

## Thomaston Public Schools - Curriculum Overview and Pacing Guide

Directions - Each colored box below represents one curricular unit. In each box, complete as much of the required information as possible (unit title, unit pacing, unit overview, priority learning targets). On its own, this document will eventually become a public-facing and quick-reference curriculum guide. As suits our curriculum goals, we will eventually use the information you lay out here as the basis for building a fully-expanded curriculum.

A few important points:

1. Unit Title - Your unit title can be thematic (i.e. “The Power and Pain of Love”) or Skill-Based (i.e. Research and Argumentation) or Content-Driven (“Quadratic Functions and Operations”).
2. Uni Pacing - There are approximately forty instructional weeks in a school year, but due to testing, school events, etc., we build a curriculum to cover thirty-six weeks. A full curriculum should contain six units each a minimum of four weeks and maximum of eight weeks long. In total, the units should add up to thirty-six weeks of coverage. The only exception is ELA, which uses quarterly units each 9 weeks long.
3. Unit Overview - The unit overview is a “meaty” paragraph that provides a narrative description of the unit, including major themes, skills, and (possibly) content. Think: In this unit students will (read / do / experience / learn / understand / develop / consider /etc.)...
4. Compelling Questions - Compelling questions are essential. They reflect critical and important inquiries that help students make sense of the world around them through the lenses of specific themes, issues, and topics that connect to specific disciplines. Compelling questions are relevant. They engage students in inquiries that are of personal importance and that ask students to consider themes, issues, and topics that help them connect the content of specific disciplines to their own lives and to their world. For more information, click [here](#).
5. Priority Learning Targets - Each unit should contain three priority learning targets. These are effectively end-of-unit guarantees of what students will be able to do and demonstrate as a result of their learning. As priority learning targets, they are those “level three” learning targets on our eventual proficiency scales that we’ve been developing for a while now. The only exception to three targets per unit are for ELA (5-6 per unit) and history (six per unit, incl. three inquiry targets). These content areas have separate curriculum guide templates

<b>Course Title: Grade 4 Science</b>		
<b>School: TCS</b>	<b>Grade: 4</b>	<b>Curriculum Pacing: 36 weeks</b>
<b>Unit One: Human Machine</b>	<b>Unit Two: Birth of Rocks</b>	<b>Unit Three: Waves of Sound</b>
<b>Unit Pacing: 7-9 weeks</b>	<b>Unit Pacing: 7-9 weeks</b>	<b>Unit Pacing : 7-9 weeks</b>
<p><b>Unit Overview:</b> This introductory human body unit takes the perspective that we can think about our bodies as being like a machine. We have parts for moving around, sensors, and a built-in computer. Students explore their senses and consider how the information we process helps us understand and react to our environment.</p>	<p><b>Unit Overview:</b> This unit takes the perspective that every rock has a story. Students will develop an appreciation for the processes that shape the Earth's surface. After considering where volcanoes form and how they erupt, they turn to investigations of rocks breaking apart and creating potential hazards. Through hands-on investigation, students explore the world of rocks and design ways of protecting humans from their dangers.</p>	<p><b>Unit Overview:</b> This unit helps students develop the idea that sound is an actual thing, a wave of vibrations traveling through the air. Equipped with this understanding, students can begin to make sense of how sound and music work.</p>
<p><b>Compelling Questions</b></p> <ul style="list-style-type: none"> <li>• Why do your biceps bulge?</li> <li>• What do people who are blind see?</li> <li>• How can some animals see in the dark?</li> <li>• How does your brain control your body?</li> </ul>	<p><b>Compelling Questions</b></p> <ul style="list-style-type: none"> <li>• Could a volcano pop up where you live?</li> <li>• Why do volcanoes explode?</li> <li>• Will a mountain last forever?</li> <li>• How could you survive a landslide?</li> </ul>	<p><b>Compelling Questions</b></p> <ul style="list-style-type: none"> <li>• How far can a whisper travel?</li> <li>• What would happen if you screamed in outer space?</li> <li>• Why are some sounds high and some sounds low?</li> </ul>
<p><b>Priority Learning Targets</b></p> <ul style="list-style-type: none"> <li>• I can construct an argument that our body has internal and external structures that function to support survival, growth, and behavior.</li> <li>• I can use a model to describe that our bodies receive different types of information through their senses, process the information in their brain, and respond to the</li> </ul>	<p><b>Priority Learning Targets</b></p> <ul style="list-style-type: none"> <li>• I can identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in landscape over time.</li> <li>• I can make observations to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.</li> <li>• I can analyze and interpret data from</li> </ul>	<p><b>Priority Learning Targets</b></p> <ul style="list-style-type: none"> <li>• I can develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.</li> <li>• I can develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.</li> <li>• I can generate and compare multiple</li> </ul>

information in different ways.	maps to describe patterns of Earth's features.	solutions that use patterns to transfer information.
<b>Unit Four:</b> Energizing Everything 1	<b>Unit Five:</b> Energizing Everything 1	<b>Unit Six:</b>
<b>Unit Pacing:</b> 4-8 weeks	<b>Unit Pacing:</b> 4-8 weeks	<b>Unit Pacing:</b>
<b>Unit Overview:</b> This introductory energy unit will encourage students to think about the energy that things need to move. Students will explore how energy makes things go, from powering vehicles to moving one's body. Students will experiment with rubber bands to discover the relationship between how much energy is stored in a material and how much is released. They will investigate the role that hills play in making roller coasters move and the energy transfer that happens when two objects collide.	<b>Unit Overview:</b> This introductory energy unit will encourage students to think about the energy that things need to move. Students will explore how energy makes things go, from powering vehicles to moving one's body. Students will realize that thinking about the world in terms of energy helps them make sense of how and why things speed up and slow down. Hands-on activities focus on engineering, testing hypotheses and using results to develop their ideas.	<b>Unit Overview:</b>
<b>Compelling Questions</b> <ul style="list-style-type: none"> <li>• How is your body similar to a car?</li> <li>• What makes roller coasters go so fast?</li> <li>• Why is the first hill of a roller coaster always the highest?</li> <li>• Could you knock down a building using only dominoes?</li> </ul>	<b>Compelling Questions</b> <ul style="list-style-type: none"> <li>• Can you build a chain reaction machine?</li> <li>• What if there were no electricity?</li> <li>• How long did it take to travel across the country before cars and planes?</li> <li>• Where does energy come from?</li> </ul>	<b>Compelling Questions</b>
<b>Priority Learning Targets</b> <ul style="list-style-type: none"> <li>• I can use evidence to construct an explanation relating the speed of an object to the energy of that object.</li> <li>• I can make observations to provide evidence that energy can be transferred from place to place</li> </ul>	<b>Priority Learning Targets</b> <ul style="list-style-type: none"> <li>• I can use evidence to construct an explanation relating the speed of an object to the energy of that object.</li> <li>• I can make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric</li> </ul>	<b>Priority Learning Targets</b>

by sound, light, heat, and electric currents.

- I can ask questions and predict outcomes about the changes in energy that occur when objects collide.
- I can apply scientific ideas to design, test, and refine a device that converts energy from one form to another.
- I can obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
- I can generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

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