

## The Basics

### What is included in the Amplify Science 6-8 program? What materials should I receive with my purchase?

Included in your purchase:

- **Classroom Kits**, each of which provides enough physical and print materials for up to 200 students. Note that each unit also has a small portion of teacher-provided items (markers, post-its, chart paper, etc.).
- **Printed Teacher Guides**, one per unit
- **Digital Teacher licenses** for each unit of the grade level being taught
- **Investigation Notebooks** for each unit taught
- **Student Digital Subscription**, which grants access to lesson instructions, assessments, simulations, apps, digital library, and more, for all units for the grade

Within the components of the Amplify Science materials listed above, you will find:

- **Online instructional materials** for both students and teachers.
- **Robust, interactive digital simulations** and other apps. **Science articles**, written for the Amplify Science program. **Engaging media** that introduces students to the unit's problem context and the role they will be inhabiting. **Formative and 3-D summative assessments** which support and guide student instruction, along with a Reporting feature that shows visualizations of student data and growth based on their unit assessments. In addition, **benchmark assessments**, which report on students' facility with the three dimensions and performance expectations of the NGSS, are available as an add-on.
- **Multilingual glossary** of all content-area vocabulary words. Languages include Spanish, French, Portuguese, Russian, Mandarin, Vietnamese, Haitian-Creole, Tagalog, Arabic, and Urdu.
- **Unit kits** for each unit, which includes **hands-on and print materials**.

## How many lessons are there?

Amplify Science’s Richmond City Public Schools scope and sequence is made up of 2 courses (or “years”) that address the Virginia 2018 Standards of Learning.

A course consists of a set of units, each of which contain either **ten** lessons (Launch and Engineering Internship units) or **nineteen** lessons (Core units), depending on the unit type. All lessons are written for a 45-minute class period, but teachers can always expand or contract this timing to meet their class’ needs.

## Richmond Public Schools Unit Recommendations

### Integrated Life Science

- Microbiome (Launch Unit)
- Metabolism
- Engineering Internship: Metabolism
- Traits and Reproduction
- Populations and Resources
- Matter and Energy in Ecosystems
- Natural Selection
- Evolutionary History
- Weather Patterns
- Earth's Changing Climate
- Earth, Moon, and Sun

### Physical Science

- Harnessing Human Energy (Launch Unit)
- Force and Motion
- Engineering Internship: Force and Motion
- Thermal Energy
- Phase Change
- Engineering Internship: Phase Change
- Chemical Reactions
- Light Waves
- Magnetic Fields

### Earth Science

- Geology on Mars
- Plate Motion
- Engineering Internship: Rock Transformations
- Ocean, Atmosphere, and Climate
- Engineering Internship: Earth's Changing Climate

AmplifyScience

authored by



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Given the number and type of the units in each grade level’s respective scope and sequence, teachers of 6th grade Integrated/Life Science can expect to find 200 lessons total over the course of the school year and teachers of 7th grade Integrated/Physical Science will find 157.

## What grade level(s) will teachers have digital access to? Can I have access to the full middle school program if I teach multiple grades?

Teachers will not automatically have access to all grade levels’ units, but any teacher who teaches all grades will. In short, teachers have access to whichever units they are scheduled to teach and their students will be using. Access to units outside of the units of which you are

