

# A Trail To Every Classroom (TTEC) Curriculum Development Tool



## UNIT DESIGN COVER SHEET

Author contact: Megan Capuano

School name, state and town:  
W.G. Rice Elementary School, Boiling Springs, PA

Title: Trash Talk

### Abstract/Vignette:

Trash, garbage, litter, waste, pollution, mess, ugly, unhealthy, dangerous – save the world. If everyone threw their waste or garbage on the ground what would it look like? Would it be safe? The world is not a personal trash can, we need to protect it. Trash Talk is a tool to teach the students to pick up and not litter.

Grade level(s): Please check all that apply.

- K-2     3-5     6-8     9-12     College and Lifelong Learning

Discipline: Please check all that apply.

- Art and Music     Health and PE     Foreign Language  
 Literature and Language Arts     Mathematics     Science  
 Social Studies and Geography     History

Year Developed: 2015

Period (month long unit vs. week long):  
7 meetings, 4 classroom, 3 hikes

Teaching environment:

- In the Classroom (indoors)     On the Trail  
 In the Community     Online/Virtual

# A Trail To Every Classroom (TTEC) Curriculum Development Tool



## UNIT DESIGN TEMPLATE<sup>1</sup>

<b>Unit Title:</b> Trash Talk
<b>School:</b> W.G. Rice Elementary School
<b>Grade level/s:</b> 4
<b>Discipline/s:</b> Science/Math
<b>Unit Designer/s:</b> Megan Capuano
<b>Stage 1 – Desired Results</b>
<ul style="list-style-type: none"> <li>• <b>What do we want students to know, understand, and be able to do?</b></li> <li>• <b>How can we use students’ place (home, classroom, school and schoolyard, neighborhood, community) to help them learn this?</b></li> </ul> <p style="text-align: center;"><b>What real community needs and opportunities are we trying to address?</b></p>
<p><b>A. Big Ideas</b>  <i>The high-level ideas, concepts, principles or processes for my TTEC unit include:</i></p> <p>Every one of us can make some difference in our world. Our actions effect more than ourselves. Littering is an action that we can help change. When we litter, it effects the environment for all creatures.</p>
<p><b>B. Enduring Understandings</b></p> <p><i>Students will understand that:</i></p> <ul style="list-style-type: none"> <li>• their own actions and the actions of others can have a lasting impact on each other, their surroundings, and the world.</li> <li>• littering is not only ugly but harmful to the world.</li> </ul>
<p><b>C. Essential Question(s):</b></p> <p><i>Students will keep considering:</i></p> <p>How do everyday human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>

**D. Content Standard(s):**

Recognize and describe change in natural or human-made systems and the possible effects of those changes. S4.A.1.3

- A. Provide examples, predict, or describe how everyday human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) may change the environment. S4.A.1.3.5

Solve problems involving measurement and conversions from a larger unit to a smaller unit.

CC.2.4.4.A.1

- B. Solve problems involving length, weight (mass), liquid volume, time, area, and perimeter. M04.D-M.1.1

**E. Place-based Service Learning Lens** (Assumes PBSL Principle #5 Integrated & Principle #6 Rigorous):

***Grounded in Place***

*In what ways is your unit a direct reflection of local landscapes, resources, culture, and values? Why does doing this unit with these students in this community make sense?*

South Middleton School District is in the Cumberland Valley near Harrisburg, Pennsylvania. The Appalachian Trail (AT) runs through Boiling Springs, the town where most of the district's buildings are located. Boiling Springs is near the halfway point of the AT and is a popular place for people to hike and visit. Due to the popularity and high traffic, there are certain parts of the trail that acquire more garbage so it is important to have a "Trash Talk".

