Do Now: *Use the link in the chat to add your best remote learning tips and tricks to the Jamboard.*

Amplify Science

Engineering Internship
Unit Internalization & Guided Planning

Deep-dive and strengthening workshop
Grade 8, Natural Selection Engineering Internship

LAUSD

xx/xx/2020

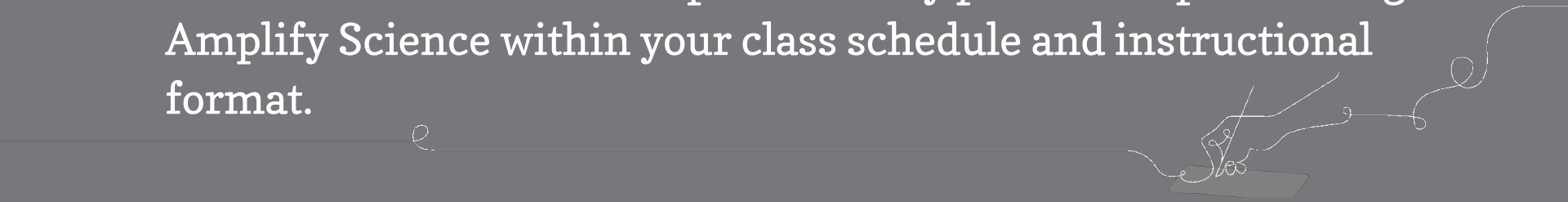
Presented by Your Name

In a new tab, please log in to your Amplify Science account through Schoology.

Workshop goals

By the end of this workshop, you will be able to:

- Internalize your upcoming unit.
- Plan for collecting **evidence of student learning** in order to make instructional decisions to **support diverse learner needs**.
- Gather resources to develop a multi-day plan for implementing Amplify Science within your class schedule and instructional format.



Plan for the day

- Framing the day
  - Amplify Science Refresher
  - Introduction to Engineering Internships and Futura workspace
- Unit Internalization
  - Unit overview
  - Research phase
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- Reflection and closing

Plan for the day

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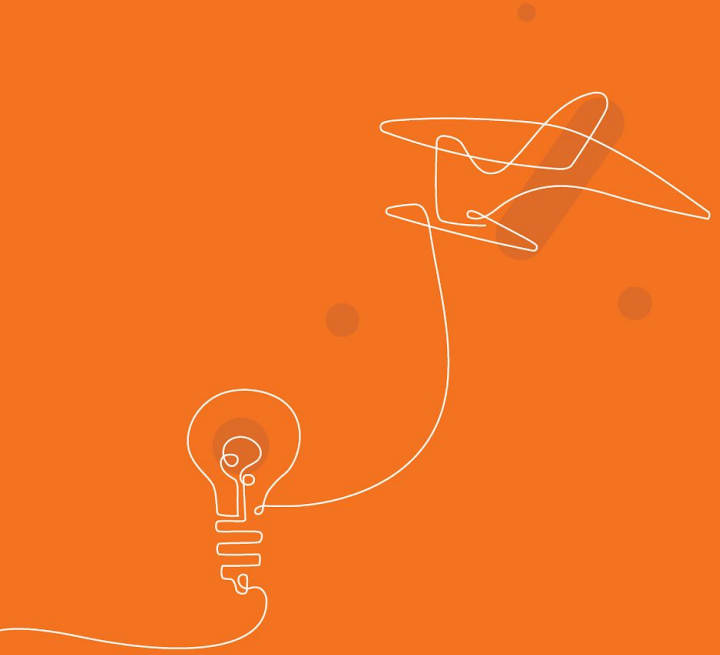
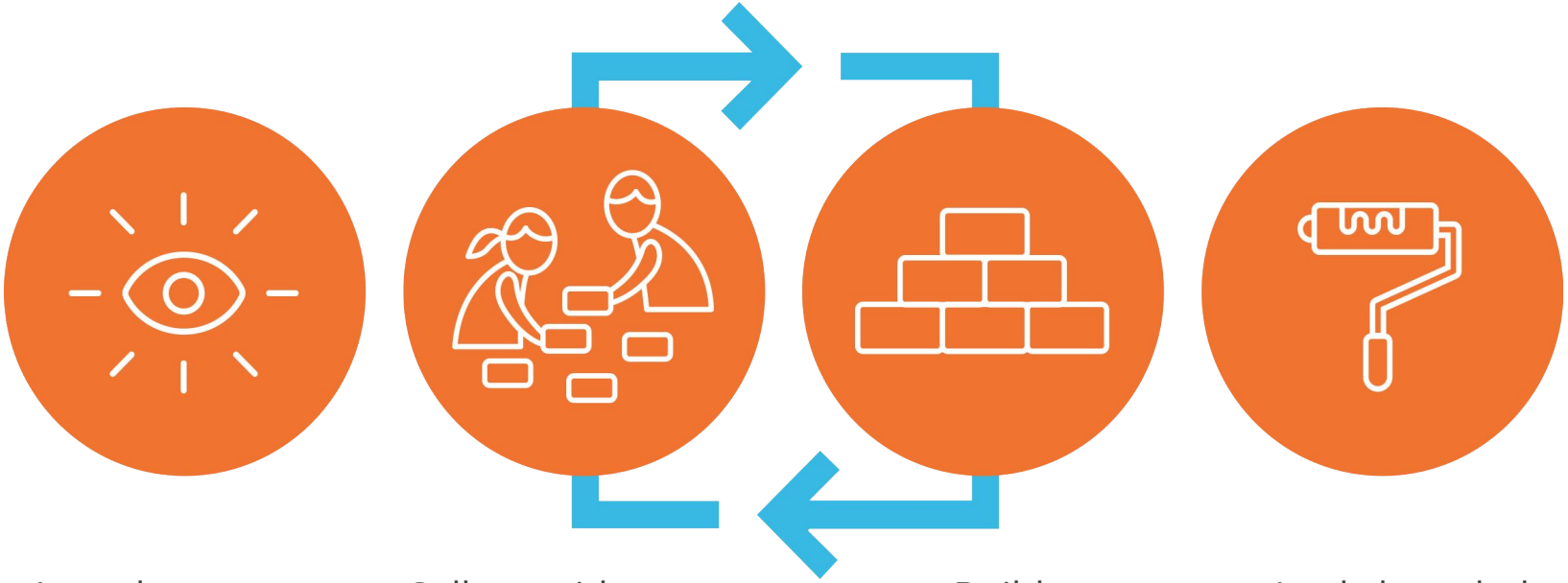
- Reflection and closing



Amplify Science Refresher

Amplify.

Amplify Science Instructional Approach



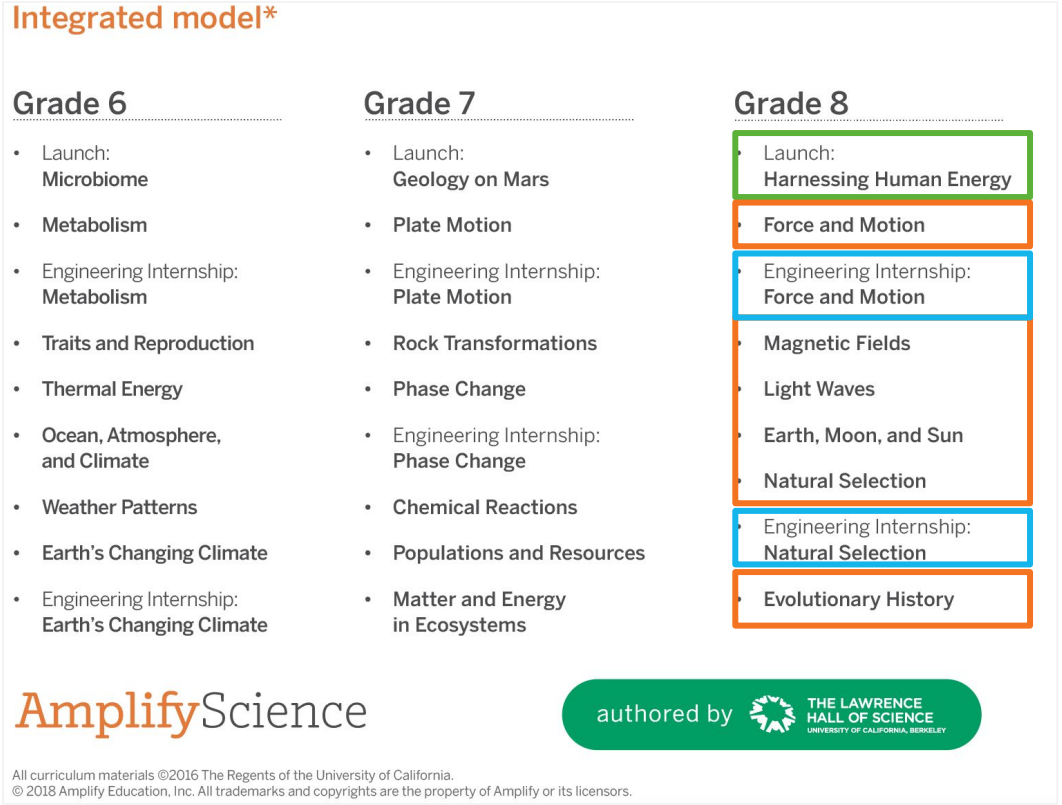
Introduce a phenomenon and a related problem