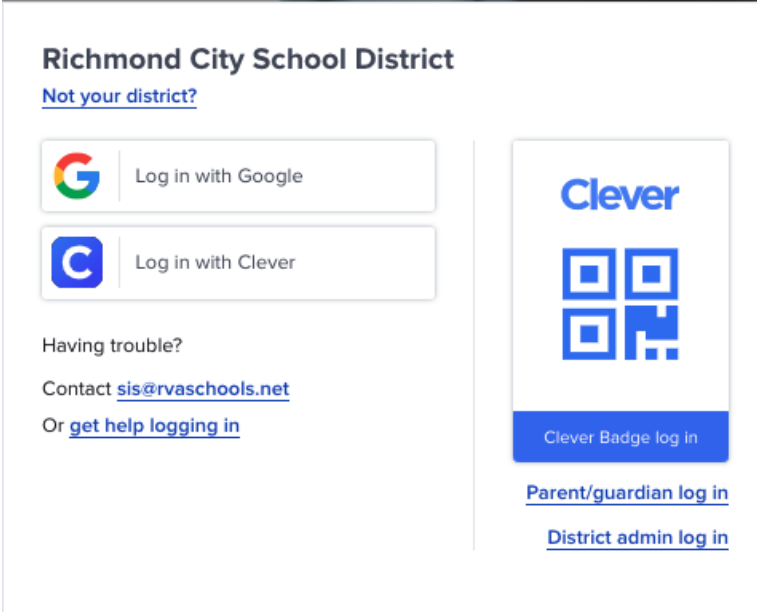
scheduled to teach will require a separate purchase. For additional licensing and curriculum access, please converse with your administrators about purchasing additional units of study.

## Technology/Logging In

### I am a middle science school teacher; how do I log in?

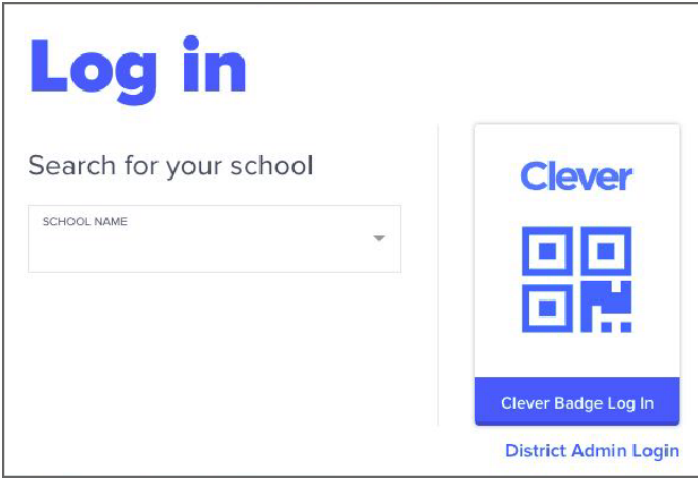
Your enrollment is pulled automatically from your Aspen system. Middle school teachers use their Employee ID numbers for both their username and password.

To log on you will navigate to [learning.amplify.com](https://learning.amplify.com) and select “**Log in with Clever.**”



The screenshot shows the login page for Richmond City School District. At the top left, it says "Richmond City School District" with a link "Not your district?". Below this are two buttons: "Log in with Google" (with the Google 'G' logo) and "Log in with Clever" (with the Clever 'C' logo). Underneath these buttons, there is a link "Having trouble?" followed by "Contact [sis@rvaschools.net](mailto:sis@rvaschools.net)" and "Or [get help logging in](#)". To the right of these buttons is a large Clever logo consisting of four squares, with a blue button below it that says "Clever Badge log in". Below that button are two more links: "[Parent/guardian log in](#)" and "[District admin log in](#)".

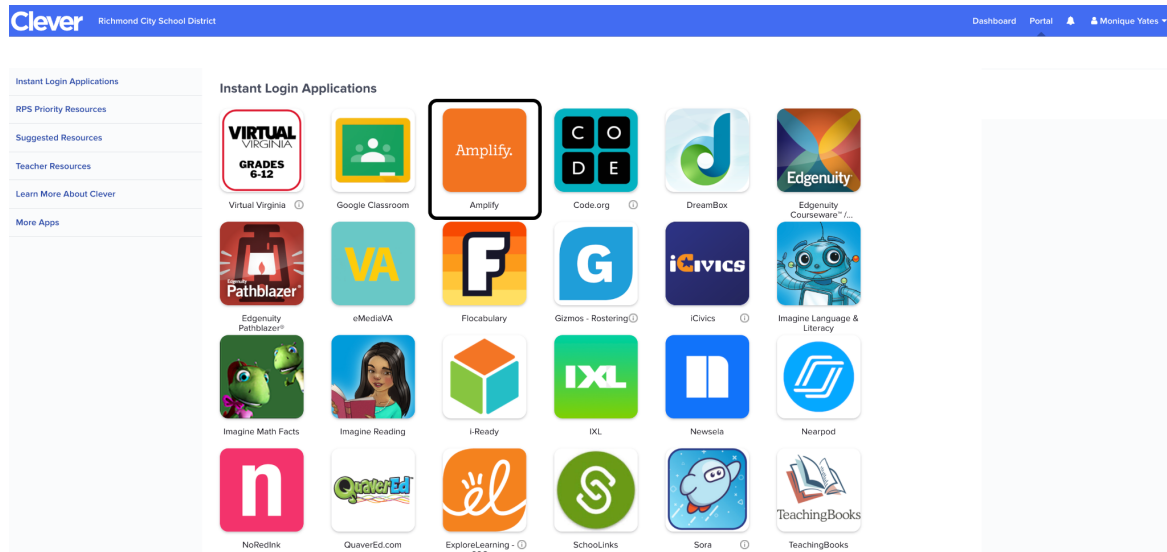
From there, you will select your school name from the drop- down menu.



