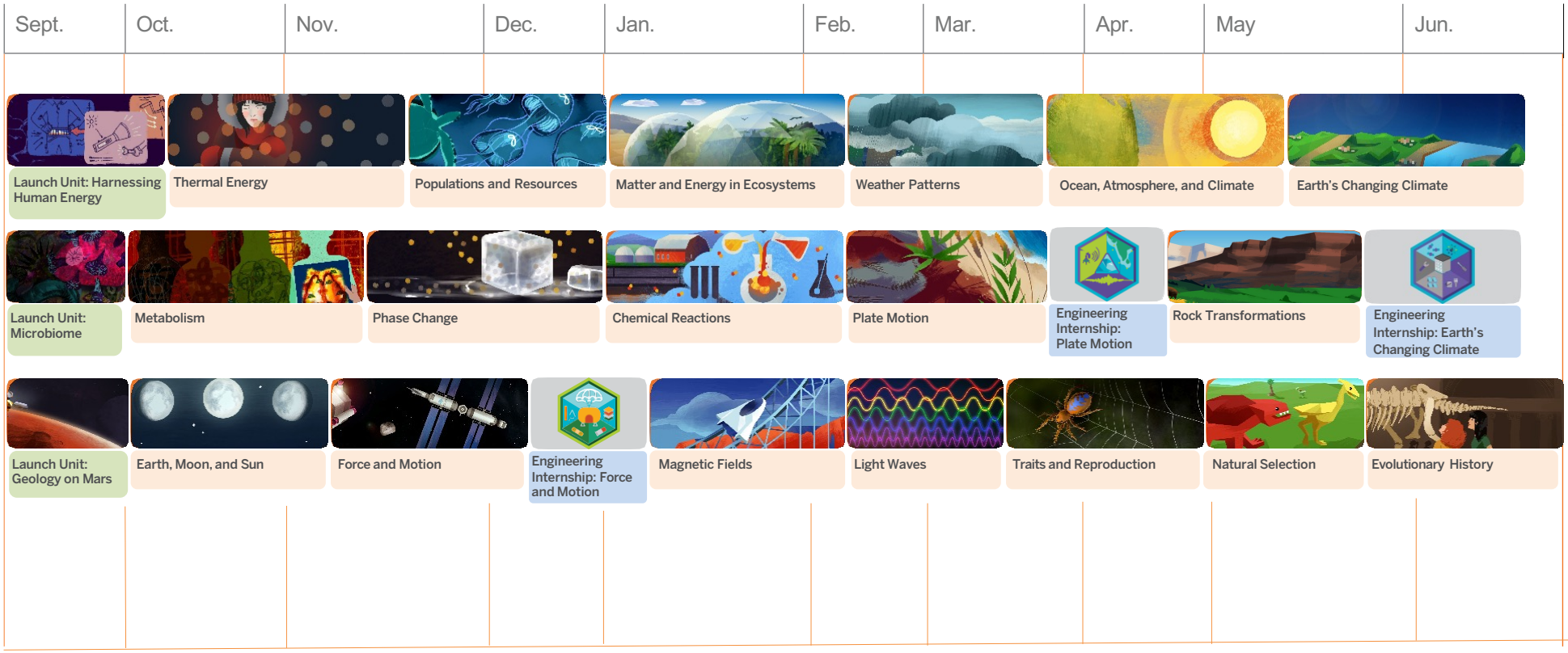
AmplifyScience

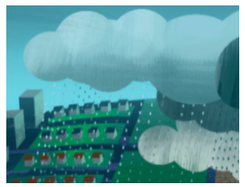
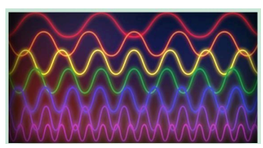
NYC Middle School Unit Pacing Calendar
2025-26 School Year