***Real***

*What authentic, real-world need or opportunity exists in your community that students will address through their project?*

Garbage is an ever present concern in our world. Humans are creating waste and it doesn't always make it into the appropriate places. Trash on the trail creates problems for many. The problems range from changing the scenery for humans to changing animal habits. We head to the trails and the outdoors to get away from the overgrowth of humans changing everything around us. We want to see the world and the natural beauty. More importantly, garbage can wreak havoc on the wildlife. The animals are not able to digest it or they can get caught in it and not be able to exist as they did before. Students will address the issue of garbage on the trail and surrounding areas.

***Empowering***

*How will your students help determine what project they take on? How will they help design the project, make decisions along the way, and evaluate their success?*

Students will be exposed to different environments and make observations. They will observe the amount of trash left behind. The students will walk through the halls of the school and then around the school property. The students will go on at least two hikes on the AT in areas varying in popularity. The students will be directed to notice trash along the paths they travel. They will notice that parts of the trail are clean and pristine but other

areas are scattered with trash. The hope is the students will notice the trash, pick it up, and want to change the littering behavior.

Students will also learn about the effects of trash and pollution by using math skills. They will work to determine the extent that trash can damage the environment by the sheer volume of it on earth.

***Collaborative***

*What opportunities will students have for mutually beneficial collaboration with other disciplines, community or public land partners? To answer this, identify how each of the partners will benefit.*

Students will collaborate with each other and with the teacher. They will help each other in gathering the garbage. They will also collaborate with the final project. The final project will require the students to work in teams. The students will be encouraged to collaborate with their principal and other teachers in the school in order to give a presentation to individual classrooms or even the entire student body.

Depending on the size of the trash clean up, the students may collaborate with other student organizations such as the Girl Scouts or Boy Scouts. In addition to the volunteers, they may want to work with the Appalachian Trail Conservancy, Mid-Atlantic Regional Office and park rangers at nearby parks that they will be targeting for their trash clean-up.

**F. Acquisition:**

*Students will know:* how to recognize and describe change in natural or human-made systems and the possible effects of those changes.

*Students will be skilled at:* observing the surrounding areas, finding a need for trash talk and clean-up, and then plan a trash clean-up.

**Stage 2 – Acceptable Evidence  
How will we know if students are learning/have learned this?**

<b>Performance Task(s):</b> <i>Learners will show that they really understand by:</i>	<b>Evaluative Criteria</b>
Students will maintain a journal in which they will write their observations and reflections. The journal entries will be from what they accomplish during class and what they observe outside of school.	Rubric
Students will create a presentation based upon observations, data, and material collected during the hikes. The presentation will highlight the changes made to the environment by humans and animals.	Rubric Student/peer evaluations

<p><i>Students will know...</i> the effects of trash along the trail and in the world if not placed in appropriate areas.</p> <p><i>Students will be skilled at...</i> Recognizing what humans are capable of doing to the earth. Identifying garbage outside on the trail. Having a conversation about recycling, reusing, and reducing.</p>	
---	--

<p><b>Other Evidence:</b> <i>Students will show they have achieved Stage 1 (Desired Outcome) goals by...</i></p> <p>identifying changes throughout their journals. The changes will be their own thoughts and also the physical changes they identify on the trail based on their observations.</p> <p>presenting their final project to their peers in the school.</p> <p>collecting and throwing away trash they gather.</p>	<p><b>Evaluative Criteria (score sheets, rubrics, observation check-lists, grading key)</b></p>
--	---

**Stage 3 – Learning Plan**  
**What learning experiences will enable students to learn this?**

<p><b>Learning Activities:</b></p> <p>This unit alternates between classroom and the trail. The concepts will be taught in the classroom and then applied to the outdoors. Students will learn through various hands on activities, videos, and connecting the classroom to the outdoors.</p> <p>See Lesson Plans following the unit</p>	<p><b>Progress monitoring through pre-assessments, simulations, formative &amp; summative assessments</b></p>
--	---

**Adaptations**

*Learner-centered and context-sensitive adaptations for our TTEC unit include:*

This unit was designed for students in learning support so the unit itself is adapted. It requires more application of ideas and hands on activities.

