

## Dominican International School Kaohsiung



### Course Syllabus

**Subject:** Science

**Teacher:** Mr. Costea

**Email:** gcostea@disk.kh.edu.tw

**School Year:** 2023-24

**Grade:** 5

#### **Course Description:**

Grade 5 science uses the *Science Fusion* textbooks in accordance with the Next Generation Science Standards (NGSS). Students have the opportunity to think critically about the world around them as they explore topics in the areas of the nature of science, life science, earth science, and physical science. Learning activities include hands-on experimentation, group discussions, independent reading and response, and research projects.

#### **Grade 5 NGSS Science Standards Overview**

- ❖ **Engineering Design:** Define a simple design problem, generate and compare possible solutions, plan and carry out tests where variables are controlled and failure points are considered.
- ❖ **Earth's Systems:** Develop a model to describe how the geosphere, biosphere, hydrosphere, and atmosphere interact.
- ❖ **Earth and Human Activity:** Obtain information about the ways individual communities use science ideas to protect the Earth's natural resources.
- ❖ **Molecules to Organisms: Structures & Processes:** Support an argument that plants get the materials they need for growth chiefly from air and water.
- ❖ **Ecosystems: Interactions, Energy and Dynamics:** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
- ❖ **Motion and Stability: Forces & Interactions:** Support an argument that the gravitational force exerted by Earth on objects is directed down.
- ❖ **Energy:** Use models to describe the energy in animals' food (used for body repair, growth, motion, and warmth) was once energy from the sun.
- ❖ **Earth's Place in the Universe:** Support an argument that the apparent brightness of the sun compared to other stars is due to relative distance. Represent data in graphical displays to reveal patterns of daily changes.

#### **Course Textbooks/Programs:**

Primary Textbook:

DiSpezio, M., et. al. (2012). *Science Fusion*. Houghton Mifflin Harcourt.

#### **Class Materials Required:**

- Science Textbook Vol. 1 & 2
- Materials listed on the *Homeroom Supplies* list

### **Classroom Expectations**

In order to promote a safe and positive classroom community and an environment conducive to learning, all students will:

#### **Respect Self**

- Listen and follow directions the first time they are given
- Come to class prepared and on time
- Complete all assignments
- Choose to use words that are appropriate for school
- Speak only in English
- Do your best!

#### **Respect Others**

- Listen actively to what others have to say and take turns in conversations
- Raise your hand before speaking
- Follow all of the DISK Handbook rules and procedures

#### **Respect Property**

- Handle all school and classroom equipment appropriately and with care
- Ask before touching other people's belongings

### **Assessment:**

Formative, summative, and pre-assessments in the form of projects, quizzes, homework assignments, presentations, quizzes, tests, and quarter exams contribute to the final quarter grade. In addition, students will be assessed for deportment following the DOP STARS Deportment Rubric. See the table below for a breakdown of quarterly/yearly grading percentages.

30%	Class Participation & Seatwork, Homework
30%	Minor Projects, Portfolio, Unit Tests & Major Projects
30%	Quarter Exam/Assessment
10%	Deportment

### **Quarter One - Course Content**

<b>Week/Dates</b>	<b>TOPIC/TARGETS</b>
Week 1	<b>Progress Testing</b>
Week 2	<b>Unit 1 How Scientists Work</b> Lesson 1 & 2 What is Science?/Inquiry
Week 3	<b>Unit 1 How Scientists Work</b> Lesson 3 & 4 Types of Investigations/Inquiry
Week 4	<b>Unit 1 How Scientists Work</b> Lesson 5 & 6 What are some science tools?/Inquiry
Week 5	<b>Unit 2 The Engineering Process</b> Lesson 1 What is the Design Process?
Week 6	<b>Unit 15 Forces and Motion</b> Lesson 1 & 2 What are Forces?/Inquiry
Week 7	<b>Unit 15 Forces and Motion</b> Lesson 1 & 2 What are Forces?/Inquiry
Week 8	Unit 2/Unit 15 Design Process Inquiry
Week 9	<b>EXAM WEEK</b>

## Quarter Two - Course Content

Week/Dates	TOPIC/TARGETS
Week 1	<b>Unit 3 Cells to Body Systems</b> Lesson 1 What are cells? Lesson 2 How can we observe cells?
Week 2	<b>Unit 3 Cells to Body Systems</b> Lesson 3 How do cells work together?
Week 3	<b>Unit 3 Cells to Body Systems</b> Lesson 3 How do cells work together?
Week 4	<b>Unit 3 Cells to Body Systems</b> Lesson 4 How do our bodies move, breathe, and circulate blood?
Week 5	<b>Unit 3 Cells to Body Systems</b> Lesson 5 How do our bodies digest food, remove wastes, and send messages? Lesson 6 How does the body stay cool?
Week 6	<b>Unit 4 How Living Things Grow and Reproduce</b> Lesson 1 How are living things grouped? Lesson 2 What is a dichotomous key?
Week 7	<b>Unit 4 How Living Things Grow and Reproduce</b> Lesson 3 How do plants grow and reproduce? Lesson 4 What factors affect germination rate?
Week 8	<b>Unit 4 How Living Things Grow and Reproduce</b> Lesson 5 How do animals grow and reproduce?
Week 9	<b>EXAMS</b>

## Quarter Three - Course Content

Week/Dates	TOPIC/TARGETS
Week 1	<b>Unit 5 Ecosystems</b> Lesson 1 What is an ecosystem? Lesson 2 What makes up a land ecosystem?
Week 2	<b>Unit 5 Ecosystems</b> Lesson 3 How do environmental changes affect organisms?
Week 3	<b>Unit 5 Ecosystems</b> Lesson 4 How does drought affect plants?
Week 4	<b>Unit 5 Test</b> <b>Unit 6 Energy and Ecosystems</b> Lesson 1 What are the roles of organisms in ecosystems?
Week 5	<b>Unit 6 Energy and Ecosystems</b> Lesson 2 How does energy move through ecosystems? Lesson 3 What role do decomposers play?
Week 6	<b>Unit 6 Test</b> <b>Unit 7 Natural Resources</b> Lesson 1 How do people use resources?
Week 7	<b>Unit 7 Natural Resources</b> Lesson 2 How do people conserve resources?
Week 8	<b>Unit 7 Natural Resources</b> Lesson 3 How can we conserve resources?
Week 9	<b>EXAMS</b>

### Quarter Four - Course Content

Week/Dates	TOPIC/TARGETS
Week 1	<b>Unit 12 The Solar System and the Universe</b> Lesson 1 What objects are part of the solar system? Lesson 2 How do we observe objects in the solar system?
Week 2	<b>Unit 12 The Solar System and the Universe</b> Lesson 3 What are stars and galaxies?
Week 3	<b>Unit 12 Test</b> <b>Unit 13 Matter</b> Lesson 1 What are solids, liquids, and gases? Lesson 2 How does water change?
Week 4	<b>Unit 13 Matter</b> Lesson 3 How does matter change?
Week 5	<b>Unit 13 Matter</b> Lesson 4 What are mixtures and solutions? Lesson 5 What affects the speed of dissolving?
Week 6	<b>Unit 13 Matter</b> Lesson 5 What affects the speed of dissolving?
Week 7	<b>Unit 13 Matter</b> Lesson 6 What is the Atomic Theory?
Week 8	<b>EXAMS</b>