Collect evidence from multiple sources

Build increasingly complex explanations

Apply knowledge to solve a different problem

Middle school course curriculum structure



Launch units

- First unit
- 11 lessons

Core units

- Majority of units
- 19 lessons

Engineering Internships

- Two per year
- 10 lessons

Introduction to Engineering Internships and Futura workspace

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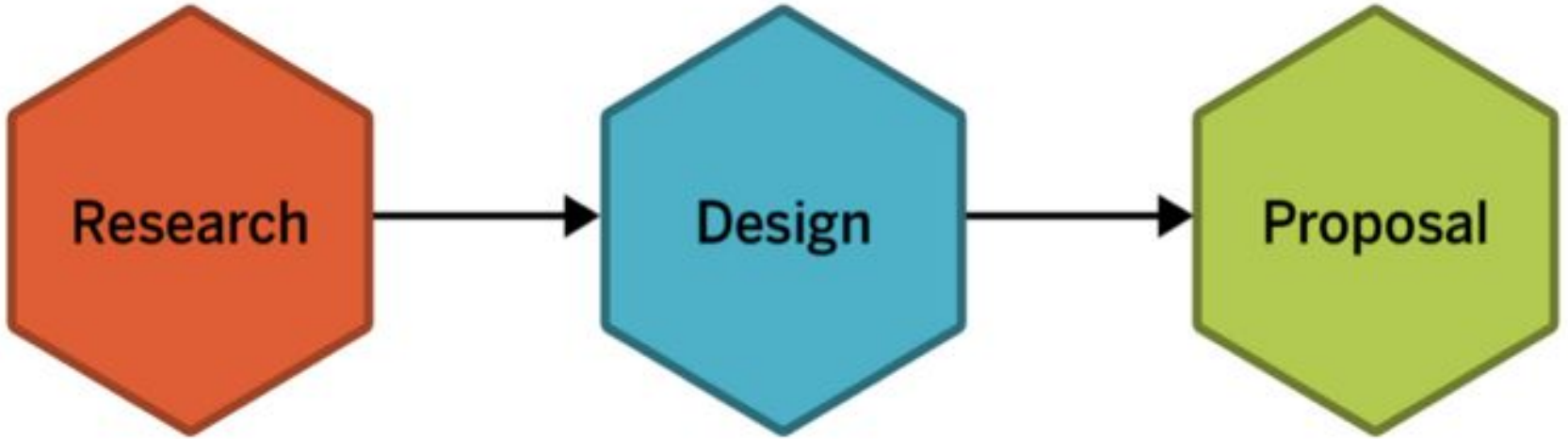
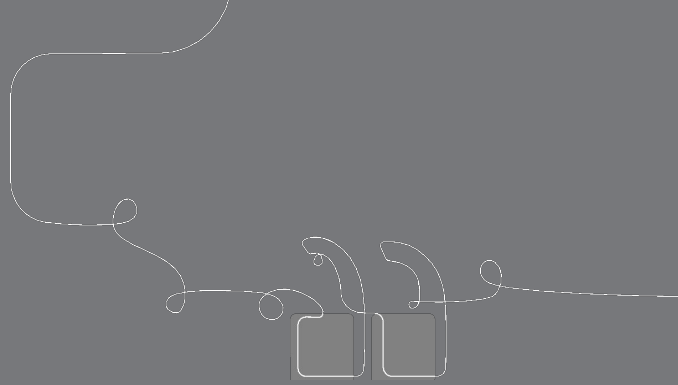
Natural Selection Engineering Internship

Engineering Internships

- Engage in Engineering Practices and Engineering DCI’s
- Apply science content
- Immerse students in an internship experience within a
- STEM career
- Address an urgent real-world problem
- Provide a student-centered experience

Engineering Internships phases





Questions?

Plan for the day

- Framing the day
  - Amplify Science Refresher
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- **Unit Internalization**
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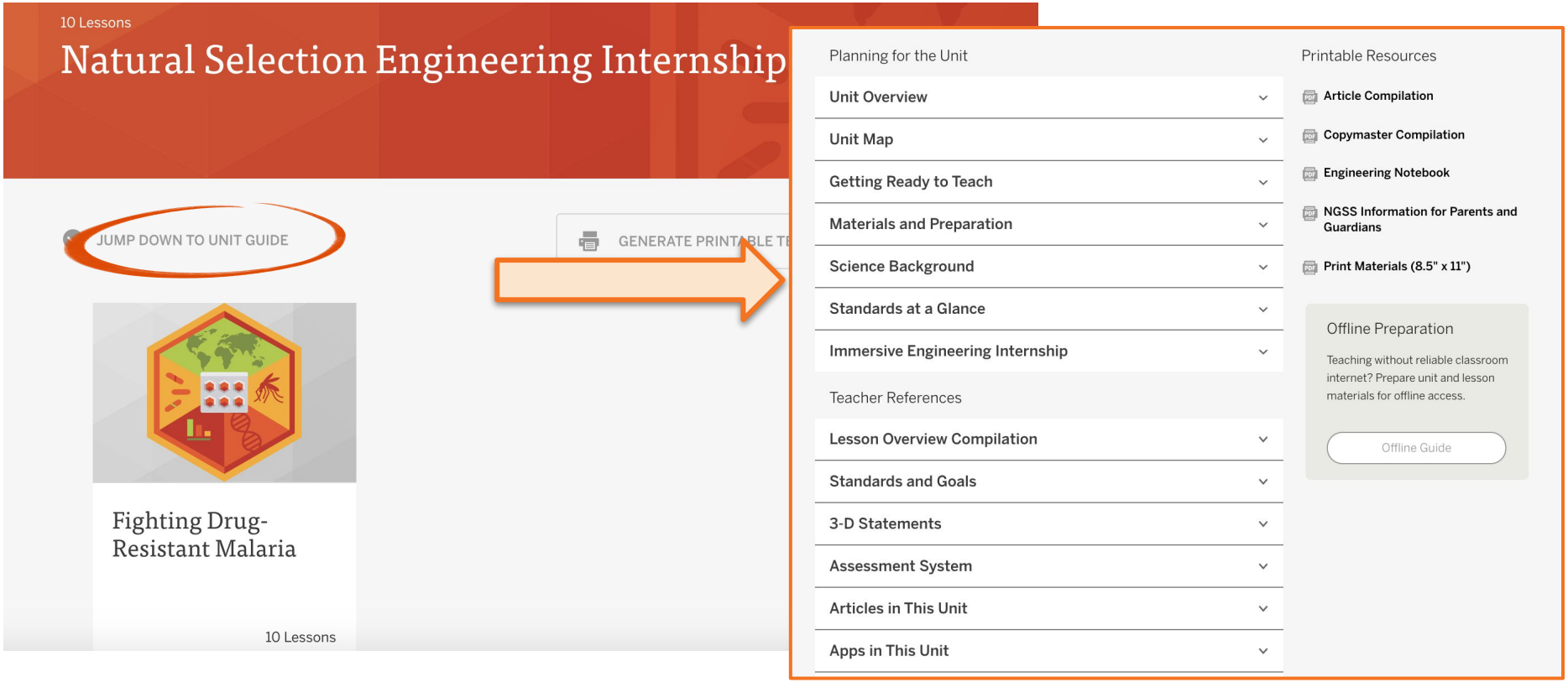
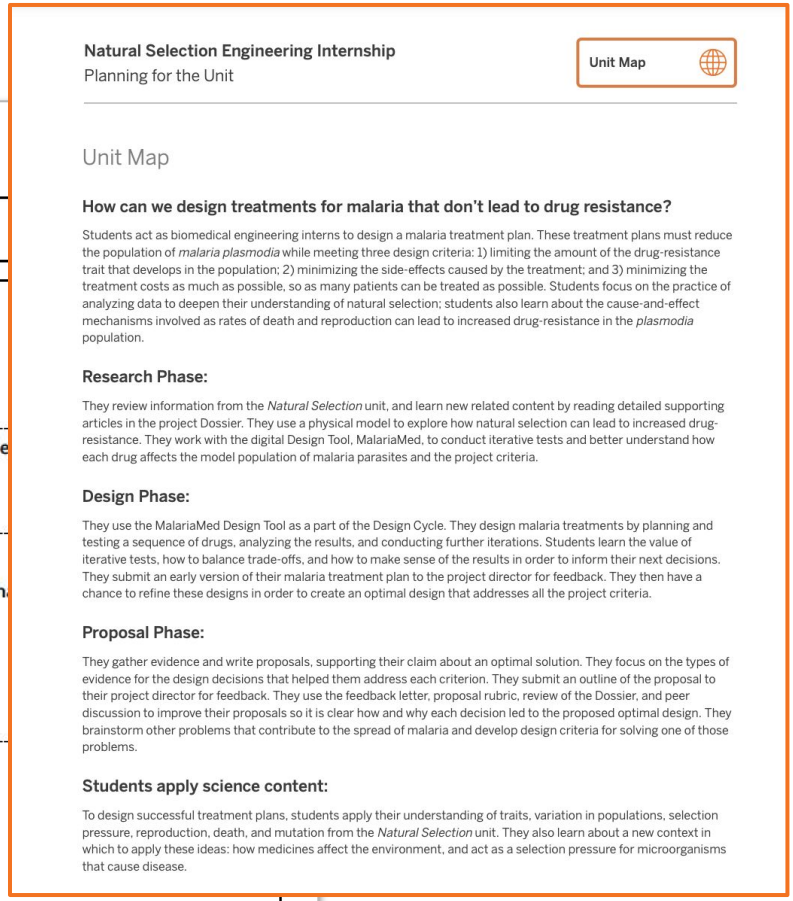
Navigate to the Unit Guide



Unit Internalization Work Time

Page 1



Natural Selection Engineering Internship
Planning for the Unit

Unit Map

Unit Map

How can we design treatments for malaria that don't lead to drug resistance?

Students act as biomedical engineering interns to design a malaria treatment plan. These treatment plans must reduce the population of *malaria plasmodia* while meeting three design criteria: 1) limiting the amount of the drug-resistance trait that develops in the population; 2) minimizing the side-effects caused by the treatment; and 3) minimizing the treatment costs as much as possible, so as many patients can be treated as possible. Students focus on the practice of analyzing data to deepen their understanding of natural selection; students also learn about the cause-and-effect mechanisms involved as rates of death and reproduction can lead to increased drug-resistance in the *plasmodia* population.

Research Phase:

They review information from the *Natural Selection* unit, and learn new related content by reading detailed supporting articles in the project Dossier. They use a physical model to explore how natural selection can lead to increased drug-resistance. They work with the digital Design Tool, MalariaMed, to conduct iterative tests and better understand how each drug affects the model population of malaria parasites and the project criteria.

Design Phase:

