



Dominican International School
台北市私立道明外僑學校
No. 76, Dazhi Street, Taipei (104042), Taiwan, R.O.C.
10464 臺北市中山區大直街 76 號



COURSE SYLLABUS

School Year	2025-2026
Subject	Middle School Science 3
Grade Level	8
Teacher	Ms Janice Doyle
Email	jdoyle@dishs.tp.edu.tw

COURSE DESCRIPTION

The focus of the Grade 8 Science is an integrated science course that explores the scientific method through the study and experimentation of topics in Physical Science, Life Science and Earth & Space Science. Students will investigate and draw conclusions from learning activities that are designed to foster critical thinking and inquiry.

The teaching session consists of 5 periods (45 minutes) per week, running from August 2019 till May 2020. The nature of the subject relates to explanation, comprehension, comparison, analysis and application of the learned knowledge.

Science projects will be carried out for the science fair, where pupils create their own experiments/ investigations, and present their science inquiry via both poster and oral presentation. Scientific thinking will be introduced and step-wise guidance will offer to help pupils understand the nature of science.

COURSE OBJECTIVES

The science curriculum adapts the Next Generation Science Standards (NGSS). In Grade 8 students continue working towards the achievement of the Middle School NGSS Standards. The standards for each sub- topic are described in narrative form below:

Middle School Physical Sciences

Students in middle school continue to develop understanding of four core ideas in the physical science. The middle school performance expectations in the Physical Sciences build on the K-5 ideas and capabilities to allow learners to explain phenomena central to the physical sciences but also to the life sciences and earth and space science. The performance expectations in physical science blend the core ideas with scientific and engineering practices and crosscutting

concepts to support students in developing useable knowledge to explain real world phenomena in the physical, biological, and earth and space sciences. In the physical sciences, performance expectations at the middle school level focus on students developing understanding of several scientific practices. These include developing and using models, planning and conducting investigations, analyzing and interpreting data, using mathematical and computational thinking, and constructing explanations; and to use these practices to demonstrate understanding of the core ideas. Students are also expected to demonstrate understanding of several of engineering practices including design and evaluation.

Middle School Life Sciences

Students in middle school develop understanding of key concepts to help them make sense of the life science. These ideas build upon students' science understanding from earlier grades and from the disciplinary core ideas, science and engineering practices, and crosscutting concepts of other experiences with physical and earth sciences.

There are five life science topics in middle school:

- 1) Structure, Function, and Information Processing,
- 2) Growth, Development, and Reproduction of Organisms,
- 3) Matter and Energy in Organisms and Ecosystems,
- 4) Interdependent Relationships in Ecosystems, and
- 5) Natural Selection and Adaptations.

The performance expectations in middle school blend core ideas with scientific and engineering practices and crosscutting concepts to support students in developing useable knowledge across the science disciplines. While the performance expectations in middle school life science couple particular practices with specific disciplinary core ideas, instructional decisions should include use of many science and engineering practices integrated in the performance expectations. The concepts and practices in the performance expectations are based on the grade-band endpoints described in A Framework for K-12 Science Education (NRC, 2012).

Middle School Earth and Space Sciences (ESS)

Students in middle school develop understanding of a wide range of topics in Earth and space science that build upon science concepts from elementary school through more advanced content, practice, and crosscutting themes. There are six ESS standard topics in middle school: Space Systems, History of Earth, Earth's Interior Systems, Earth's Surface Systems, Weather and Climate, and Human Impacts. The content of the performance expectations is based on current community-based geoscience literacy efforts such as the Earth Science Literacy Principles (Wyssession et al., 2012), and is presented with a greater emphasis on an Earth Systems Science approach. The performance expectations strongly reflect the many societally relevant aspects of ESS (resources, hazards, environmental impacts) as well as related connections to engineering and technology.