The screenshot shows the Clever login page. At the top left, it says "Log in" in large blue letters. Below this is a search bar with the text "Search for your school" and a dropdown menu labeled "SCHOOL NAME". To the right of the search bar is a large Clever logo consisting of four squares, with a blue button below it that says "Clever Badge Log In". Below that button is a link "[District Admin Login](#)".

Then select **Students and Teachers**.

You should then be able to access Amplify by clicking on the Amplify tile.



### **I am a middle school administrator; how do I log in?**

You can follow the same steps as the middle school teachers, mentioned above.

### **How do my students log in?**

Students use almost the exact same steps as their teacher does to log in (see above). The only difference is that students will use their student number for their username and their password begins as their date of birth.

### **When will the teacher and student personal credentials be available to us?**

Once schedules are finalized in Aspen at the beginning of the year, your data will be shared with Amplify. At that point, the Amplify implementation team will be able to quickly license and activate your teacher and student accounts.

### **How are my students enrolled?**

Enrollment is tied to the Aspen system. Once schools have finalized schedules in Aspen, Amplify automatically receives the student roster information through Clever, a third party partner.

### **What if there are changes to my rosters mid-year? Do I need to do anything?**

No! As long as the change is reflected in Aspen, Clever will automatically update the rosters in the Amplify Science system within 24-48 hours.

**Can multiple teachers have access to the program?**

Co-teachers can be set up if there is more than one teacher for a particular class.

**What if my student(s) forgets their password and cannot login?**

If a student forgets their password, please follow these instructions on our [Richmond Resources site](#) on how to reset student passwords via the Clever portal.

**What type of device do I need for Amplify Science 6-8?**

Supported devices:

- iPads 5
- MacBooks
- Windows laptops or desktops
- Chromebooks

Supported web browsers:

- Chrome
- Safari

**Do we need devices every day to use the program?**

No, daily device access is **not necessary** to implement the program with fidelity.

Amplify Science is a flexible, blended program that leverages a strategic mix of physical materials and digital tools. Students have the opportunity to use digital tools in approximately 50 percent of lessons--and in schools that have 1:1 device programs, students can use their devices daily. The implementation of Amplify Science is flexible and will work with a wide range of technology environments. See our [Classroom Technology Quick Start Guide](#) for examples of the most common scenarios and the recommendations for implementing Amplify Science with them.

**Does anything need to be installed on the devices to run the program?**

No! All that is needed is an internet connection and a Chrome or Safari browser. Your IT department will work with us to take care of setting up the program on your and your students' devices during the initial implementation.

## Curriculum

**What are the most essential documents that I should review/focus to start?**

**Step 1:** Your most essential starting documents can be found on the [Richmond Resources site](#).

**Step 2:** Review the **Amplify Science Overview and Navigation Essentials**. You'll find them for both K-5 and 6-8.

**Step 2:** Review your **Scope and Sequence** or **unit pacing guide and calendar**.

**Step 3:** Review the **Unpacking the Kit Video/s** to understand what's in your unit 1 kit.

**Step 4:** Consult the **Technology/Logging In** section of this document.

**Step 5:** Log-in to the curriculum and begin studying the **Unit Map** and **Teacher's Guide** resources and begin planning your first lesson.