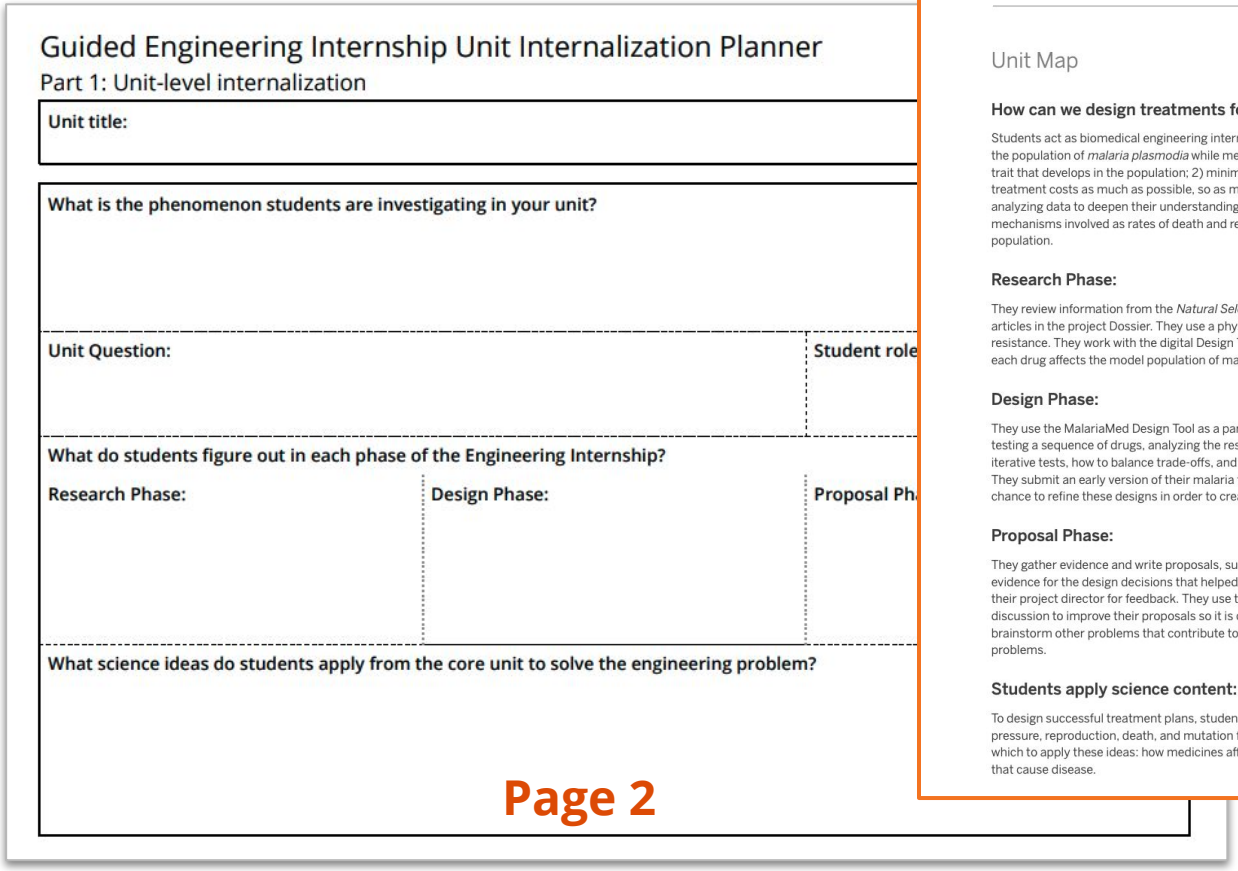
They use the MalariaMed Design Tool as a part of the Design Cycle. They design malaria treatments by planning and testing a sequence of drugs, analyzing the results, and conducting further iterations. Students learn the value of iterative tests, how to balance trade-offs, and how to make sense of the results in order to inform their next decisions. They submit an early version of their malaria treatment plan to the project director for feedback. They then have a chance to refine these designs in order to create an optimal design that addresses all the project criteria.

Proposal Phase:

They gather evidence and write proposals, supporting their claim about an optimal solution. They focus on the types of evidence for the design decisions that helped them address each criterion. They submit an outline of the proposal to their project director for feedback. They use the feedback letter, proposal rubric, review of the Dossier, and peer discussion to improve their proposals so it is clear how and why each decision led to the proposed optimal design. They brainstorm other problems that contribute to the spread of malaria and develop design criteria for solving one of those problems.

Students apply science content:

To design successful treatment plans, students apply their understanding of traits, variation in populations, selection pressure, reproduction, death, and mutation from the *Natural Selection* unit. They also learn about a new context in which to apply these ideas: how medicines affect the environment, and act as a selection pressure for microorganisms that cause disease.



Guided Engineering Internship Unit Internalization Planner

Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Unit Question:

Student role

What do students figure out in each phase of the Engineering Internship?

Research Phase:

Design Phase:

Proposal Ph

What science ideas do students apply from the core unit to solve the engineering problem?

Page 2

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Guided Engineering Internship Unit Internalization Planner

Part 1: Unit-level internalization

Unit title: Natural Selection Internship

What is the phenomenon students are investigating in your unit?

Design a malaria treatment plan with 3 criteria: limit amount of drug resistant traits, minimize side effects, minimize cost

Unit Question:

How can we design treatments for malaria that don't lead to drug resistance?

Student role:

Biomedical engineers

What do students figure out in each phase of the Engineering Internship?

Research Phase:

They work with the digital Design Tool, MalariaMed, to conduct iterative tests and better understand how each drug affects the model population of malaria parasites and the project criteria

Design Phase:

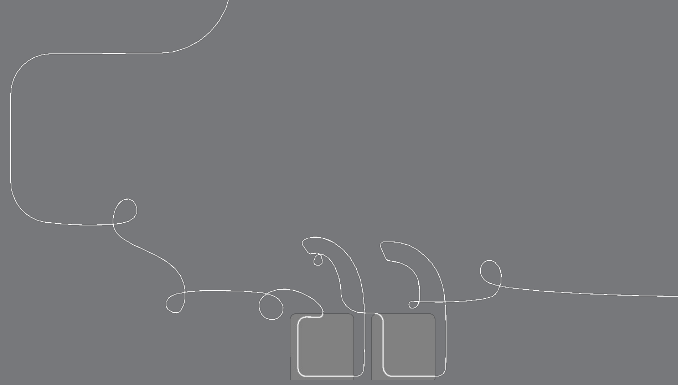
design malaria treatments by planning and testing a sequence of drugs, learn the value of iterative tests, how to balance trade-offs, and how to make sense of the results in order to inform their next decisions.

Proposal Phase:

gather evidence and write proposals, supporting their claim about an optimal solution.

What science ideas do students apply from the core unit to solve the engineering problem?

Students apply their understanding of traits, variation in populations, selection pressure, reproduction, death, and mutation from the *Natural Selection* unit.

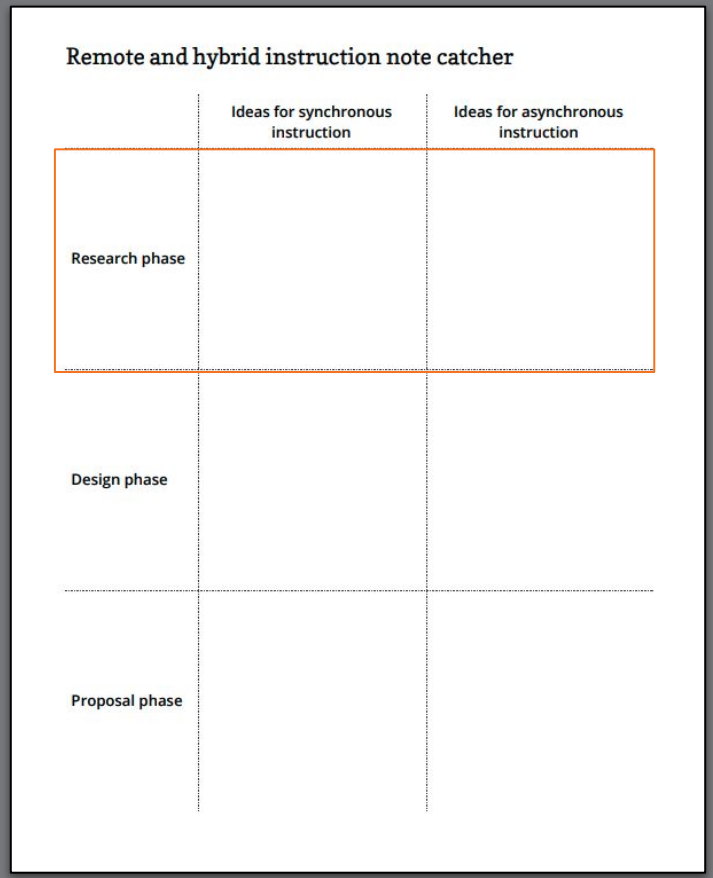


Questions?

Natural Selection Internship

Research Phase

Capturing remote and hybrid teaching strategies

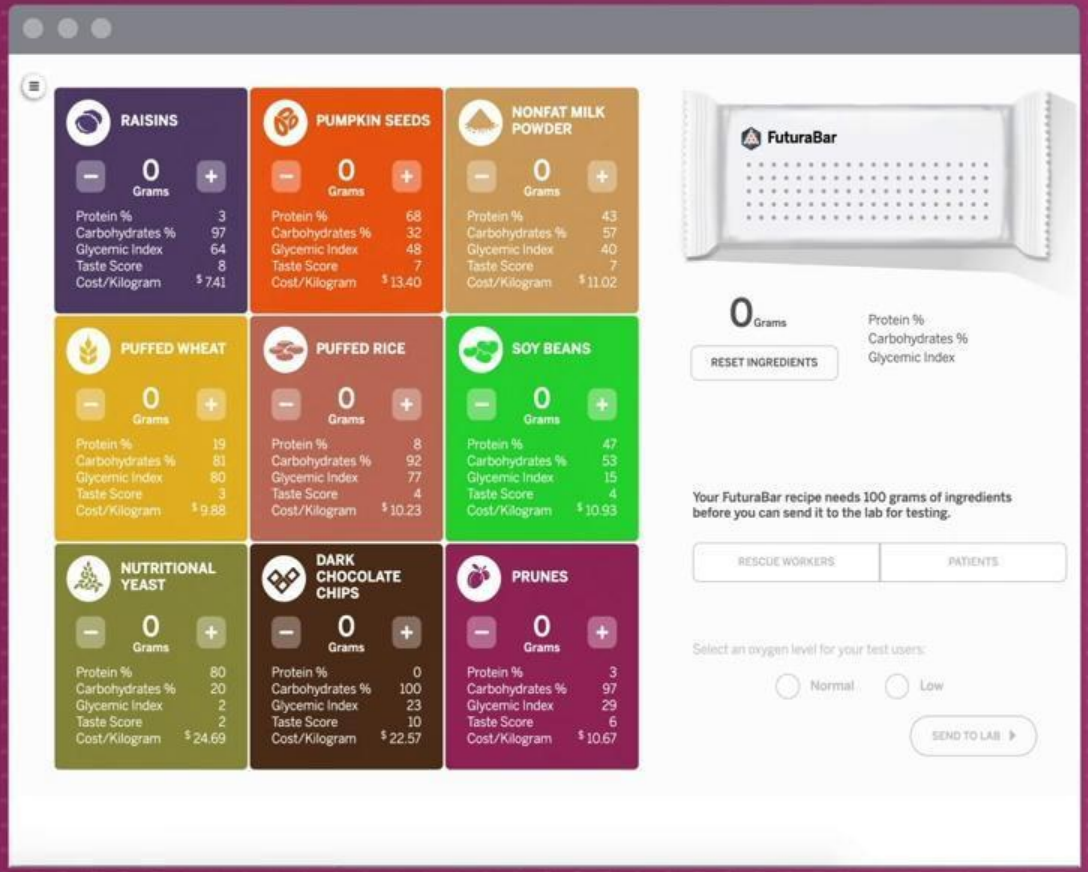


Remote and hybrid instruction note catcher

	Ideas for synchronous instruction	Ideas for asynchronous instruction
Research phase		
Design phase		
Proposal phase		

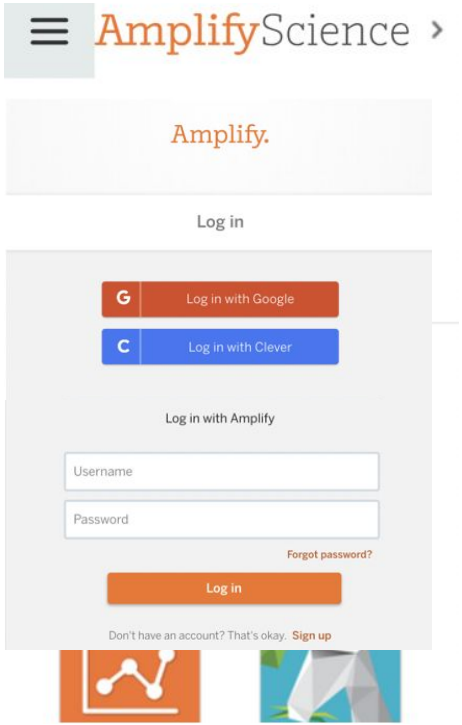
Page 10

This icon in the top right corner takes you to the digital design tool. You'll use this tool to test your designs.