GRADING SYSTEM / ASSESSMENT

Assessment is an essential component of the learning process. It is also the key to unlock what students have actually learned. Classroom formative assessment will be given to students throughout the year to collect feedback on how well they are learning. Students also will be assigned homework. Section or chapter tests will be given to students to evaluate their knowledge and ability to apply science concepts, and to cultivate critical thinking. Summative exams conducted quarterly aim to assess students' learning and to structure their academic efforts.

Homework and classwork are graded based on the level of completion and submission dates. Students are responsible for checking an assignment's due date, which will be posted on Google Classroom. Students are expected to submit work by the due date, during class time, even if the teacher has not given a verbal reminder. Any late work suffers a **10%** deduction after 1 day, and a maximum score of **60%** thereafter. Students also have to go to Project I to complete the assignment. Students who are absent are responsible for keeping up with the class by doing the work assigned, and submitting homework due on their return to school.

Tests and Quarterly Exams are announced in advance. Pop Quizzes are unannounced and can be given at any time during the class, so students must come to class prepared. Students who miss a scheduled Test or Quarterly Exam must make up the test/exam ASAP on their return to school. The student must bring a medical certificate or proof of an emergency on the day he/she returns to school. **FAILURE TO DO SO WILL RESULT IN A ZERO BEING GIVEN FOR THE TEST/EXAM.** If the student does not make up the test/exam at the earliest, a maximum score of **60%** will be given. If a student is absent for more than one test/exam, additional penalties will be given.

All work done by the students will be graded and used for formative or summative assessment. A variety of assessment tools will be used to evaluate performance.

Grades will be computed following the school wide policy of:

30% Classwork, Homework and Projects

30% Tests

30% Quarter Exam

10% Deportment.

PRIMARY TEXTBOOK & OTHER RESOURCES

- Inspire Science. *Biggs, A. L. et. al. 2020 STEM Learning Solutions* McGraw Hill Education, Copyright 2020. ISBN 978-0-07-687530-6
- Google Classroom offers the web-based platform for effective instructional communications and formative feedback. It is accessible not only to pupils, but also to parents and the school. Video clips, interactive learning programs, and web-based learning tools, such as iScience, are also used to facilitate and stimulate learning.
- Notepaper, writing utensils (including different coloured pens & colour pencils) and a **binder** with plastic sleeves for storing **ALL** notes, assignments, etc.

ADDITIONAL INFORMATION

Please see Google Classroom for more information.

Class codes: Saint Catherine of Siena – **itffkjsa**
Saint Agnes of Montepulciano – **vsuxsivq**

ACADEMIC DISHONESTY

Academic Dishonesty means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at DIS. Academic dishonesty includes but is not limited to, the following:

- Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's work;
- Representing another's intellectual work, such as photographs, paintings, drawings, sculpture, research, or the like, as one's own, including failure to attribute content to an AI.
- Employing a tutor, using Artificial Intelligence without acknowledgment, getting a parent to write a paper or do an assignment, and paying for an essay to be written by someone else and presented as the student's work.
- Committing any act that a reasonable person would conclude, when informed of the evidence, to be a dishonest means of obtaining or attempting to obtain credit for academic work.

Any act of academic dishonesty will result in an automatic zero on the entire assignment
<https://apastyle.apa.org/style-grammar-guidelines/citations/plagiarism>

