | 23 | .18 |
| SC9.8.5 | COMPOUND REACTION QUEST | TEST | CHEM | 36 | .28 |
| SC9.8.4 | IONIC COVALENT COMPARE | HW | SKILLS | 8 | 1.0 |
| SC9.9.1 | REACTION LAB | LAB | CHEM | 44 | .16 |
| SC9.8.4 | HALFLIFE LAB | LAB | CHEM | 30 | .13 |
| SC9.8.1-5 | CHEMISTRY PROJECT | PROJ | CHEM | 68 | .22 |
| SC9.8.1-5 | CHEMISTRY UNIT TEST | TEST | CHEM | 100 | .30 |

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| **Graded Assessment Tools: ECOLOGY** | | | | | |
| **S-B Addressed** | **Assessment Name** | **Assessment Type** | **Grading Category** | **Points Possible** | **Weight** |
| SC9.6.1 | ECOLOGY QUIZ | QUIZ | ECOL | 25 | .30 |
| SC9.6.2 | FOOD WEB | PROJ | ECOL | 80 | .05 |
| SC9.6.1-2 | SCIENCE OF FROGS | HW | ECOL | 22 | .07 |
| SC9.6.1-3 | ECOLOGY QUEST | TEST | ECOL | 30 | .30 |
| SC9.6.1-3 | TBA | HW | SKILLS | 30 | 1 |
| SC9.6.3 | OH DEAR ACTIVITY | LAB | ECOL | 40 | .1 |
| SC9.6.3 | DYNAMICS QUEST | TEST | ECOL | 40 | .23 |
| SC9.6.3 | PREDATOR PREY ASSIGNMENT | HW | ECOL | 20 | .25 |
| SC9.6.1-3 | HUMAN POPULATION ASSIGNMENT | HW | ECOL | 32 | .31 |
| SC9.6.1-3 | ECOLOGY PROJECT | PROJ | ECOL | 40 | .5 |
| SC9.6.1-3 | ECOLOGY UNIT TEST | TEST | ECOL | 60 | .5 |

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| **Graded Assessment Tools: BIOLOGY** | | | | | |
| **S-B Addressed** | **Assessment Name** | **Assessment Type** | **Grading Category** | **Points Possible** | **Weight** |
| SC9.4.1 | DIVISION QUIZ | QUIZ | BIO | 47 | .11 |
| SC9.4.3 | DNA MODEL | LAB | BIO | 40 | .25 |
| SC9.4.1 | MITOSIS MEIOSIS CHART | HW | BIO | 30 | .17 |
| SC9.4.1,3 | DIVISION UNIT TEST | TEST | BIO | 50 | .3 |
| SC9.4.1 | DIVISION COMPARE | HW | SKILLS | 8 | 1 |
| SC9.4.3 | GATTICA PAPER | HW | BIO | 35 | .28 |
| SC9.4.2 | SYSTEMS QUIZ | QUIZ | BIO | 45 | .11 |
| SC9.4.2 | MALE FEMALE CHART | HW | BIO | 40 | .12 |
| SC9.4.2 | FERTILIZATION QUIZ | QUIZ | BIO | 40 | .12 |
| SC9.4.2 | MALE VS FEMALE COMPARE | HW | SKILLS | 8 | 1 |
| SC9.4.2 | BIOLOGY PROJECT | PROJ | BIO | 35 | .57 |
| SC9.4.2 | REPRODUCTION UNIT TEST | TEST | BIO | 75 | .27 |

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| **Graded Assessment Tools: PHYSICS** | | | | | |
| **S-B Addressed** | **Assessment Name** | **Assessment Type** | **Grading Category** | **Points Possible** | **Weight** |
| SC9.10.1 | 1D ASSIGNMENT | HW | PHYS | 25 | .2 |
| SC9.10.2 | 2D ASSIGNMENT | HW | PHYS | 42 | .12 |
| SC9.10.1 | 1D QUIZ | QUIZ | PHYS | 17 | .50 |
| SC9.10.2 | 2D QUIZ | QUIZ | PHYS | 29 | .35 |
| SC9.10.2 | COMPONENTS QUIZ | QUIZ | PHYS | 12 | .50 |
| SC9.10.1 | VECTOR MAPPING | HW | PHYS | 20 | .50 |
| SC9.10.1 | MIXED VECTORS ASSIGNMENT | HW | PHYS | 90 | .07 |
| SC9.10.1 | VECTORS TEST | TEST | PHYS | 80 | .25 |
| SC9.10.1 | VECTOR PHOTO PROJECT | PROJ | PHYS | 100 | .15 |

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| **Graded Assessment Tools: SCIENCE FAIR** | | | | | |
| **S-B Addressed** | **Assessment Name** | **Assessment Type** | **Grading Category** | **Points Possible** | **Weight** |
| SC9.15.1-2 | HEART RATE EXPERIMENT | LAB | SCIF | 21 | .86 |
| SC9.15.1 | INTRODUCTION | PROJ | SCIF | 36 | 1 |
| SC9.15.2 | PROCEDURE | PROJ | SCIF | 36 | 1 |
| SC9.15.2 | OBSERVATION/CONCLUSION | PROJ | SCIF | 36 | 1 |
| SC9.15.1-3 | FINAL REPORT | PROJ | SCIF | 36 | 1 |
| SC9.15.1-3 | DISPLAY BOARD | PROJ | SCIF | 36 | 1 |
| SC9.15.1-3 | JUDGES SCORE | PROJ | SCIF | 100 | .36 |