Log out and then log in as students

Safari or Chrome



1. Navigate to Global Navigation (top left)
2. Select **Log out** of Teacher account
3. Select **Log in with Amplify**
4. Enter your student demo account credentials:
   Username: **XXXX@tryamplify.net**
   Password: **AmplifyNumber1**
5. Now explore Amplify Science as you wait for others!

Natural Selection Engineering Internship

Day 1: Introducing the Engineering Internship

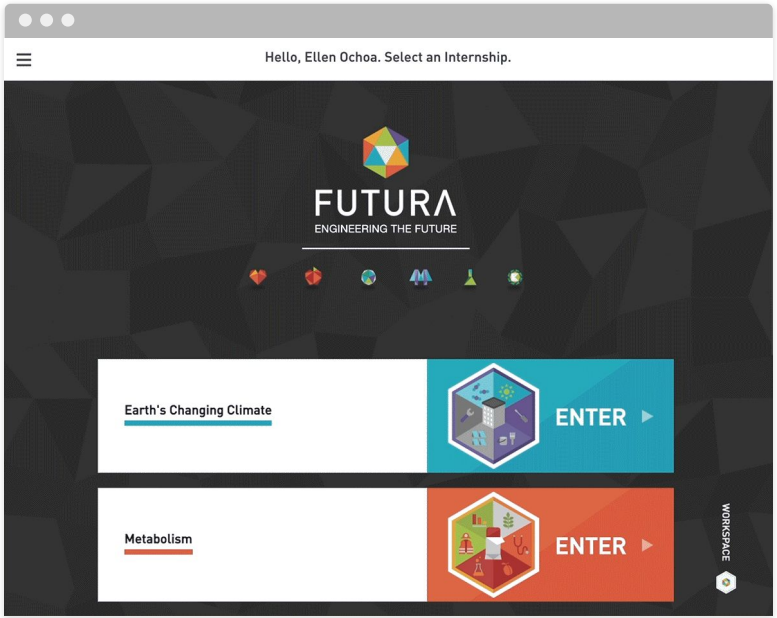
AmplifyScience

Activity 1

Connecting to Futura Workspace

Starting today, you will be working as **engineering interns** for a company called Futura.

You will start each day of your internship by reading a new message.



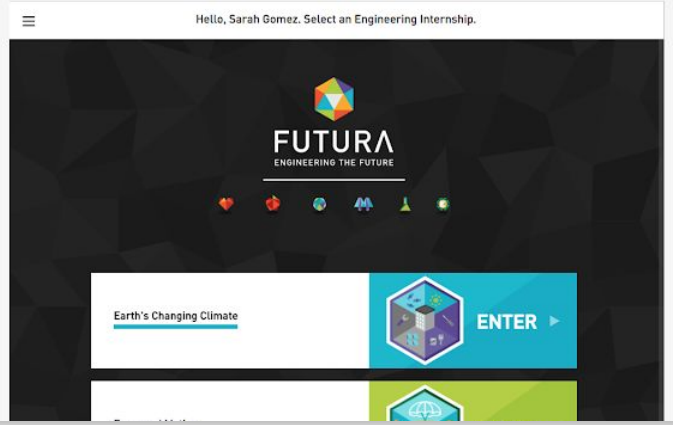
You'll open **Futura Workspace** and select *Natural Selection* Engineering Internship.

Then, you'll open the **Day 1 message** to read about your **new internship.**

Connecting to Futura Workspace

Open the Futura Workspace.

1. Select the **Natural Selection Engineering Internship** from the login page.
2. Select the **Welcome to Futura!** message to open and read about your new internship.



Activity T

Introducing Futura

Welcome, engineering interns! I will be your internship coordinator, and I'll guide you through this project with Ken Tapaha, your project director.

Where have you heard the word **engineer** before? What kind of work do engineers do?

What are **biomedical engineers?** What do you think they do?





All engineers design solutions to problems. **Biomedical engineers** apply concepts in biology and medicine to improve human health and save lives.

Your **project director** is Ken Tapaha.

Ken has sent a video message to explain more about Futura and the engineering project.


FUTURA
FUTURA
ENGINEERING THE FUTURE
Ken Tapaha
Engineer
Biomedical Division

Ken wants you to design a malaria treatment.

What are some possible **requirements** that might be important to make a successful malaria treatment design?

Criteria

FUTURA

1. Minimize drug resistance
2. Minimize patient side effects

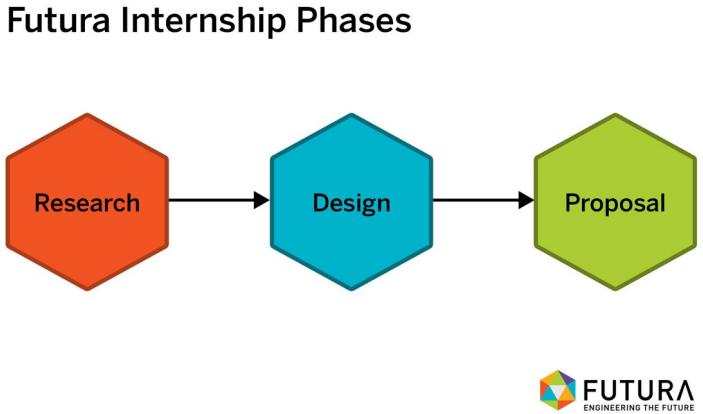
Let's discuss what you learned in the video about your internship.

What is the **project** you will work on?

Do you have any **questions?**

As biomedical engineering **interns,** you'll use what you have learned about natural selection to solve a real and important problem.

Remember, Ken Tapaha will be the **project director** for this internship. He will send you messages, assign you tasks to do, and give you feedback on your work.



Your internship will have **three phases:** Research, Design, and Proposal.

I'll give you a quick overview of what will happen in each phase.

criteria: standards by which something may be judged

At Futura, we have many *criteria* for every product.

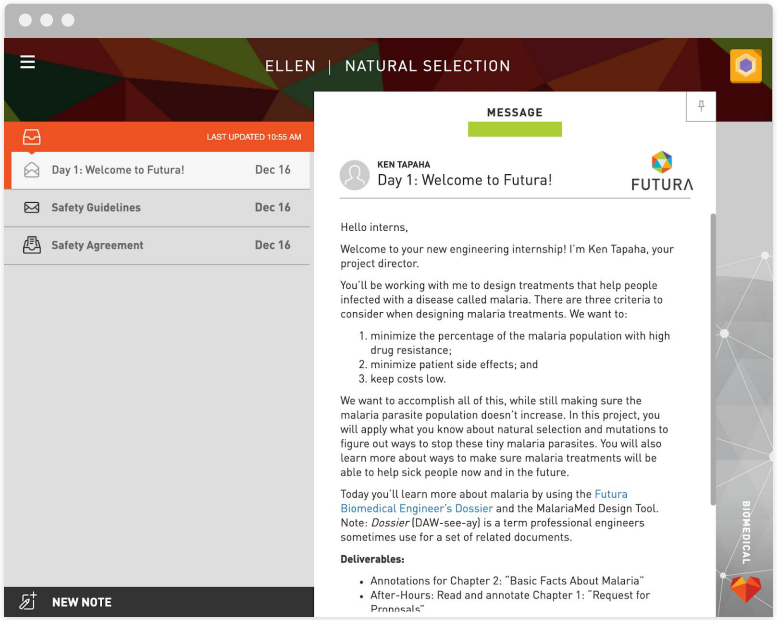
Let's discuss the **three criteria** for your treatment plan and why each one is important:

1. minimize the percentage of the malaria population with high drug resistance
2. minimize patient side effects
3. keep treatment costs low

