

STEM Unit Criteria Checklist	Does the unit incorporate the following components	
Application of Science Inquiry Process (hands-on) <ul style="list-style-type: none"> ○ Learning experiences guide students to discover, investigate, and demonstrate knowledge and skills fundamental to the scientific inquiry process. ○ Learning experiences engage students in the scientific inquiry process which includes: <ul style="list-style-type: none"> ● Exploration ● Development of a Research Question ● Research for background Information ● Development of testable hypothesis ● Writing an experimental design ● Complete data analysis ● Summarizing to draw conclusion ● Determining implications and next steps 		
Technology Integration <ul style="list-style-type: none"> ○ Learning experiences engage students in a variety of 21st century technologies: <ul style="list-style-type: none"> ● Students use digital media and environments to communicate and collaborate ● Students use digital tools to gather, evaluate, and use information 		
Engineering Design Process <ul style="list-style-type: none"> ○ Learning experiences help student to demonstrate knowledge and skills fundamental to the engineering design process: <ul style="list-style-type: none"> ● Ask ● Imagine ● Plan ● Create ● Experiment ● Improve 		
Standards for Mathematical Practice <ul style="list-style-type: none"> ○ Learning experiences help students to: <ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them ● Reason abstractly and quantitatively. ● Construct viable arguments and critique the reasoning of others. ● Model with mathematics ● Use appropriate tools strategically ● Attend to precision. ● Look for and make use of structure ● Look for and express regularity in repeated reasoning 		
Alignment to Standards and/or Benchmarks <ul style="list-style-type: none"> ○ Learning experiences are aligned to grade level standards and/or benchmarks. 		
Assessment Alignment to Standards and/or Benchmarks <ul style="list-style-type: none"> ○ Formative and summative assessments are aligned to target standards and/or benchmarks. 		
STEM Integration <ul style="list-style-type: none"> ○ STEM learning experiences are designed to help students connect knowledge and skills from Science, Technology, Engineering and Mathematics. 		

<ul style="list-style-type: none"> o STEM content and skills are integrated to support the performance task where students apply all of their learning. 		
Quality of STEM Experiences <ul style="list-style-type: none"> o Learning experiences challenge students to develop higher order thinking skills through processes such as inquiry, problem solving, and creative thinking. 		
Connections to STEM Careers <ul style="list-style-type: none"> o Learning experiences provide awareness of connections to STEM careers. 		
Nature of STEM Assessments <ul style="list-style-type: none"> o Students are expected to demonstrate accurate content knowledge and skills through performance-based products and projects. 		
STEM Competencies <ul style="list-style-type: none"> o Community Contributor: The understanding that it is essential for human beings to work together o Complex Thinker: The ability to demonstrate complex thinking and problem solving o Quality Producer: The ability to recognize and produce quality performance and quality products o Effective Communicator: The ability to communicate effectively o Effective and Ethical User of Technology: The ability to use a variety of technologies effectively and ethically 		

*Adapted from Ohio STEM Learning Network and Dayton Regional STEM Center: A Framework for Quality STEM Education