

## 6<sup>th</sup> Grade MIT-e Science and Engineering Syllabus 2021-2022

Sinagua Middle School

Ms. Kathryn Wertz

Rooms: 813 (Science) & 214 (Engineering)

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**MIT-e Science Course Description:** In this course, students will learn about Life Science, Earth and Space Science, and Physical Science through an IB lense. The Middle Years Programme (MYP) sciences framework encourages students to investigate issues through research, observation and experimentation, working independently and collaboratively. This will be accomplished through project-based learning, problem-based learning, and inquiry. This is an **accelerated** honors course which means we will be covering all of the 6th grade standards, as well as a portion of 7th grade standards. To read more about the Arizona Science Standards which will be used to guide instruction, please visit the following link: <https://cms.azed.gov/home/GetDocumentFile?id=5bd338b81dcb250184c8cefc>

### **Daily Supplies for MIT-e Science:**

1. Charged iPad
2. Digital stylus (\*Optional)
3. Composition Notebook (\*Optional - notes may be taken electronically if students prefer)
4. Folder (\*Optional - It is recommended that this is for MIT-e Science **only** - for homework, etc.)

**MIT-e Engineering Course Description:** As part of the Middle Years Programme (MYP), design challenges all students to: apply practical and creative thinking skills to solve design problems, explore the role of design in both historical and contemporary contexts, and consider their responsibilities when making design decisions and taking action. In this course, students will learn about and apply the MYP Design Cycle by researching and completing hands-on projects associated with the following engineering fields; architectural, automotive, civil, environmental, materials and manufacturing, mechanical, mining and petroleum.

### **Daily Supplies for MIT-e Engineering:**

1. Charged iPad
2. Digital stylus (\*Optional)
3. Composition Notebook (\*Optional - notes may be taken electronically if students prefer)
4. Folder (\*Optional - It is recommended that this is for MIT-e Engineering **only** - for homework, etc.)
5. Ruler (that has centimeters)
6. Scissors
  - a. Students will be asked to bring in supplies that meet the criteria and constraints for each project as the year progresses. This will be communicated to students prior to in-class build days.

**Assessing Information:** In the MYP, subject-group objectives correspond to assessment criteria. Each criterion has eight possible achievement levels (1–8), divided into four bands that generally represent “Does not meet the standard” (1–2); “Approaching the standard” (3–4); “Meets the standard” (5–6); and “Exceeding the standard” (7–8). Each band has its own unique descriptor that teachers use to make “best-fit” judgments about students’ progress and achievement.

### **Assessment Criteria (Science):**

- Criterion A: Knowing and understanding
- Criterion B: Inquiring and analyzing
- Criterion C: Processing and evaluating
- Criterion D: Reflecting on the impacts of science

### **Assessment Criteria (Engineering):**

- Criterion A: Knowing and understanding
- Criterion B: Developing ideas
- Criterion C: Creating the solution
- Criterion D: Evaluating

A “5” or “6” on a student’s progress report means that the student has “Met the standard” for that criterion. A “7” or “8” can be obtained by demonstrating “above and beyond” knowledge or higher order thinking skills in this area. I will have tasks that allow your student to demonstrate this above and beyond knowledge. Participation, class assignments, projects, tests, and homework are all important in determining a student’s grade.

Achievement Level	Level Descriptor	What the color bands mean.
0	The student does not reach a standard described by any of the descriptors below.	The areas shaded in red are of real concern. Students who do not reach a level beyond red are in danger of not passing the class. They will be candidates for credit recovery, summer school, or retention.
1-2 Does Not Meet the Standard	<ul style="list-style-type: none"> <li>The student produces work of very limited quality</li> <li>Conveys many significant misunderstandings</li> <li>Very rarely demonstrates critical or creative thinking</li> </ul>	
3 Approaching the Standard	<ul style="list-style-type: none"> <li>Produces work of an acceptable quality</li> <li>Communicates basic understanding of most contexts</li> <li>Begins to demonstrate some basic critical thinking</li> </ul>	The 3-4 category shares the same descriptions. However, a 3 would indicate an area of concern because the student is close to dropping to the 1-2 level. A 4 would indicate that the student is just barely meeting the grade level standard. Students are always expected to move beyond a 4.
4 Meets the Minimum Standard		
5-6 Meets the Standard	<ul style="list-style-type: none"> <li>Produces good quality work</li> <li>Communicates secure understanding of concepts and contexts</li> <li>Demonstrates critical and creative thinking, sometimes with sophistication</li> </ul>	Students at this level are meeting the grade level standard. A score of 6 means the student is close to exceeding the standard.
7-8 Exceeds the Standard	<ul style="list-style-type: none"> <li>Produces high-quality, frequently innovative work</li> <li>Communicates comprehensive understanding of concepts and contexts</li> <li>Consistently demonstrates sophisticated critical and creative thinking</li> </ul>	This level indicates a student is exceeding the grade level standard. ALL students have an opportunity to achieve this level.

