**Science and Technology 11 Learning Goals and Rubrics**

**All of the course work you complete, and will be assessed on, will relate back to these key learning goals.**

**Goal 1: Science, technology, society, and the environment**

Students will develop an understanding of the nature of science and technology, of the relationships between science and technology, and of the social and environmental contexts of science and technology.

**Nature of science**

* How science is done/ scientific methods
* What science is and isn’t
* Limits of science
* Creation of theory in science

**Relationships between science and technology**

* How science and technology influence each other

**Social and environmental concepts**

* How science and environment influence each other
* How society affects development of science and technology

**Goal 2:** **Skills**

Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively, and for making informed decisions.

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| **Performance Criteria** | **Level 1** | **Level 2** | **Level 3** | **Level 4** |
| **Inquiry** | Student uses the teacher to provide them with appropriate questions. | Student asks a question that can be easily answered with a little research. | Student asks a focus question that will involve challenging research. | Student question engages and challenges and will lead to new knowledge. This question requires several reliable sources to answer. |
| **Problem Solving** | Student does not attempt to solve the problem themselves. Lets others do work. | Student does not suggest or refine solutions, but is willing to try out solutions suggested by others. | Student attempts to solve the problem and requires solutions suggested by others. | Student actively looks for and suggests solutions to the problem. |
| **Communicating** | Student communicates information and ideas with limited clarity. | Student communicates information and ideas with some clarity. | Student communicates information and ideas with considerable clarity. | Student communicates information and ideas with a high degree of clarity and with confidence. |
| **Collaboration** | Student does not recognize ideas of others and only shares their opinions/findings. | Student references ideas, but does not attempt to synthesize them to their own ideas. | Student references ideas of others and uses them to create a synthesis of ideas. | Student builds upon ideas of others and uses them to create a synthesis of ideas. |
| **Decision Making** | Student makes a decision without exploring research, but using their own uninformed opinions or their decision is illogical. | Student makes a decision based on one sided credible scientific research/findings, decision is somewhat illogical  | Student makes an informed and logical decision based on credible scientific research/findings | Student makes an informed and logical decision that stems from a broad exploration of credible research/findings from various perspectives |

**Rubric Goal 3:** **Knowledge**

Students will construct knowledge and understanding of concepts in life science, physical science, and Earth and space science, and apply these understandings to interpret, integrate, and extend their knowledge.

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| **Performance Criteria** | **Level 1** | **Level 2** | **Level 3** | **Level 4** |
| **Understanding** - Is aware of basic concepts and principles | Student shows limited understanding and many misconceptions. Requires prompts to explain concepts accurately | Student shows some understanding but has a few misconceptions. Student can explain some concepts accurately | Student shows good understanding and few misconceptions. Concepts explained accurately. | Student has excellent understanding and no misconceptions. Concepts are explained with accuracy, with an explanation, and examples |
| **Application** | Student cannot apply concepts to new tasks and situations | Student can minimally apply learned concepts to new tasks and situations.  | Student can apply learned concepts to new tasks and situations | Student applies learn information to new tasks and situations and goes above and beyond in their connections |