**Step 6:** *Administrator's ONLY* - Review the **Getting Started Checklist** for tips to support your school's implementation.

**NOTE:** Should you need any additional guidance on how to get started with prep (or anything else), please feel contact our pedagogical support team. They are available Monday-Friday from 7AM-7PM EST. You can reach them via the chat icon in the lower right- hand corner of your screen when logged in, through email ([help@amplify.com](mailto:help@amplify.com)), or via phone (800-823-1969).

**How can your materials be shared among multiple teachers (RTI, ICT, etc.)?**

Amplify Science has both print and kit materials that can be shared among teachers as needed. All classroom print materials such as the key concepts, vocabulary headers, activity cards are accessible to print via the digital teacher's platform if more copies are required. These can be found in the Printable Resources section within the Unit Guide.

For the sharing of kit materials, we suggest organizing the materials in sealed, labeled bins that can then be shared and returned among teachers. Using a science cart might be helpful too.

Please consult with your principal to understand the purchases made for your school.

**Why are there no Lexile levels in the Library? How will students below grade level be able to access these texts?**

The readings across the units range across levels of complexity, presenting students with opportunities for challenging texts as well as more accessible texts. However, in considering the Lexile measures, it is important to note that introducing and supporting students in reading to learn is an important goal of Amplify Science. Therefore, all Amplify Science units provide varied learning opportunities as well as timely supports to ensure that diverse learners can be successful with the language and content demands of science, ultimately becoming more independent learners and thinkers.

First, every student has access to literacy supports, including read-aloud library articles and a multilingual digital glossary that provides in-context definitions. These features encourage students to become metacognitive about their own learning by thinking about what they know and need at any given time. To ensure students receive the help they need, however, teachers are also provided with information about the resources that are available to students, and about what kind of students these resources might best support.

Second, Amplify Science units are designed to incorporate gradual release of responsibility. This means that there is an emphasis on teacher modeling and direction initially, but much of the scaffolds that existed earlier in the unit are thoughtfully and meaningfully removed as the unit progresses. In doing so, students become more independent and confident in their own abilities over time. This ensures all students have a shared experience and equal access to science vocabulary and ideas, something leveled texts would preclude.

Third, in service of helping teachers make strategic decisions about instruction in their individual classrooms, a Differentiation Brief is included in every lesson of Amplify Science. This describes what is built into the lesson to support diverse learning needs; highlights potential challenges teachers should be aware of; and provides specific strategies for differentiating instruction.

### **What are the Companion lessons?**

To ensure your students would be prepared to meet all of the 2018 Virginia Standards of Learning, special Companion Lessons were added to the Amplify Science Richmond Public Schools materials. These Companion Lessons directly target the additional standards that are found exclusively in the Virginia State Standards of Learning tests. Some additional information to help you plan:

- There are 14 Companion Lessons spread across 9 units:
  - Harnessing Human Energy
  - Ocean, Atmosphere, and Climate
  - Populations and Resources
  - Thermal Energy
  - Weather Patterns
  - Phase Change
  - Chemical Reactions
  - Metabolism
  - Magnetic Fields
- The Companion Lessons are in a format you will recognize from all other Amplify Science lessons. Each has a Materials and Prep section, Standards listings, step-by-step directions with model teacher language, as well as copymasters, possible responses, etc.
- The Companion Lessons are accessible via download from the [Richmond Resources site](#).

### **What are the Companion lessons?**

The Companion lessons were developed by the Lawrence Hall of Science specifically for New York City. Upon their completion, we realized they could be useful for teachers in Richmond too.

### **Are the Companion lessons optional or mandatory?**

In order for students to meet the 2018 Virginia Standards of Learning, the Richmond City Public Schools Science Department has identified the Companion Lessons as mandatory.

