



Dominican International School

COURSE SYLLABUS

GRADE LEVEL: 7

SCHOOL YEAR: 2024-25

TEACHER: Ms. Bing Racadio

EMAIL: bracadio@dishs.tp.edu.tw

COURSE DESCRIPTION:

The focus of the Grade 7 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 till May. 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 and step-wise guidance will be introduced to help pupils understand the nature of science.

COURSE OBJECTIVES:

The Science curriculum adapts the US Next Generation Science Standards (NGSS). In Grade 7 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.

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 online classroom 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.

Assessment strategies include participation (10%), homework and classwork (30%), chapter tests (30%), and quarter exam (30%). All formative and summative assessments, including reports, essays, presentations or projects would be accompanied with written or oral feedback. Multiple assessments address different learning styles with the results aligned to NGSS to evaluate pupil's progress, wherever applicable. All the students' grades are carefully recorded and data is promptly entered in the school gradebook system for tracking and evaluation.

PRIMARY TEXTBOOK & OTHER RESOURCES

McGraw Hill Education (2020), *Inspire Science Grade 7 Integrated*. Columbus, OH. ISBN: 978-0-07-687477-4

Google Classroom offers the web-based platform for effective instructional communications and formative feedbacks. It is accessible not only for pupils, but also for parents and the school. Video clips, interactive learning programs, and web-based learning tools, such as eScience and PHET are also used to facilitate and stimulate learning.

ADDITIONAL INFORMATION – Please see Google Classroom for more information.

Bl. Jordan of Saxony - Science G7
Class code: **gotldwa**

St. Thomas of Aquinas - Science G7
Class Code: **bx6ld62**

References:

Michelle Anderson, Julie Berwals, et al. *Integrated iScience Course 2*. Columbus, Ohio. Glencoe/McGraw Hill, Copyright 2017.

McGraw Hill Education (2017), *Integrated iScience2, Teacher Ed. Vol. 1*, Columbus, OH. ISBN: 978-0-07-677351-0

National Research Council. (2012) *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Wysession, M. E. *et al.* (2012) Developing and applying a set of earth science literacy principles. *J. Geosci. Educ.*, 60(2), pp. 95–99.

Copying (plagiarism) is a serious offense and a form of theft. In certain cases, it is also a criminal offense. It is defined as taking words, phrasing, sentence structure, or any other element of the expression of another person's ideas, and using them as if they were your own. Plagiarism is a violation of another person's rights, whether the material stolen is great or small – it is not a matter of degree or intent. Plagiarism has serious consequences.

Any act of plagiarism will result in an automatic zero on the entire assignment

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:

1. Purposely incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's own work; and
1. Representing another's intellectual work such as photographs, paintings, drawings, sculpture, or research or the like as one's own, including failure to attribute content to an AI.
2. Employing a tutor, making use of Artificial Intelligence without acknowledgement, getting a parent to write a paper or do an assignment, paying for an essay to be written by someone else and presented as the student's own work.