20 MIN

Activity 2

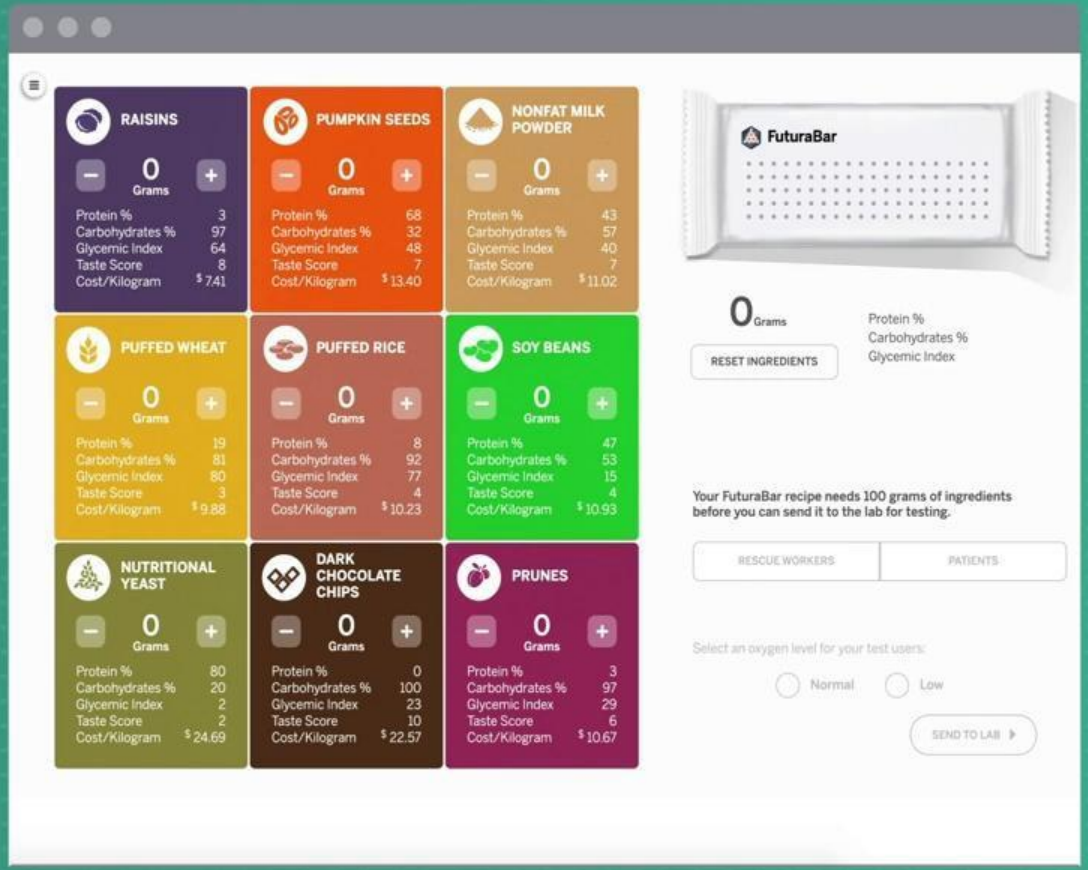
Reading About Malaria



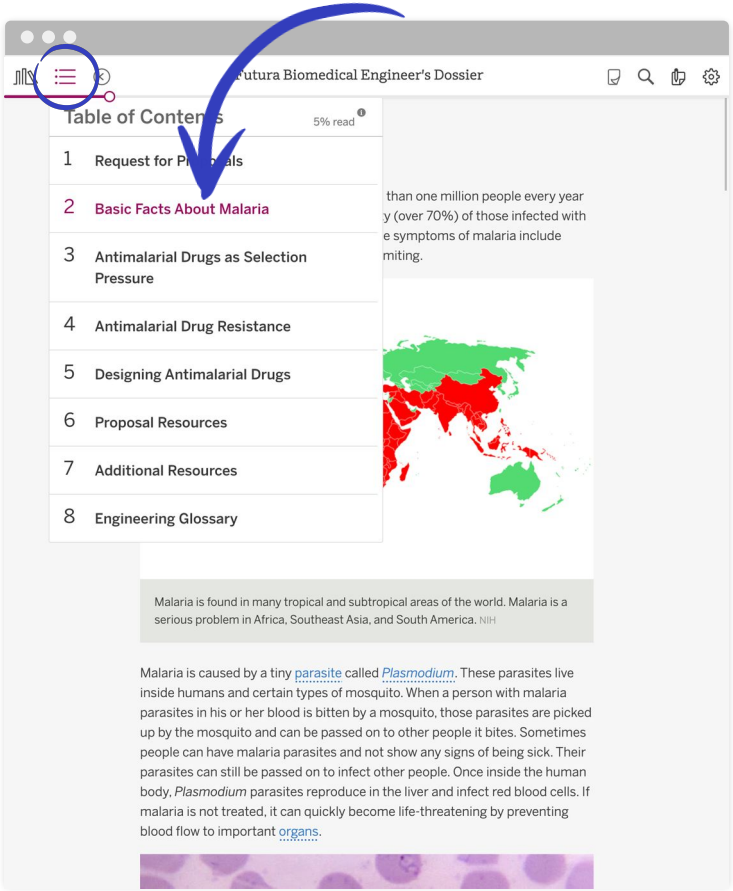
Throughout your internship, you'll be using **Futura Workspace** to get messages, record notes, and submit work.

Let's see how it works.

This icon in the top right corner takes you to the digital **Design tool**. You'll use this tool to test your designs.



You will begin your **research** on malaria by reading part of the **Biomedical Engineer's Dossier.**



It’s essential that you understand the disease malaria, so you’ll read **Chapter 2.**

You can use the Table of Contents to navigate between the chapters.

Engineers read like scientists: **reading multiple times, making connections** to things they already know about, and **asking critical questions.**

As engineering interns, you should practice these skills, just as you have been doing in science class by using **Active Reading.**

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.

2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.

3. Examine all visual representations carefully. Consider how they go together with the text.

4. After you read, discuss what you have read with others to help you better understand the text.

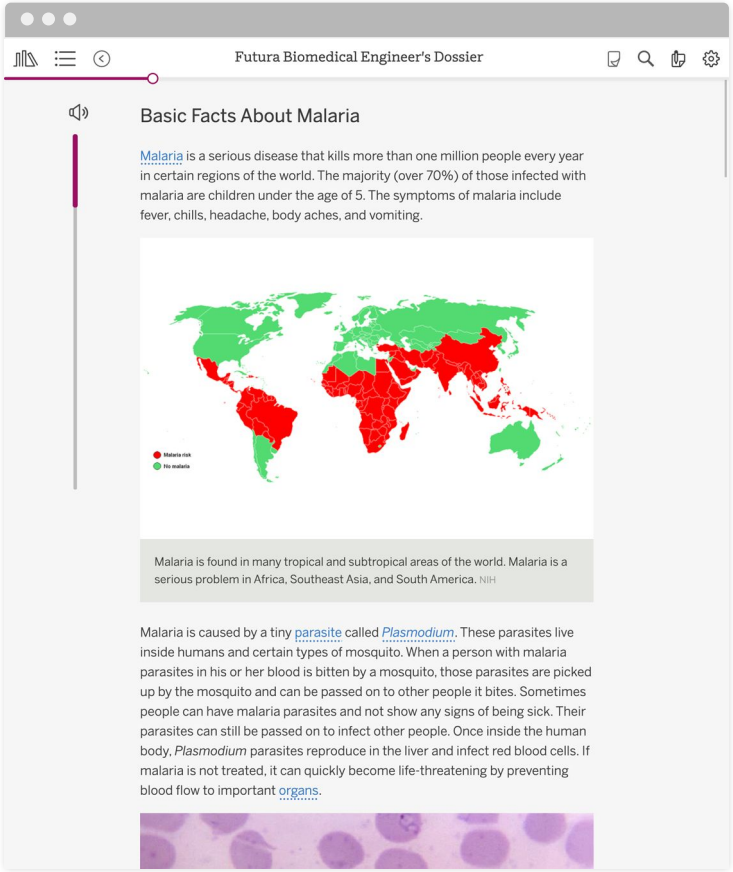
malaria: a serious disease caused by parasites spread to humans by mosquitoes

parasite: an organism that lives in or on another organism and causes it harm

What is malaria?

Why is it such a problem in the world?

In addition to recording your own questions and connections as you read, you can make annotations to help you answer these **focus questions.**



You can open the Dossier using the link in the Welcome message.

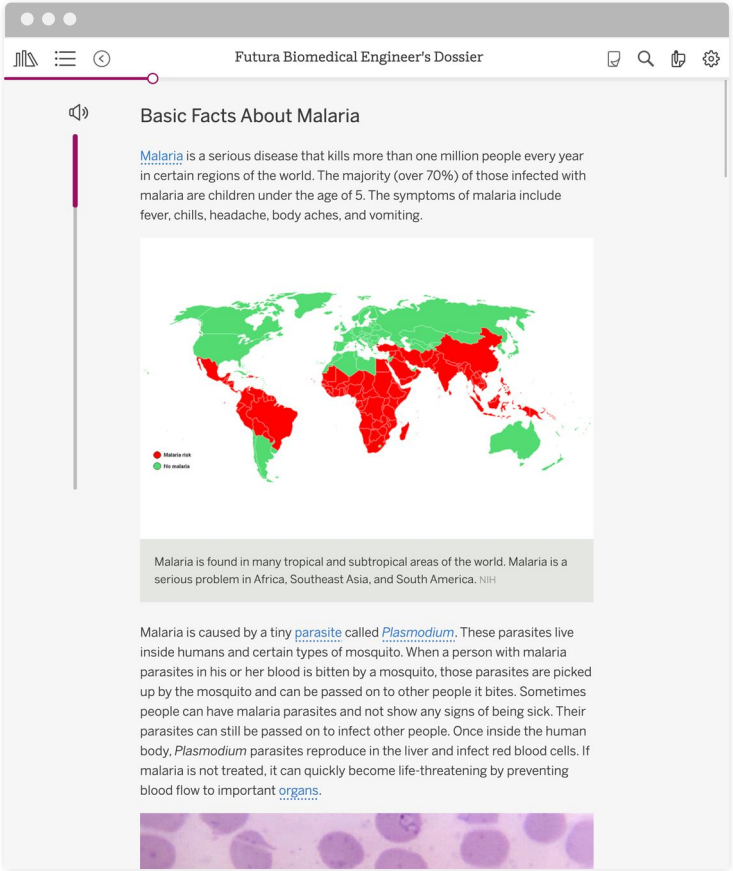
Read and annotate Chapter 2: “Basic Facts About Malaria” in the Dossier.

Futura Biomedical Engineer’s Dossier **pgs 3–4**

Discussing Annotations

After reading, discuss the following questions with your partner:

- While you were reading, what connections did you make to what you already know?
- What questions do you have about malaria?
- What words are you unsure about?
- What information did you find to help you answer the focus questions?



Let's work together to **summarize the key points** of what you read in Chapter 2.

Events in the natural world often have many causes—some of these causes are simple, while others are more complex.

An important part of scientists' and engineers' work is trying to understand the **causes** that lead to observable **effects** (such as developing the malaria illness).

Reading About Malaria

Submitting Annotations

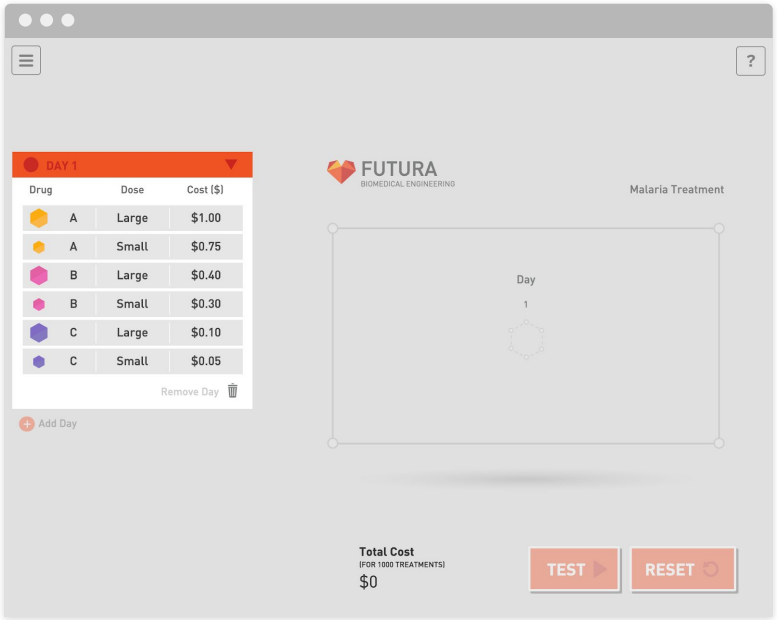
Review your annotations, answer the reflection question below the article, and then select HAND IN to submit your article.