### **Where can I find the Companion lessons?**

The Companion lessons can be downloaded from the [Richmond Resources site](#). Note that not all units have Companion lessons.

### **Can we modify the program or do you recommend we follow the sequence? The Companion lessons?**

The Richmond Public Schools Science Department recommends that you follow the scope and sequence provided. Following the sequence as provided will ensure that your students are prepared to meet the set of standards for their grade level, as outlined by the Richmond scope and sequence.

## **Standards and Assessment**

### **How does Amplify Science align with the 2018 Virginia Standards of Learning?**

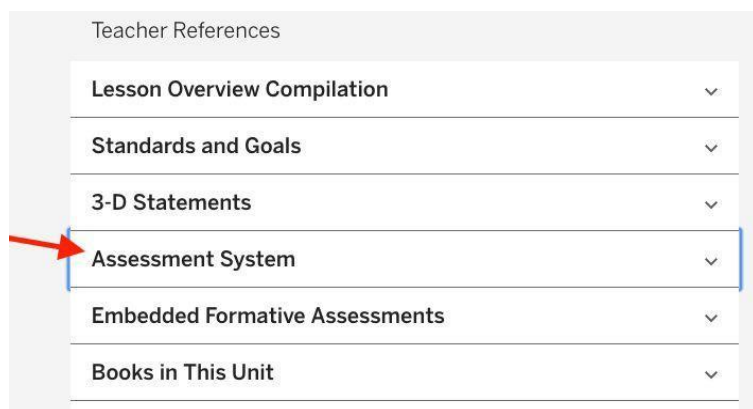
The sequence of units in each grade of Amplify Science 6-8, along with the content of the Companion Lessons, progressively builds students' abilities to meet the grade-level expectations of the 2018 Virginia Standards of Learning.

### **What types of assessments are provided with this program?**

The assessment system for each Amplify Science unit is designed to provide teachers with actionable diagnostic information about student progress toward the learning goals for the unit. Assessment of unit learning goals is grounded in the unit's Progress Build, which describes how student understanding is likely to develop and deepen through engagement with the unit's learning experiences. The assessment system includes formal and informal opportunities for students to demonstrate understanding and for teachers to gather information throughout the unit— all while giving teachers flexibility in deciding what to score and what to simply review. Built largely around instructionally embedded performances, these opportunities encompass a range of modalities that, as a system, attend to research on effective assessment strategies and the *NRC Framework for K–12 Science Education*.



For more details, the “Assessment System” resource in the Unit Guide area will give you a complete breakdown of all of the assessment opportunities in your units.



## Diverse Populations and English Language Learner Supports

### **How does Amplify Science adhere to equity and access for all and meet the needs of diverse populations?**

The vision of the *Framework for K-12 Science Education* is “all standards, all students.”

Amplify Science is designed to fulfill this vision by providing quality and supportive materials for teachers so that every student – regardless of their background, where they live, the language they speak at home, or their learning characteristics – has access to and benefits from deep and engaging science and engineering learning opportunities. The program therefore provides a differentiated path for all students to thrive in the science and engineering classroom. Following the principles of Universal Design for Learning and Culturally Responsive and Sustaining Education (CRSE), teachers have access to detailed guidance on supporting students with diverse learning strengths and needs in addition to embedded supports within lesson activities. More detailed information on how the design of the program and included supports work to enable historically marginalized populations to access rich science learning, please see the [Access and Equity](#) section of the Amplify Science Program Guide.

### **What differentiation supports are there for diverse populations?**

Every core unit of Amplify Science features a Critical Juncture Assessment that provides an important opportunity for differentiation. The Critical Juncture signifies a point at which it is especially important that students understand the content before moving on so that they are well positioned for success in subsequent instruction. To give teachers the tools they need to monitor and adjust student learning at this point, the Critical Juncture results indicate students’ progress since the beginning of the unit. Those results are also used to group students for differentiated, adaptive learning experiences in the subsequent lesson.

