

FAYETTE COUNTY PUBLIC SCHOOLS

Unit Framework for STEM – Intermediate

Unit 3	One Plastic Bag								
<p>Big Ideas What enduring understandings are essential for application to new situations within or beyond this content?</p>	<p>The world is full of problems waiting to be solved. Some problems must be solved by using the materials and resources available. Isatou and the Recycling Women of the Gambia are a prime example of this. Identifying a problem, using materials available, and then working through the engineering design process a lucrative solution is discovered. This kind of innovative thinking and problem solving is crucial to today's workforce.</p> <p>Students will embark on the engineering design process to create a product made of everyday materials just like Isatou. Their unique idea will be created, tested, improved and finally shared with peers.</p>								
<p>Essential Questions What questions will provoke and sustain student engagement while focusing learning?</p>	<p>What problems exist around you? What solutions could I create to solve a problem? Why do we use the engineering design process? What can I make with a plastic bag?</p>								
<p>Power Standards Which standards provide endurance beyond the course, leverage across multiple disciplines, and readiness for the next level?</p>	<p>3-5-ETS1-1 Engineering Design: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost 3-5-ETS1-3 Engineering Design Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>								
<p>Supporting Standards Which related standards will be incorporated to support and enhance the enduring standards?</p>	<p>RL.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. ISTE 1d, 3d, 4abcd</p>								
<p>Essential Vocabulary What vocabulary must students know to understand and communicate effectively about this content?</p>	<table border="0"> <tr> <td>Engineering</td> <td>Constraints</td> </tr> <tr> <td>Design</td> <td>Model</td> </tr> <tr> <td>Materials</td> <td>Failure Points</td> </tr> <tr> <td>Recycle</td> <td></td> </tr> </table>	Engineering	Constraints	Design	Model	Materials	Failure Points	Recycle	
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<p>Cross Curriculum Connections Are there opportunities to make connections to other disciplines (standards and curriculum programs)?</p>	<p>ELA/Literacy - W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (3-5-ETS1-1) W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. (3-5-ETS1-1) W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. (3-5-ETS1-1)</p>								

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	Mathematics - MP.2 Reason abstractly and quantitatively. (3-5-ETS1-1) MP.4 Model with mathematics. (3-5-ETS1-1)
Assessing Learning How will you know when students have learned? How do you know students have successfully met the learning intention?	Rubric for Final Product Flipgrid Response Pear Deck Student Takeaways EdPuzzle, if you decide to use Edpuzzle
Instructional Strategies and Other Resources	Teacher Overview Video Part 1: One Plastic Bag (Listen to One Plastic Bag) Select One: <ul style="list-style-type: none">• YouTube: https://youtu.be/ B6p04Zph04• Epic: https://www.getepic.com/audiobook/77554468/one-plastic-bag-isatou-ceeday-and-the-recycling-women-of-the-gambia?utm_source=t2t&utm_medium=link&utm_campaign=content&share=27020765433• Watch: https://edpuzzle.com/media/5f984c7a04a790409e43f450 Part 2: Pear Deck Lesson Part 3: Google Slides Student Workbook
**Each Unit Framework guides planning and delivery of instruction. An Instructional Planning Companion tool to guide instructional planning (Unit/Lesson Plans) can be found on the Curriculum Platform.	