There can be further adaptations for the journaling. Students can do a video or voice recorded journal. They can also have the option of using a scribe.

## Reflections

*Post-instruction reflections by TTEC unit designer(s)/ instructor(s) include:*

More time could allow for more in depth service learning. Students could determine the project by identifying the outdoor area with need and they will design a project based on that need. The project may be creating a basic awareness of what waste and trash can do to the environment, doing a trash collection, or the students may be working with a park to add garbage cans, post signs, or anything in between. They will have the opportunity to work with Appalachian Trail volunteers, park services, the local government, etc.

The students could collaborate with the park rangers and create a kiosk display, trash talk signs at the base of the mountain – where it is the busiest and gets the most traffic.

Examples:

- “I bet you can’t pick up your own trash”
- “You think you can pack in and pack out”

### **Attachments:**

Include substantial supporting materials such as:

- Detailed lesson plans
- Partners contact list
- Instructional materials and supplies
- Resources: books, articles, web links
- Exemplars and benchmarking models
- Checklists and rubrics
- Diverse samples of student work/artifacts
- Press releases



**1st Lesson Plan:**

**Teacher:** \_\_\_\_\_ **Unit:** \_\_\_\_ **Trash Talk – Class 1** \_\_\_\_

**Date of lesson:** \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Journal: ask the students to write answers to the EQs</p> <ul style="list-style-type: none"> <li>• How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</li> <li>• How are humans responsible for the environment?</li> </ul> <p>Video: “Why is the world’s biggest landfill in the Pacific Ocean?”  <a href="http://science.howstuffworks.com/environmental/earth/oceanography/great-pacific-garbage-patch.htm">http://science.howstuffworks.com/environmental/earth/oceanography/great-pacific-garbage-patch.htm</a></p>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>Journal: Ask the students to answer the EQs again. Discuss the different answers pre and post video.</p> <ul style="list-style-type: none"> <li>- The activity should start to have the students thinking beyond their own family and school.</li> </ul> <p>Take the students on a “hike” around the school and outside around the school grounds. Students will be directed to notice garbage in the hallways and also around the school. Model the expected behavior and start to collect the trash.</p> <p>Ask the EQs as the class hikes.</p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>The Important Thing</p> <p>Students write:          “Three important ideas/things from the lesson today are ---, ---, and ---, but the most important thing I learned today is ---.”</p>

**2<sup>nd</sup> Lesson Plan:**

**Teacher:** \_\_\_\_\_ **Unit:** Trash Talk – Hike 1

**Date of lesson:** \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p> <p>With key questions if necessary.</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Ticket Onto the Bus</p> <p>Students write:</p> <ul style="list-style-type: none"> <li>- something they remember from the last lesson</li> <li>- something good they hope to see on the hike</li> <li>- answer to “How are humans responsible for the environment?”</li> </ul>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>On the bus go over the students’ tickets</p> <p>Hike on a less populated part of the AT. This should be an area that doesn’t have trash or litter. During the hike point out changes to the environment due to humans and animals. Ask the students to imagine the hike filled with trash. Would it make a difference? Why? Continue the discussion with questions from their tickets onto the bus.</p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Journal: students write reflection about the hike including an answer to “How are humans responsible for the environment?”</p> <p>Discuss as a group the answers to the human impact question.</p>