Request for Proposals

10 MIN

Activity T

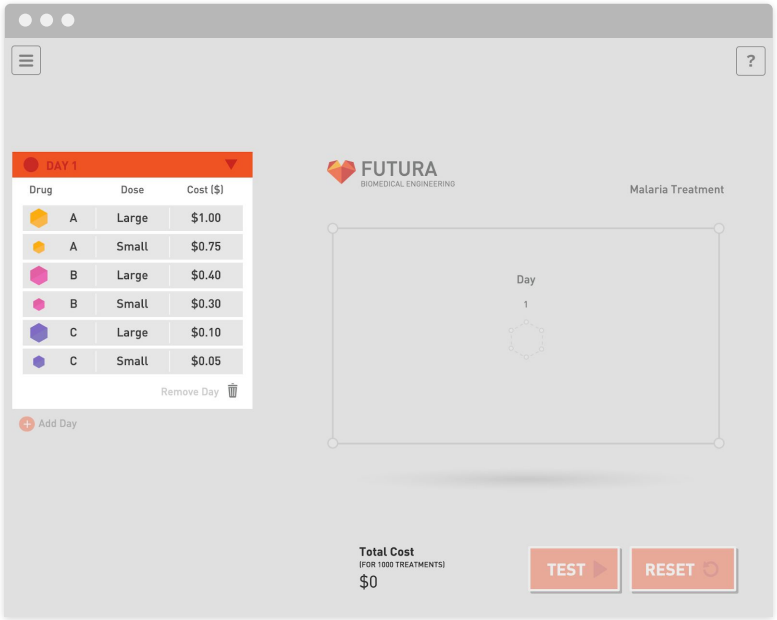
Exploring MalariaMed



To design and test drug treatment strategies, you'll use a digital model called **MalariaMed.**

This model simulates a population of malaria parasites.

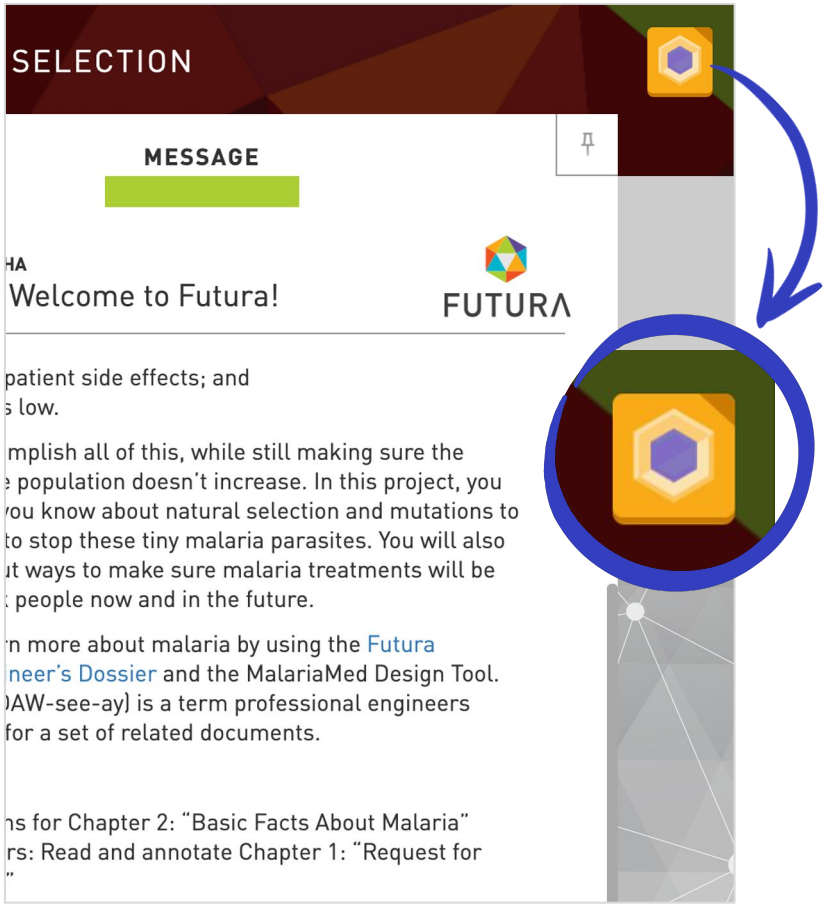
Why might engineers use models in their work?



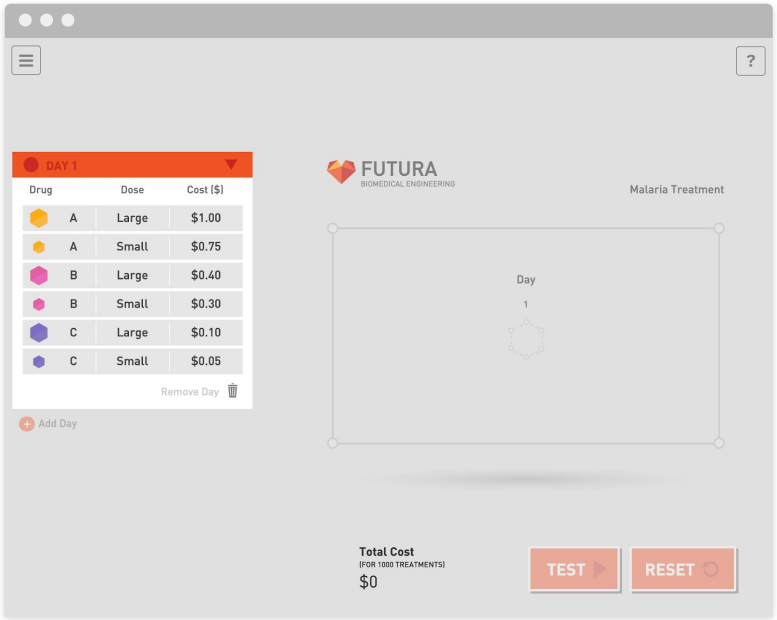
MalariaMed is a **model** for testing drug resistance in a population of malaria parasites.

MalariaMed is **accurate** in many ways: the effects of different drugs and drug combinations on malaria parasites is based on research with real malaria drugs.

But like any model, MalariaMed is **simplified and inaccurate** in some ways.

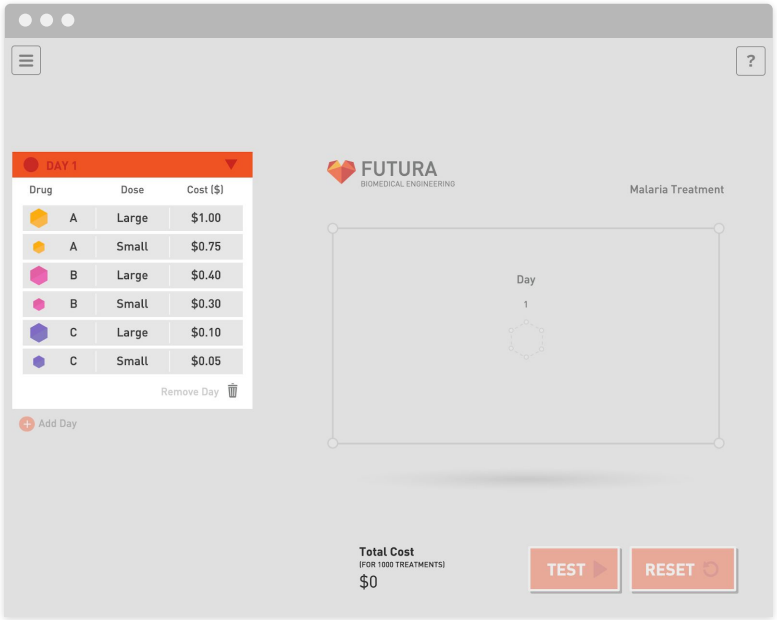


Press the button in the top right corner of Futura Workspace to **open MalariaMed.**



Explore **MalariaMed.**

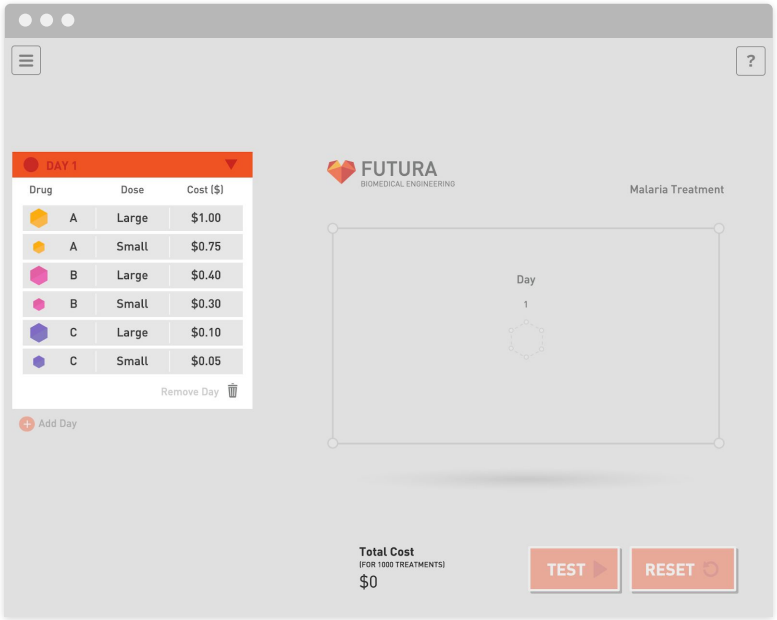
As you explore, think about ways the model is accurate and ways it is simplified.



What did you notice about **MalariaMed?**

What did you find interesting?

The results are shown on a **10-year timescale** and for effects on 1,000 patients. That's the space and timescale at which drug resistance happens and can be prevented.



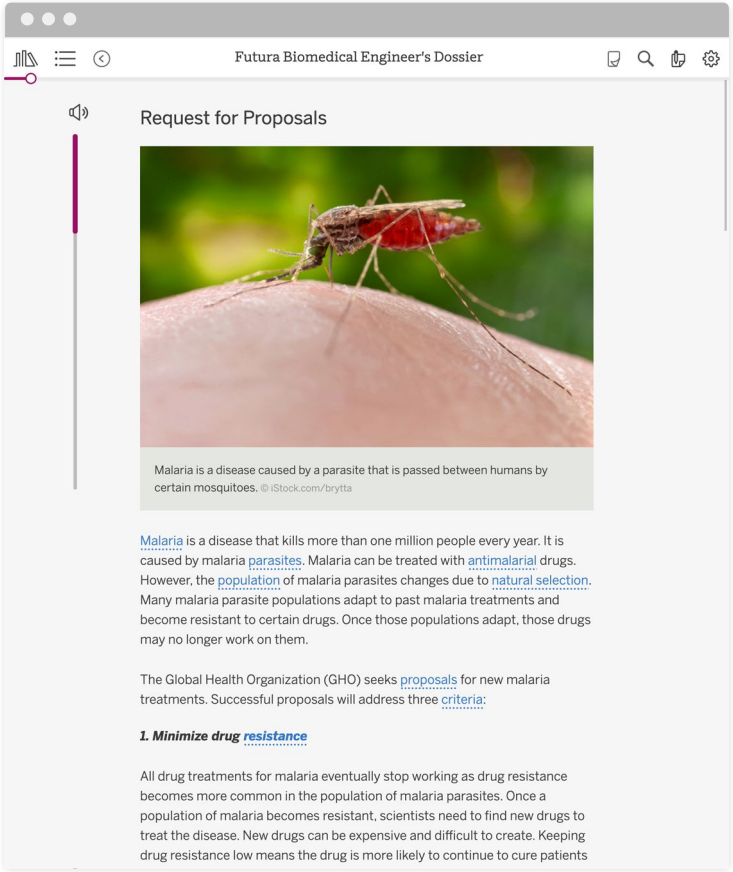
Let's summarize what we noticed about the MalariaMed digital model.

