

STANDARD	ISTE National Education Technology Standards ◆ = addresses standard ◐ = partially addresses standard	Basics of Gears	LEARNING MISSIONS	Controlled Movements	Precise Turns	Turn Using Sensor	Detect a Color	Detect an Object	Follow a Line	Detect and React	Intelligent Movements	Calibrate Color Sensor	CHALLENGE MISSIONS	Activate Communication	Assemble Your Crew	Free the MSL Robot	Launch the Satellite into Orbit	Return the Rock Samples	Secure Your Power Supply	Initiate Launch	RESEARCH PROJECTS	How Can Humans Survive in Space?	How Do We Generate Energy for Human Outposts?	How Can Robots Help Humans Explore?	
		1. Creativity and Innovation Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.																							
a	Apply existing knowledge to generate new ideas, products, or processes.			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
b	Create original works as a means of personal or group expression.																								
c	Use models and simulations to explore complex systems and issues.	◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
d	Identify trends and forecast possibilities.																								◐
2. Communication and Collaboration Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.																									
a	Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
b	Communicate information and ideas effectively to multiple audiences using a variety of media and formats.																								
c	Develop cultural understanding and global awareness by engaging with learners of other cultures.																								
d	Contribute to project teams to produce original works or solve problems.																								
3. Research and Information Fluency Students apply digital tools to gather, evaluate, and use information.																									
a	Plan strategies to guide inquiry.																								
b	Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.																								
c	Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.																								
d	Process data and report results.	◐																							
4. Critical Thinking, Problem Solving, and Decision Making Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.																									
a	Identify and define authentic problems and significant questions for investigation.																								
b	Plan and manage activities to develop a solution or complete a project.	◐																							
c	Collect and analyze data to identify solutions and/or make informed decisions.	◐																							
d	Use multiple processes and diverse perspectives to explore alternative solutions.																								

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		Initiate Launch	Secure Your Power Supply	Return the Rock Samples	Launch the Satellite into Orbit	Free the MSL Robot	Assemble Your Crew	Activate Communication	Calibrate Color Sensor	Intelligent Movements	Detect and React	Follow a Line	Detect an Object	Detect a Color	Turn Using Sensor	Precise Turns	Controlled Movements	LEARNING MISSIONS			
		5. Digital Citizenship																			
Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.																					
a	Advocate and practice safe, legal, and responsible use of information and technology.	◐	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
b	Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
c	Demonstrate personal responsibility for lifelong learning.	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
d	Exhibit leadership for digital citizenship.																◆				
6. Technology Operations and Concepts																					
Students demonstrate a sound understanding of technology concepts, systems, and operations.																					
a	Understand and use technology systems.	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
b	Select and use applications effectively and productively.	◐	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
c	Troubleshoot systems and applications.	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			
d	Transfer current knowledge to learning of new technologies.	◐	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			