### 3<sup>rd</sup> Lesson Plan:

Teacher: \_\_\_\_\_ Unit: Trash Talk – Class 2

Date of lesson: \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How can we solve problems involving length and weight (mass)?</p> <p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Reuse? Recycle? Reduce?</p> <p>Students will work in teams to sort garbage into piles. Can the garbage be recycled, reused, or does it need to be dumped? Give the students some time to organize. If an item can be reused, how do they suggest it should be?</p> <p>Include items such as:</p> <ul style="list-style-type: none"> <li>- Glass jars</li> <li>- Recyclable plastic bottles with covers</li> <li>- Aluminum cans</li> <li>- Paper items that might include a cereal box, magazine, milk carton, paper from your classroom trashcan.</li> <li>- Several plastic shopping bags</li> <li>- One item made from Styrofoam</li> <li>- Pizza box</li> <li>- Jar and bottle lids</li> <li>- Gum wrappers</li> <li>- Item of clothing</li> </ul>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>Think-pair-share about their feelings as they were working through the garbage bag. Were you able to think of new uses for items? Did you recognize items that your family throws away? Do you recycle? Etc.</p> <p>Discuss changes to the environment due to trash and what the possible effects can be for animals.</p> <p>Gather the trash in a garbage bag and be sure there is enough trash for a full, large garbage bag. Tape off a square foot and a square yard on the floor and have cubic containers in varying sizes. Measure the garbage in the taped off squares and the cubic containers.</p> <p>Have students estimate how many garbage bags their family produces each week, each month, and year. How many square feet, yards, miles, etc. will it cover each week, month, year? Do the same with the cubic containers.</p>

	<p>Extra: check out the school's dumpsters and make the same estimations based on the school's garbage.</p> <p>Modified lesson from:  <a href="http://pbskids.org/eekoworld//parentsteachers/lessons1_3.html">http://pbskids.org/eekoworld//parentsteachers/lessons1_3.html</a></p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Have 5 items on a table and the students need to identify whether they can be reused or recycled and whether they just need to be disposed.</p> <p>Answer the question: How can you reduce your garbage in order to protect other animals?</p>

## 4<sup>th</sup> Lesson Plan:

Teacher: \_\_\_\_\_ Unit: Trash Talk – Hike 2

Date of lesson: \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Ticket Onto the Bus</p> <p>Students write:</p> <ul style="list-style-type: none"> <li>- something they remember from the last lesson</li> <li>- something good they hope to see on the hike</li> <li>- answer to “How are humans responsible for the environment?”</li> </ul>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>On the bus go over the students’ tickets. Ask the EQs during the hike.</p> <p>Hike on a very populated trail. Trailheads in parks or a trail that goes to a popular lookout point can be the best. During the hike point out changes to the environment due to humans and animals. Ask the students what is the difference between this hike and the last one. What do the students think of the experience? Continue the discussion with questions from their tickets onto the bus.</p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Journal: students write reflection about the hike including an answer to “How are humans responsible for the environment?”</p> <p>Discuss as a group the answers to the human impact question.</p>

## 5<sup>th</sup> Lesson Plan:

Teacher: \_\_\_\_\_ Unit: Trash Talk – Class 3

Date of lesson: \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Leave No Trace 101 (<a href="http://www.LNT.org">www.LNT.org</a>) activity – 056 Trash Timeline</p> <p>Students will work in teams to match pictures of objects to a decomposition time. Ex. Plastic bag – 10 to 20 years and banana peel – up to 2 years.</p>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>Review the past lessons – amount of garbage in the world based on previous estimates, the different experiences between the hikes, the impact of the trash, what can we do? Can one option be a trash cleanup? How could we do that?</p> <p>Students create a plan to “Talk Trash”: Plan a cleanup</p> <ul style="list-style-type: none"> <li>– Who will be asked to help? Parents, friends, etc.</li> <li>– What do we need - communication with the park, bags, gloves, etc.</li> <li>– Where will we go?</li> <li>– Why is it important to do this?</li> </ul> <p>Assign responsibilities. Determine teams for final project and who will hear the presentation.</p> <p>What does garbage do to our world? Each one of us can make a big difference just by becoming more aware about our choices as a consumer – to buy less, to favor products that have been produced without harming the environment and always using any chance to give new life to already used products. If more and more of us start to make those choices, the whole production chain will transform. Be smart, make a difference. (<a href="http://letsdoitworld.org">letsdoitworld.org</a>)</p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Key Points</p> <ul style="list-style-type: none"> <li>- Students write 2 concerns about the Trash Talk event.</li> <li>- Students write 1 reason the cleanup is a good idea.</li> </ul> <p>It is important to try to work through most concerns before we get to the trail.</p>