In addition, to support teachers in providing the best possible instruction for their respective students, every lesson of Amplify Science includes a **Differentiation** section in the Lesson Brief. The Differentiation Brief describes what is built into the lesson to support diverse learning needs; highlights potential challenges teachers should be aware of; and provides specific strategies for differentiating instruction. The Differentiation Brief contains the following sections:

- **Embedded Supports for Diverse Learners:** Every unit is designed with diverse learners in mind, with the goal of providing rigorous yet accessible science instruction. Each lesson is intentionally planned to provide multiple entry points for students, and to enable all students to be successful with all of the activities. This section of the Differentiation Brief highlights the scaffolds already embedded within the lesson so that teachers can take advantage of the power of these carefully designed activities.
- **Potential Challenges in This Lesson:** This section of the Differentiation Brief highlights aspects of the lesson that may present particular cognitive, linguistic, or social challenges for students.
- **Specific differentiation strategies for English Learners (ELs):** This section of the Differentiation Brief points out activities that could pose linguistic challenges for ELs or reduce their access to science content, and suggests supports and modifications accordingly. Suggestions include linguistic supports to bolster students' understanding of science content, supports for engaging with science texts, ideas for helping students participate in discussions, multiple ways students can express their ideas in writing, and more.
- **Specific differentiation strategies for students who need more support:** Every lesson includes ways for teachers to support those students who are struggling or who have special needs. These additional scaffolds are to be used entirely at the discretion of the teacher, and provide targeted suggestions tailored for the activities in that particular lesson.
- **Specific differentiation strategies for students who need more challenge:** Every lesson has ways for a teacher to expand upon the lesson, or go beyond the scope of what is expected in that lesson. This section of the Differentiation Brief provides suggestions that allow students to engage with content more deeply, explore the material with a new purpose, pursue more independent research on a topic, and more.

### **What other languages do you currently support?**

At this time we only offer lesson materials in English and Spanish. However, we do include print and digital multilingual glossaries of all content-area vocabulary words to help students of other language access complex scientific words. Languages reflected in the Multilingual Glossary of each unit include Spanish, French, Portuguese, Russian, Mandarin, Vietnamese, Haitian-Creole, Tagalog, Arabic, and Urdu.

## **How does this program support English Language Learners?**

Five principles helped the Lawrence Hall of Science's curriculum developers design instructional sequences to meet the goals of bolstering students to develop a deep understanding of science content, decreasing language demands without diluting science content, and allowing students to more fully engage in disciplinary literacy practices. The five principles are based on research on best practices in the field and have been reviewed by the Hall's English learner advisors.

Principle 1: Leverage and build students' informational background knowledge.

Principle 2: Capitalize on students' knowledge of language.

Principle 3: Provide explicit instruction about the language of science.

Principle 4: Provide opportunities for scaffolded practice.

Principle 5: Provide multimodal means of accessing science content and expressing science knowledge.

## **Enacting the five principles in the curriculum**

Many of the best practices for supporting English learners are also helpful for all students (for example: providing clear directions, building the curriculum as a coherent set of ideas that build on one another, allowing time for reflection, and providing explicit instruction in the practices of the discipline). These best practices form the foundation of the Amplify Science curriculum. For students who need additional support, specialized instructional approaches, activities, and resources that take into account English learners' level of language proficiency are provided to help them develop academic language skills. Language support for English learners is included throughout the program in two fundamental ways:

1. **Embedded instructional design** Many scaffolds are embedded within the instructional plan and are presented to teachers through the teacher materials and to **all** students as activities within the unit. Throughout the process of designing the curriculum, these scaffolds and supports were planned, tested, and refined to provide rigorous yet accessible science instruction.
2. **Additional support**: Additional activities and specific methods for supporting English learners are provided for use as needed, especially in the Teacher Support notes within the lessons.

Please see the **English Learners section** of the Amplify Science Program Guide for an in depth discussion of how intentional, embedded instructional design and additional support was built into the curriculum to support English Learners.

## **More Information**

**Amplify's Richmond Site** - This live website was created for Richmond educators as a source for additional resources that can help you with getting started, planning, and implementing Amplify Science in Richmond. Check back for seasonal updates and upcoming professional learning opportunities.

<https://amplify.com/richmondscience>