3. 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

SUBJECT: 1st QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
<p>Week 1 Aug 12th to 16th 4 Days of Class 12~ First Day / Orientation Day 15~ Opening Mass & Assumption of Our Lady 8:00 15~ Induction of Class, Student Council Officers and DYM</p>	<p>Course introduction, Scientific Explanations Wednesday – Orientation M/H School regular class after Orientation Introduction – Expectations, Topics <u>UNDERSTANDING MATTER</u> <u>MODULE: Classification and States of Matter</u> Lesson 1 Energy and States of Matter</p>
<p>Week 2 Aug 19th to 23rd</p>	<p><u>MODULE: Classification and States of Matter</u> Lesson 1 Energy and States of Matter</p>
<p>Week 3 Aug 26st to 30th 26~Fire drill? 26~Middle and High School Catholic Bridge Program (after assembly) 28~St. Dominic de Guzman Feast Day Celebration</p>	<p><u>MODULE: Classification and States of Matter</u> Lesson 2 Changes in Temperature</p>
<p>Week 4 Sep 2nd to 6th 2~House Ceremony</p>	<p><u>MODULE: Classification and States of Matter</u> Lesson 3 Changes in Pressure</p>
<p>Week 5 Sep 9th to 13th 9~ Mass & Birthday Mother Mary& VIP Induction</p>	<p><u>MODULE: Classification and States of Matter</u> Lesson 4 Molecular Structure</p>
<p>Week 6 Sep 16th to 20th 1 Day of Class 17~Moon Festival 18-20~ Teacher's Conference</p>	<p><u>MODULE: MATTER: Properties and Changes</u> Lesson 1 Properties of Matter</p>
<p>Week 7 Sep 23rd to 27th 24-26~Pre-Exam Days</p>	<p><u>MODULE: MATTER: Properties and Changes</u> Lesson 2 Property Changes in Chemical Reactions</p>
<p>Week 8 Sep 30th to Oct 4th</p>	<p><u>MODULE: MATTER: Properties and Changes</u> Lesson 3 Energy Changes in Chemical Reactions</p>
<p>Week 9 Oct 7th to 11th 1 Day of Class 7~Launching - Rosary Month and Bullying Prevention Day 8-9 ~Q1 Exams 10~Double Ten 11~Record Day</p>	<p>Review and 1st Quarter Exam</p>

2nd QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)

Week / Date	Topic / Projects / Assessments
Week 1 (10) Oct 14th to 18th <i>14~ Second Quarter Begins</i>	Review Quarter Exam <u>THE CHANGING EARTH</u> <u>MODULE: Dynamic Earth</u> Lesson 1 Moving Continents
Week 2 (11) Oct 21st to 25th <i>25 – Book Fair</i> <i>25- Masquerade Night</i>	<u>MODULE: Dynamic Earth</u> Lesson 2 Development of a Theory
Week 3 (12) Oct 28th to Nov 1st <i>1-All Saint’s Day Mass</i>	<u>MODULE: Dynamic Earth</u> Lesson 3 Shaping Earth’s Surface
Week 4 (13) Nov 4th to Nov 8th	<u>MODULE: Dynamic Earth</u> Lesson 4 Changing Earth’s Surface
Week 5 (14) Nov 11th to 15th	<u>MODULE: Dynamic Earth</u> Lesson 4 The Cycling of Earth’s Materials
Week 6 (15) Nov 18th to 22nd <i>22-Gr.12 Q2 Exam</i> <i>22 - YSC Contest</i>	<u>MODULE: Natural Hazards</u> Lesson 1 Earthquakes
Week 7 (16) Nov 25th to 29th <i>25-Gr.12 Q2 Exam</i> <i>26-28~Pre-Exam Day</i>	<u>MODULE: Natural Hazards</u> Lesson 2 Volcanoes
Week 8 (17) Dec 2nd to Dec 6th <u>6~Half Day</u> <i>Foundation Day Celebrations</i>	<u>MODULE: Natural Hazards</u> Lesson 3 Severe Weather
Week 9 (18) Dec 9th to 13th <u>3 Days of Class</u> <i>12-13 ~Q2 Exams</i>	Review and 2nd Quarter Exam
Dec 16th to Jan 3rd	Christmas Break