Recommended Instructional Days

Launch Units	19 days
Engineering Internships	15 days
Core Units	24 days

Amplify/NYSED Intermediate Level Investigations Alignment and Guidance Document

Amplify Unit	Brief Description of the Unit	Performance Expectation addressed in both the unit and NYSED Investigation	NYSED Investigation aligned to the unit When to teach this Investigation?
 **Thermal Energy** **Grade 6**	**Anchor Phenomenon**: Two different heating systems can heat Riverdale School. The unit Thermal Energy provides opportunities for students to conceptualize the ideas of energy transfer, heat, and temperature as the measure of the average motion energy of molecules in a system. They use their understanding throughout the unit to make decisions about a heating system for a fictional school.	**Cool It** Main PE addressed: MS-PS3-4: Plan and conduct an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the temperature of the sample of matter	Students must also conduct the **NYC Companion Lesson: Designing Hot and Cold Packs**. In this investigation, students will analyze data in order to determine the quantitative relationship between the mass of a metal and the amount of heat energy that the metal is able to transfer to water. Students will plan and conduct their own experiments using materials provided to them. The investigation "**Cool It**" can be conducted *after* finishing this unit. Students will be able to use their new knowledge of temperature and energy transfer while having conversations and drafting their claims about the energy that transfers from hot pieces of metals to water in a closed system .
 **Weather Patterns** **Grade 6**	**Anchor Phenomenon:** Rainstorms in Galetown, a fictional town, have been getting more severe over time. Through Weather Patterns, students will investigate how water vapor, temperature, energy transfer, and wind influence local weather and how these factors can lead to rainstorms.	**How's the Weather Up There?** Main PE addressed: MS-ESS2-5: Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	Students must also conduct the **Flextension: Severe Storms in Galetown** In this investigation, students will collect and analyze data of weather variables to determine how the motions and interactions of air masses cause changes in weather. Students will be given weather maps from five consecutive days. Using these maps, students will collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions in a region. The investigation "**How's the Weather Up There?**" can be conducted *prior to the unit*. Students will have a better understanding of what air masses are, their motions and interactions before engaging in learning about air parcels and how some rainstorms are more severe than others.
 **Microbiome** **Grade 7**	**Anchor Phenomenon**: Organisms live on and in the human body. Middle school students are beginning to understand abstract concepts as well as physical environments that are 'invisible' such as the microscopic world. The unit *Microbiome* provides students the opportunity to learn about the human microbiome, understand the scale of very small worlds, and have discussions about ways to maintain our bodies health.	**It's Alive? **** Main PE addressed: MS-LS1-1: Plan and conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. ** This investigation is aligned with both units. Schools/Teacher teams should decide where is most appropriate for their students to complete this investigation.	In this investigation, students will make observations using a microscope to provide evidence that living things are made up of cells (some unicellular and some multicellular), and that cells have individual parts that contribute to their overall function. Students will benefit from conducting the **Flextension: Microscopic Evidence of Life** The investigation "**It's Alive?**" can be conducted *prior to the unit*. Students will have a better understanding of the idea that all living things are made of cells, including unicellular organisms such as *bacteria*.
 **Light Waves** **Grade 8**	**Anchor Phenomenon:** Australia has one of the highest skin cancer rates in the world. Students investigate why such a rate is so high, analyzing data that scientists might consider. The Light Waves unit helps students gain a deeper understanding of how light interacts with materials and how these interactions affect our world; from the colors we see to changes caused by light from the sun, such as warmth, growth, and damage.		In this investigation, students will make observations using a microscope to provide evidence that living things are made up of cells (some unicellular and some multicellular), and that cells have individual parts that contribute to their overall function. This investigation **"It's Alive"** can be conducted *prior* to teaching students this unit on Light Waves. Students will have a better understanding of cells and cell parts when having conversations about how light waves affect melanin in skin cells.
 **Chemical Reactions** **Grade 7**	**Anchor Phenomenon:** A reddish-brown substance is coming out of the water pipes in the neighborhood of Westfield, a fictional town. The Chemical Reactions unit uses the learning of atoms, physical properties of matter, and chemical reactions to discuss and propose solutions to problems like identifying substances dissolved in water, explaining how rust forms and how burning happens at the atomic scale.	**All Mixed Up** Main PE addressed: MS-PS1-8: Plan and conduct an investigation to demonstrate that mixtures are combinations of substances.	Students must also conduct the **Flextensions "Identifying Substances", "Investigating Mixtures" and the NYC Companion Lesson: Mixtures, Properties, Separation** In this investigation, students will plan and conduct an experiment to separate a mixture into its individual substances. Students will determine what methods should be used to separate the substances. They will then, using a Substance Identification Flowchart, determine what these substances are, based on their properties. The investigation "**All Mixed Up**" can be conducted *after having conducted the Flextension* and NYC Companion Lesson, right before beginning Chapter 3. Students will have a better understanding of physical properties, mixtures and separation techniques before conducting the Investigation.