GR. 8 - SCIENCE 3 2025-2026 S1
1st QUARTER – TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
Week 1 (August 12 to 15) 12 - General Assembly ~ Gym 15 - Opening Mass & Assumption of Our Lady	Introduction to the course Unit 1 – Change Over Time Module 1: Geologic Time Lesson 1: Analyzing the Rock and Fossil Records
Week 2 (August 18 to 22) 18 - St. Dominic Feast Day Celebration ~ Monday Assembly 20 - House Shirt & Blue Jeans Day 22 - Club Orientation & Sign-up	Lesson 1: Analyzing the Rock and Fossil Records Lesson 2: Building a Time Line
Week 3 (August 25 to 29) 27 - High School Talk 29 - First Club Meeting	Module 2: Natural Selection and Adaptations Lesson 1: How Traits Change
Week 4 (September 1 to 5) 1 - World Day of Prayer for the Care of Creation ~ Assembly 5 - House Ceremony	Lesson 2: The Theory of Evolution by Natural Selection
Week 5 (September 8 to 12) 8 - Holy Mass: Nativity of the Blessed Virgin Mary & VIP Induction 10 - House Mini Games Start	Lesson 3: Artificial Selection
Week 6 (September 15 to 19) 15 - Catholic Bridge Program: New Students 19 - Athletics / Sports Orientation	Module 3: Evidence of Evolution Lesson 1: Fossil Evidence of Evolution
Week 7 (September 22 to 26) 22 - International Peace Day Celebration Peace Pole Ceremony ~ Monday Assembly 26 - Teacher's Day Celebration 24 to 26 - Pre-Exam Days	Lesson 2: Biological Evidence of Evolution
Sept. 29	Confucius Day Holiday
Week 8 (Sept. 30 to Oct. 3) Oct. 1 & 2 - First Quarter Exams 3 - Record Day	Exam Review Q1 Exams
Oct. 3	DIS Teachers and Staff Recognition Day/ Record Day Recollection for Aunties and Uncles (no classes for students)
Week 9 (Oct 7 th to 9 th)	Teachers' Conference

2nd QUARTER TENTATIVE COURSE CONTENT

Week / Date	Topic / Projects / Assessments
Week 1 (10) (October 13 to 17) 13 - Second Quarter Begins 14 - Visit of Mother Mary to Classrooms (During morning prayer) 15 - Monthly Career Talk ~ College Prep	Unit 2 – Energy and Motion Module 1: Forces and Motion Lesson 1: Position and Motion Discuss Q2 Exam Projects (Will work on project every week)
Week 2 (11) (October 20 to 24) 20 - Jubilee: Marian Exhibit Opening ~ Monday Assembly Campus Safety Talk for Students 24 - Book Fair, Sr Escape Room	Lesson 2: Force and Acceleration
Week 3 (12) (October 27 to 31)	Lesson 3: Force Pairs Lesson 4: Gravitational Force
Week 4 (13) (November 3 to 7) 3 - Feast of St. Martin de Porres Mass ~ Monday Assembly 5 - Monthly Career Talk ~ College Prep	Module 2: Mechanical Energy Lesson 1: Kinetic Energy
Week 5 (14) (November 10 to 14) Health Week	Lesson 2: Potential Energy
Week 6 (15) (November 17 to 21) 17 - Launch of Mental Health and Anti-Bullying Month 21 - Young Shakespeare Play Contest	Lesson 3: Conservation of Energy
Week 7 (16) (November 24 to 28) 24 - Peace Pole Day ~ Assembly, Lighting of Christmas Tree (pm) 25-27 - Pre-Exam Days 27 - Thanksgiving Family Day Thanksgiving Potluck (Faculty) 28 - Gr. 12 Second Quarter Exam	Module 3: Electromagnetic Forces Lesson 1: Magnetic Forces Lesson 2: Electric Forces
Week 8 (17) Q3 W1 (December 1 to 5) 1 - 1st Week of Advent: Lighting of First Advent Candle ~ Monday Assembly Gr. 12 Second Quarter Exam 3 - Monthly Career Talk ~ College Prep 5 - Nativity Play, Christmas Fair	Lesson 3: Simple Circuits Lesson 4: Electromagnetism
Week 9 (18) Q3 W2 (December 8 to 12) 8 - Solemnity of the Immaculate Conception Second Week of Advent Foundation Day Mass, cake ceremony & Class Party (half day) 10 - Gr. 12 Advent Immersion 11 & 12 – 2nd Quarter Exams	Q2 Exam Presentations
Dec 15 to Jan 2	Christmas Break