3rd QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
Week 1 (19) Jan 6th to 10th <u>4 Days of Class</u> 6~Record Day 7~Third Quarter Begins 10 ~ New Year Mass	Review Quarter Exam <u>EARTH's RESOURCES</u> <u>MODULE: Distribution of Earth's Resources</u> Lesson 1 Natural Resources
Week 2 (20) Jan 13th to 17th	<u>MODULE: Distribution of Earth's Resources</u> Lesson 2 Distribution of Resources
Week 3 (21) Jan 20th to 24th	<u>MODULE: Distribution of Earth's Resources</u> Lesson 3 Depletion of Resources
Jan 27th to Jan 31st	Chinese New Year
Week 4 (22) Feb 3rd to 7th	<u>MODULE: Distribution of Earth's Resources</u> Lesson 1 Natural Resources
Week 5 (23) Feb 10th to 14th 1-14~Catholic Week	<u>MODULE: Distribution of Earth's Resources</u> Lesson 2 Impacts of Synthetic Materials
Week 6 (24) Feb 17th to 21st	<u>INTERACTIONS WITHIN ECOSYSTEMS</u> <u>MODULE: Matter and Energy in Ecosvstems</u> Lesson 1 Photosynthesis and Cellular Respiration
Week 7 (25) Feb 24th to 28th <u>4 Days of Class</u> 24~Lenten Mass? 25-27 ~ Pre-Exam Days 24-27~IOWA Assessments 28 ~ Memorial Day Holiday	<u>MODULE: Matter and Energy in Ecosvstems</u> Lesson 2 Flow of Energy
Week 8 (26) March 3rd to 7th 5~ Ash Wednesday	<u>MODULE: Matter and Energy in Ecosvstems</u> Lesson 3. Cycling of Matter
Week 9 (27) March 10th to 14th <u>4 Days of Class</u> 14 – Q3 Exams	<u>Review</u> 3rd Quarter Exam

4th QUARTER – TENTATIVE COURSE CONTENT

(NB: Depending on time and interest, the teacher may delete and/or add other selections.)	
Week / Date	Topic / Projects / Assessments
Week 1 (28) March 17th 21st <u>4 Days of Class</u> 17 – Q3 Exams 18~ Fourth Quarter Begins 18~ Fire Drill? 19~ Feast of St. Joseph	<u>Review</u> <u>INTERACTIONS WITHIN ECOSYSTEMS</u> <u>MODULE: Dynamic Ecosystems</u> Lesson 1 Resources in Ecosystems
Week 2 (29) March 24th to 28th	<u>MODULE: Dynamic Ecosystems</u> Lesson 2 Interactions Within Ecosystems
Week 3 (30) March 31st to April 4th <u>4 Days of Class</u> 4~Tomb Sweeping	<u>MODULE: Dynamic Ecosystems</u> Lesson 3 Changing Ecosystems
Week 4 (31) Apr 7th to 11th	<u>MODULE: Biodiversity in Ecosystems</u> Lesson 1 Benefits of Biodiversity
April 14th to April 18th	Easter Break
Week 5 (32) Apr 21st to 25th 23~Easter Mass 21-25 ~ AP Mock Exams 26~Spring Fair	<u>MODULE: Biodiversity in Ecosystems</u> Lesson 1 Benefits of Biodiversity
Week 6 (33) Apr 28th to May 2nd 4/29-5/1~ Pre-Exam Days 1-2~ Final Exams (K, 5, 8, 12 only)	<u>MODULE: Biodiversity in Ecosystems</u> Lesson 2 Maintaining Biodiversity
Week 7 (34) May 5th to 9th 5-9~ Final Exams (K, 5, 8, 12 only) 5-9 ~ AP Exams	<u>MODULE: Biodiversity in Ecosystems</u> Lesson 2 Maintaining Biodiversity
Week 8 (35) May 12th to 16th <u>4 Days of Class</u> 14-15~ Q4 Exam 16~ Record Day 12-16 ~ AP Exams	Quarter Exams
Week 9 (36) May 19th to 23rd 19-23 ~ Student Clearance 19~ Baccalaureate Mass 23~Gr. 6 – 7 Recognition and Gr. 8 Graduation	19-23 ~ Student Clearance 19~ Baccalaureate Mass 23~Gr. 6 – 7 Recognition and Gr. 8 Graduation
Week 10 (37) May 26th to 30th <u>4 Days of Class</u> 26~House Culminating Activity 27~Gr. 9-11 Recognition and Gr. 12 Graduation 28! Class Party 29- ~ Students Last Day 30~ Teachers/Staff Meeting	26~House Culminating Activity 27~Gr. 9-11 Recognition and Gr. 12 Graduation 28! Class Party 29- ~ Students Last Day 30~ Teachers/Staff Meeting