What is **accurate** about the model?

What seems **simplified?**

Activity 3

After-Hours Work



For this task, you'll **read and annotate** Chapter 1: "Request for Proposals (RFP)" in the Dossier.

Then, you'll submit your annotations and respond to a question.

After-Hours Work

Rereading the Dossier

Return to the Futura Workspace and be sure you've completed all internship tasks for the day.

- Open the Dossier.
- Reread Chapter 4: "Antimalarial Drug Resistance."
- Add to or revise your annotations using this focus question:
  How do malaria treatments influence drug resistance?

Your internship coordinator may have asked you to complete additional tasks. Double check your Workspace inbox and Daily Message Notes to see if there other deliverables that need to be completed after-hours.

End of Lesson

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

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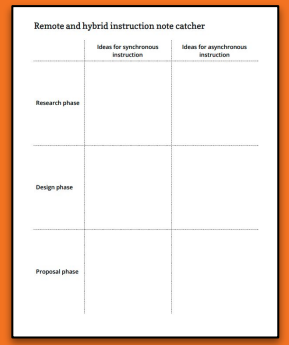
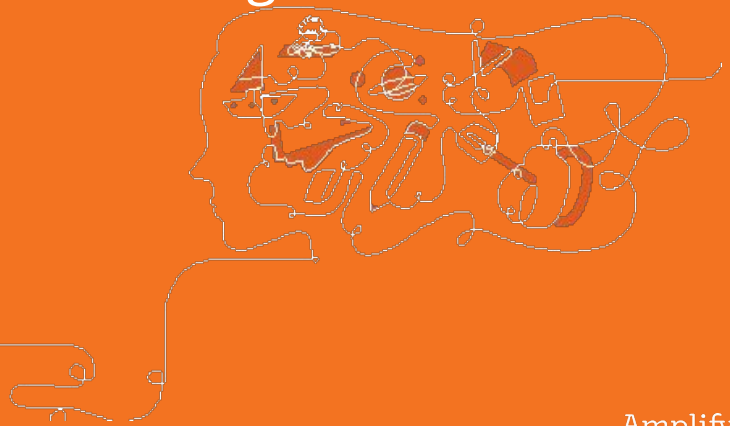
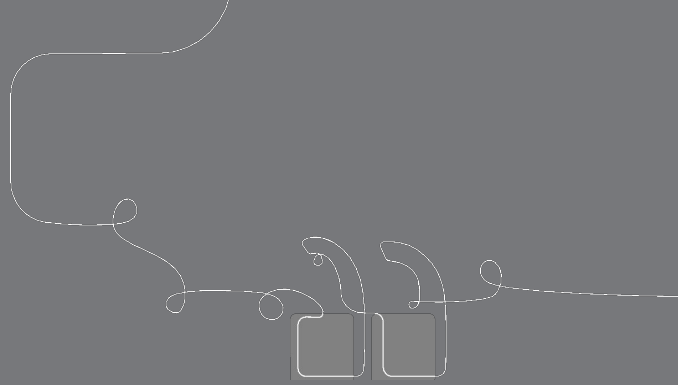
Remote and Hybrid Learning Reflection

How would you adapt instruction you previewed in the Research Phase for synchronous and/or asynchronous learning?







Questions?

Plan for the day

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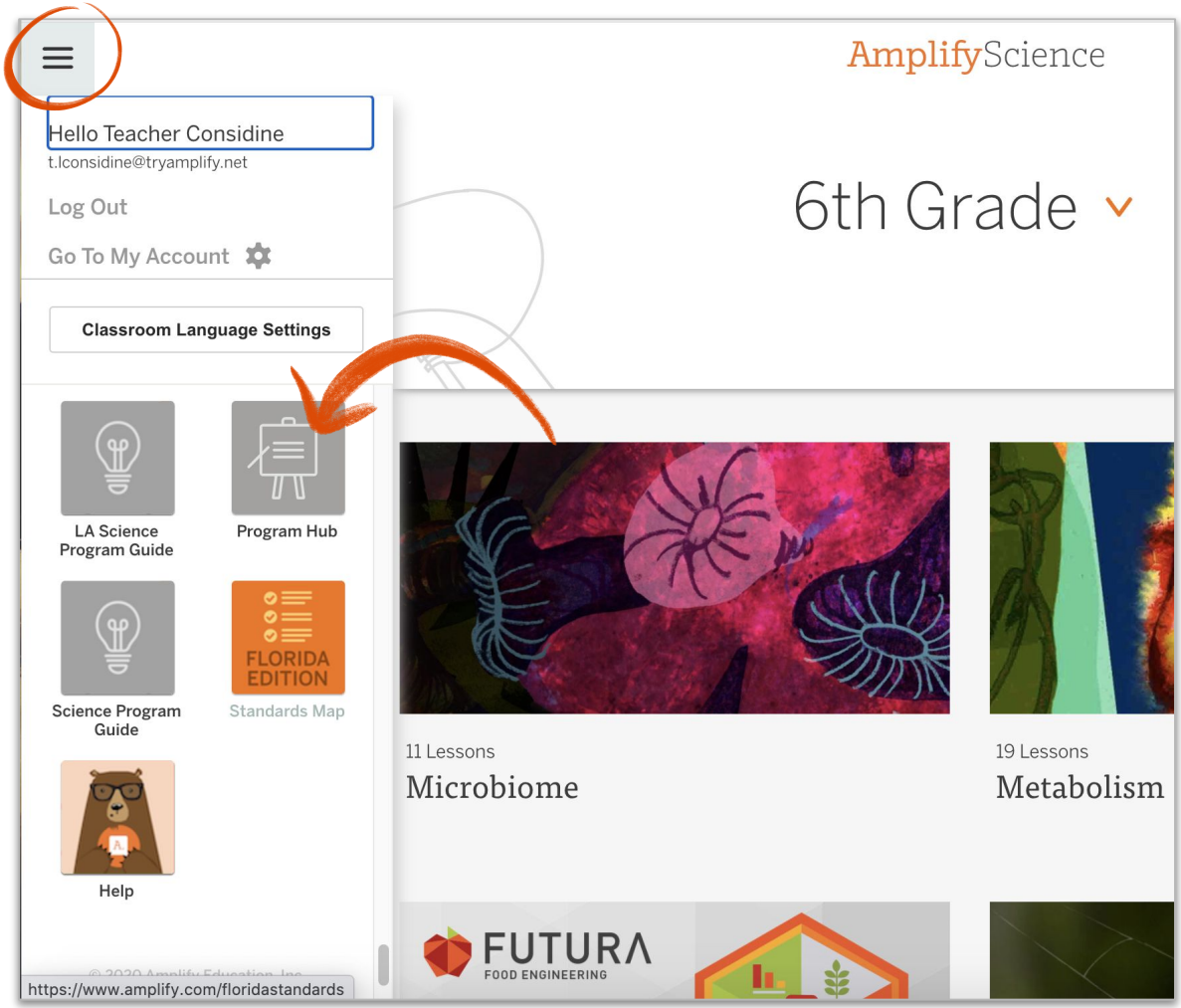
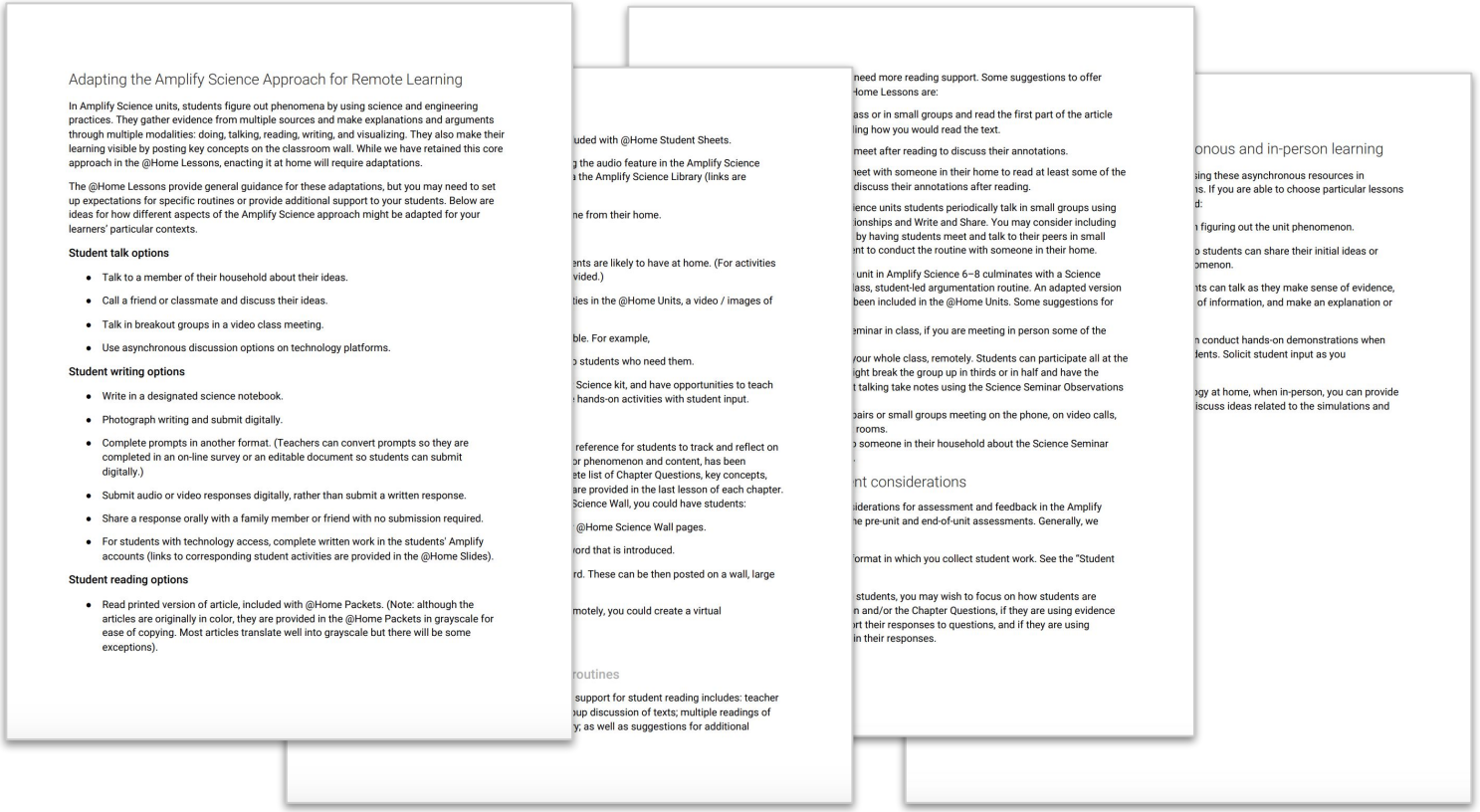
Amplify Science @Home Curriculum

The Teacher Overview document gives suggestions for modifying activities for remote learning.



pages 16-19

Adapting the Amplify Approach for Remote Learning
(Excerpt from the @Home Teacher Overview)



Adapting the Amplify Science Approach for Remote Learning

In Amplify Science units, students figure out phenomena by using science and engineering practices. They gather evidence from multiple sources and make explanations and arguments through multiple modalities: doing, talking, reading, writing, and visualizing. They also make their learning visible by posting key concepts on the classroom wall. While we have retained this core approach in the @Home Lessons, enacting it at home will require adaptations.