At the end of each grading period, students will receive a “Final Marks Grade.” This grade will be calculated by adding the student’s scores for each criterion. Using the “Final Marks Guide” students will be given an overall score (their Final Marks Grade). This grade is communicated on a 1-7 scale. A description of how these scores describe students work is below:

Criteria Scores Added Together	Final Mark	What the Final Mark Means
1-5	1	Produces work of <b>very limited quality</b> .
6-9	2	Produces work of <b>limited quality</b> .
10-14	3	Produces work of <b>basic quality</b> .
15-18	4	Produces <b>good-quality</b> work.
19-23	5	Produces <b>generally high-quality</b> work.
24-27	6	Produces <b>high quality, occasionally innovative</b> work.
28-32	7	Produces high quality, <b>frequently</b> innovative work.

**Eligibility:**

Students in the MIT-e program must consistently maintain academic excellence by maintaining a score of “5” or higher in **both** MIT-e classes (Honors Science **and** Engineering **ONLY**). If students have a grade below a “5” at the end of Quarter 1 (October 8<sup>th</sup>) in either class, they will be placed on academic probation. During the academic probation period, which is Quarter 2, students must raise their grade(s) to a “5” or better for each class to regain good academic standing. If at the end of Quarter 2 academic achievement is not “5” or better for both MIT-e classes, then the student will be removed from MIT-e and placed in appropriate courses. This pattern of evaluation of eligibility will repeat in Quarters 2, 3, and 4. A student may only be on probation **once** each year of their MIT-e career. If the student’s grades indicate they will be placed on probation for the second time in one year, they will also be removed from the MIT-e program.

End of Quarter (Grade Check) Dates:

Quarter 2 - December 17, 2021

Quarter 3 - March 8, 2022

Quarter 4 - May 26, 2022

**Work/Test Corrections:** If a student is unhappy with their score on their first attempt, or it does not “Meet the standard,” they may resubmit their work to improve their grade. These corrections must be completed within a **two-week window** from the date the assignment was given back to the student. Students may resubmit their work multiple times during this two-week window. This work may include a combination of the following; parent/guardian signatures, completed corrections, extra practice, and/or the completion of a new assignment. Exceptions require direct communication. There will be no resubmissions on semester finals.

**Attendance:**

Attendance is of utmost importance for student success in this course. Being present in class is your student’s best way to be successful and is pivotal in creating a strong learning community. Students are required to attend and participate in all styles of learning activities.

**Homework:**

Homework may be assigned occasionally. We will attempt to complete most of our learning in class, however, MIT-e is an accelerated program. This means students will likely be responsible for reading, completing an assignment or project, or studying notes at home throughout the course.

**Make-up Work:**

**Students are responsible** for getting all necessary work needed for days missed. Any lab, quiz, or test that needs to be made up must be scheduled with Ms. Wertz. If a student is absent, their first step is to check Canvas for notes and/or assignments, recorded live sessions (if applicable), or activities missed.

**Late Work:**

Homework and classwork is expected to be turned in on the day it is due. Students should not turn in assignments late. Only documented, extenuating circumstances will be considered for exceptions. It is important to turn in all assignments. Late work will affect your Academic Responsibility grade.

**Communication:**

I will send out emails to parents and students with class updates on a weekly basis via ParentVUE and StudentVUE. Please reach out with any questions or concerns. The best way to contact me is through email (kwertz1@fUSD1.org). This is open to both parents/guardians and students. Students may also contact me through Canvas or StudentVUE.

**Extra Help/Tutoring:** I am here to help your students be successful! If your student is struggling or does not understand, **please** ask for help! Tutoring and Homework Club will be available. Personal meetings via Zoom may be used for individual help sessions (if applicable). Please look for announcements for more information.

**Honesty:**

With the exception of group assignments, copying of other student's work or using un-cited work off the Internet is not permitted. If cheating does occur, repercussions may include a "1" for the assignment without the possibility of resubmission, parent/guardian contact and/or an office referral depending on the seriousness of the offense.

**Cell Phones:**

Cell phones can be great tools! However, they should not be on and/or out during class without approval from Ms. Wertz.

**Online / Zoom Expectations (If necessary):**

- Create a quiet workspace if possible! In addition to their iPad, students may include a water bottle, snacks, notebooks, pens/pencils, etc. Please be careful with food/drink around the iPad.
- Come into the Zoom meeting with your microphone off.
- Come into the Zoom meeting with your camera on! Please dress appropriately and have nice lighting so we can see your smiling face! Also, please be mindful of your background.
  - Please communicate with me if this is not possible for some reason.
- Be present and on time!
- During the live session, please make sure you are sitting up straight, paying attention, and participating. We are in class, please be respectful!
- Use your full name (no nicknames) - This makes grouping easier.
- If the chat feature becomes available:
  - Questions should be placed in the chat. We will either answer them throughout or at the end of our session.
  - Limit sidebar conversations in the chat. This will help prevent us from missing questions