## 6<sup>th</sup> Lesson Plan:

**Teacher:** \_\_\_\_\_ **Unit:** \_\_\_\_ **Trash Talk – Hike 3**\_\_

**Date of lesson:** \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>Ticket Onto the Bus</p> <p>Students write:</p> <ul style="list-style-type: none"> <li>- answer to “How are humans responsible for the environment?”</li> <li>- what they hope to accomplish during today’s hike</li> </ul> <p>Discuss the answers as a whole group.</p>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>Trash cleanup – the students will pick up trash along the trail as they hike</p> <p>After the hike, the students will gather the trash together and measure it using the same process from Class 2. Tape off a square foot and a square yard and have cubic containers in varying sizes. Measure the garbage in the taped off squares and the cubic containers.</p> <p>If we collected the same amount of trash every day, how many square feet, yards, miles, etc. will it cover each week, month, year? Do the same with the cubic containers.</p> <p>If we collected the same amount across every mile of the Appalachian Trail how much garbage would we have?</p>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Ticket Off the Bus</p> <p>Students write answers to:</p> <ul style="list-style-type: none"> <li>- “What would I tell someone else about today?”</li> <li>- “How could I communicate it, what would be a good way? (presentation, poster, etc.)</li> </ul>

**7<sup>th</sup> Lesson Plan:**

Teacher: \_\_\_\_\_ Unit: \_\_\_\_ Trash Talk – Class 4 \_\_\_\_

Date of lesson: \_\_\_\_\_

<p><b><u>ESSENTIAL QUESTION:</u></b></p> <p>What is the MOST important concepts or skills?</p>	<p>How do every day human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) change the environment and change the Appalachian Trail?</p> <p>How are humans responsible for the environment?</p>
<p><b><u>Activating Strategy:</u></b></p> <p>How will you activate your lesson or link to prior knowledge?</p>	<p>3-2-1</p> <p>List: 3 things you already know about trash and the environment, 2 things you'd like to know about or learn more about, and 1 question related to "Trash Talk".</p>
<p><b><u>TEACHING STRATEGIES:</u></b></p> <p>What instructional strategies will you use in your lesson?</p>	<p>Group discussion about the students' 3-2-1 responses.</p> <p>Work on student group presentations (options):</p> <ul style="list-style-type: none"> <li>- Poster with pictures</li> <li>- PowerPoint</li> <li>- Speech for other classrooms or student body</li> </ul> <p>Ask "What can we do to change?"</p> <ul style="list-style-type: none"> <li>- Discuss other service opportunities</li> </ul>
<p><b><u>SUMMARIZING STRATEGIES:</u></b></p> <p>How will students summarize what they are learning during the lesson and at the end?</p>	<p>Journal:</p> <p>Write a reflection about the "Trash Talk" unit.</p> <ul style="list-style-type: none"> <li>- What? What is the impact of trash?</li> <li>- So what? Why is important to learn about trash?</li> <li>- Now what? What will I do to help?</li> </ul>

Resources:

<http://www.dep.pa.gov/Pages/default.aspx#.VI5GqRco7IU>

<http://www.letsdoitworld.org/>

Ideas for lessons:

[http://pbskids.org/eekoworld//parentsteachers/lessons1\\_3.html](http://pbskids.org/eekoworld//parentsteachers/lessons1_3.html)

[http://www.educationworld.com/a\\_lesson/lesson308b.shtml](http://www.educationworld.com/a_lesson/lesson308b.shtml)

<http://www.galaxy.net/~k12/recycle/index.shtml>