The @Home Lessons provide general guidance for these adaptations, but you may need to set up expectations for specific routines or provide additional support to your students. Below are ideas for how different aspects of the Amplify Science approach might be adapted for your learners' particular contexts.

Student talk options

- Talk to a member of their household about their ideas.
- Call a friend or classmate and discuss their ideas.
- Talk in breakout groups in a video class meeting.
- Use asynchronous discussion options on technology platforms.

Student writing options

- Write in a designated science notebook.
- Photograph writing and submit digitally.
- Complete prompts in another format. (Teachers can convert prompts so they are completed in an on-line survey or an editable document so students can submit digitally.)
- Submit audio or video responses digitally, rather than submit a written response.
- Share a response orally with a family member or friend with no submission required.
- For students with technology access, complete written work in the students' Amplify accounts (links to corresponding student activities are provided in the @Home Slides).

Student reading options

- Read printed version of article, included with @Home Packets. (Note: although the articles are originally in color, they are provided in the @Home Packets in grayscale for ease of copying. Most articles translate well into grayscale but there will be some exceptions).

Lesson at a Glance

1: Connecting to Futura Workspace (5 min.)
Interns are introduced to the Futura Workspace and their internship by reading a welcome message about the project.

(Teacher Only) Introducing Futura (10 min.)
Interns are introduced to Futura and their role as biomedical engineering interns in this fictional company.

2: Reading About Malaria (20 min.)
Interns use Active Reading strategies to learn about what causes malaria in order to understand the scope of their project.

(Teacher Only) Exploring MalariaMed (10 min.)
Interns explore the Design Tool, MalariaMed, to become familiar with its visuals as well as its inputs and outputs.

3: After-Hours Work
Interns become more familiar with the project details and criteria by reading the Request for Proposals (RFP) in the Dossier.

Modifications needed for remote learning:

Class discussions and partner talk

Student reading options

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- Read the printed or PDF version of an article, included with @Home Student Sheets. (Note: although the articles are originally in color, they are provided in the printable compilations in grayscale for ease of copying. Most articles translate well into grayscale but there will be some exceptions.)
- Listen to the article being read aloud using the audio feature in the Amplify Science Library or read articles in digital format via the Amplify Science Library. (Links are provided in the @Home Slides.)
- Read with a partner, classmate, or someone from their home.
- **Reading support.** In Amplify Science 6–8, support for student reading includes: teacher modeling, structured paired and whole-group discussion of texts, multiple readings of text, an audio feature in the Amplify Library, as well as suggestions for additional strategies for students who need more reading support. Some suggestions to offer similar supports with the @Home Lessons are:
    - Meet virtually as a class or in small groups and read the first part of the article with students, modeling how you would read the text.
    - Ask student pairs to meet after reading to discuss their annotations.
    - Have each student meet with someone in their home to read at least some of the text together and/or discuss their annotations after reading.

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Suggestions for Online Synchronous Time

Online synchronous time
Online discussions: It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.
Digital tool demonstrations: You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.
Interactive read-alouds: Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.
Shared Writing: This is a great opportunity for a collaborative document that all your students can contribute to.
Co-constructed class charts: You can create digital charts, or create physical charts in your home with student input.

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Multi-day planning, including planning for differentiation and evidence of student work

Day 1: Lesson 1.1

Minutes for science: 30 min.

Instructional format:
- ☐ Asynchronous
- ☒ Synchronous

Lesson or part of lesson:
Warm up, Introducing Futura, slides 1-29

Mode of instruction:
- ❑ Preview
- ❑ Review
- ☒ Teach live
- ❑ Students work independently

Students will...	Teacher will...
Get connected to Futura workspace, share ideas about engineering, watch and discuss video. Assign reading: Chapter 2 Basic Facts about Malaria	Lead activities using Classroom Slides. Preview independent work: Active Reading, and After-Hours work).

Minutes for science: _____

Instructional format:
- ☐ Asynchronous
- ☐ Synchronous

Lesson or part of lesson:

Mode of instruction:
- ❑ Preview
- ❑ Review
- ❑ Teach live
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Students will...	Teacher will...

Multi-day planning, including planning for differentiation and evidence of student work

Day 1: Lesson 1.1

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Students will...	Teacher will...	Students will...	Teacher will...
Get connected to Futura workspace, share ideas about engineering, watch and discuss video. Assign reading: Chapter 2 Basic Facts about Malaria	Lead activities using Classroom Slides. Preview independent work: Active Reading.	Discuss annotations of Basic Facts about Malaria, Explore Malaria Med.. (After Hours Work- Read and annotate Chapter 1 "Request for Proposals in Dossier)	Lead discussion of annotations, introduce Malaria Med, Review After Hours work

Look at the *Students will* columns. What are students working in the lesson(s) that you could collect, review, or provide feedback on?
See Some Types of Written Work in Amplify Science to the right for guidance.

If there isn't a work product listed above, do you want to add one? Make notes below.

Synchronous: Discussion Board (Shared Document using schoology or Jamboard)

Asynchronous: Read and annotate "Basic Facts About Malaria"

Some Types of Written Work in Amplify Science

- Daily written reflections
- Homework tasks
- Investigation notebook pages
- Written explanations (typically at the end of Chapter)
- Diagrams
- Recording pages for Sim uses, investigations, etc

How will students submit this work product to you?
See the Completing and Submitting Written Work tables to the right for guidance on how students can complete and submit work.

Synchronous Discussion Board

Asynchronous: Submit annotations through Amplify Science platform.

Completing Written Work	Submitting Written Work
• Plain paper and pencil (videos include prompts for setup) • (6-8) Student platform • Investigation Notebook • Record video or audio file describing work/answering prompt • Teacher-created digital format (Google Classroom, etc)	• Take a picture with a smartphone and email or text to teacher • Through teacher-created digital format • During in-school time (hybrid model) or lunch/materials pick-up times • (6-8) Hand-in button on student platform

How will you differentiate this lesson for diverse learners? (Navigate to the lesson level on the standard Amplify Science platform and click on differentiation in the left menu.)

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Natural Selection I
Spanish Glossary

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to examine in detail for a pu

analizar

examinar en detalle y con u

antimalarial

a drug or medicine that kill

antimalárica

una droga o medicina que

Open-Ended Questions to Facilitate Student Thinking and Discourse

Questions to assess students' knowledge and skills:

- Can you explain how you decided that this claim is the best one?
- Can you explain why X happened?
- Would you (and your partner) explain the steps you went through (to create the model you made)?
- How do you know X?
- If XXX were changed, how would that change YYY?

Questions to promote student-to-student discourse:

- Do you agree or disagree with (that idea)? Why?
- Can you add evidence to support (student name)'s thinking?
- Do you have evidence to go against (refute) (that idea)?
- Does anyone else have something to add to the conversation?
- We are working together right now to figure out/better understand X. Can anyone start us off with some thinking about this (question, problem, idea)?
- Can you explain X, using science vocabulary words XX and YY (from the unit)?
- What claim does this evidence support? How do you know?
- Can you explain why this evidence is important?
- Can you explain why this evidence does not support Claim Y?
- How does your idea relate to what others have said today?

Questions to guide student learning:

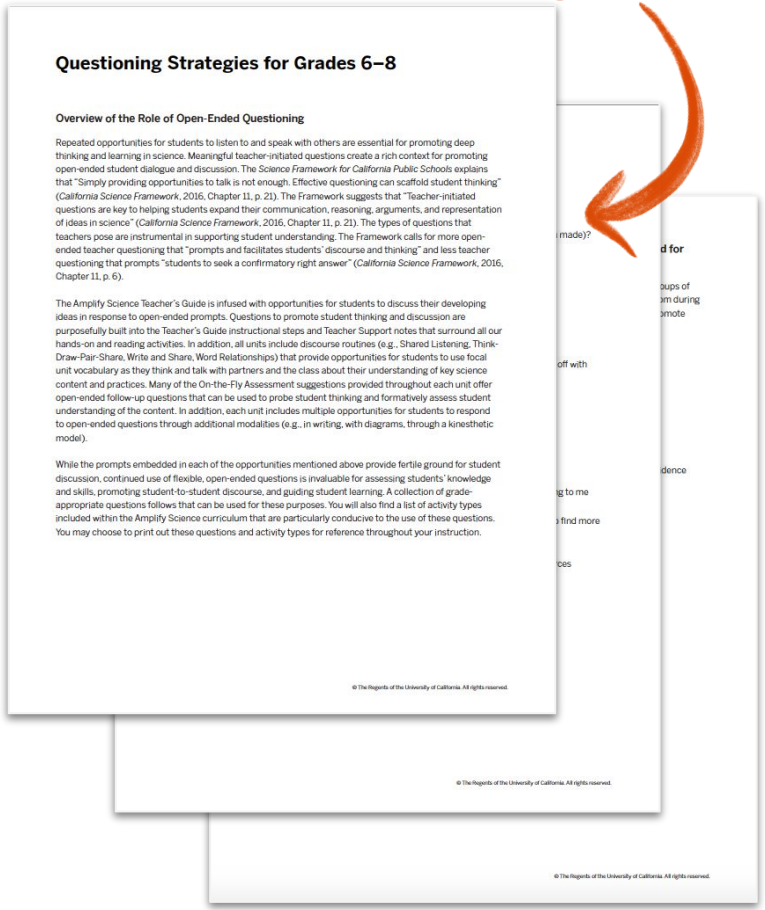
- I hear what you are saying (or I read your question/response). Can you explain your thinking to me a bit more so I can understand your idea?

Questioning Strategies

Open-Ended Questions to Facilitate Student Thinking & Discourse

- Questions to assess students' knowledge and skills
- Questions to promote student-to-student discourse
- Questions to guide student learning

Pages 21-23



Questioning Strategies for Grades 6–8

Overview of the Role of Open-Ended Questioning

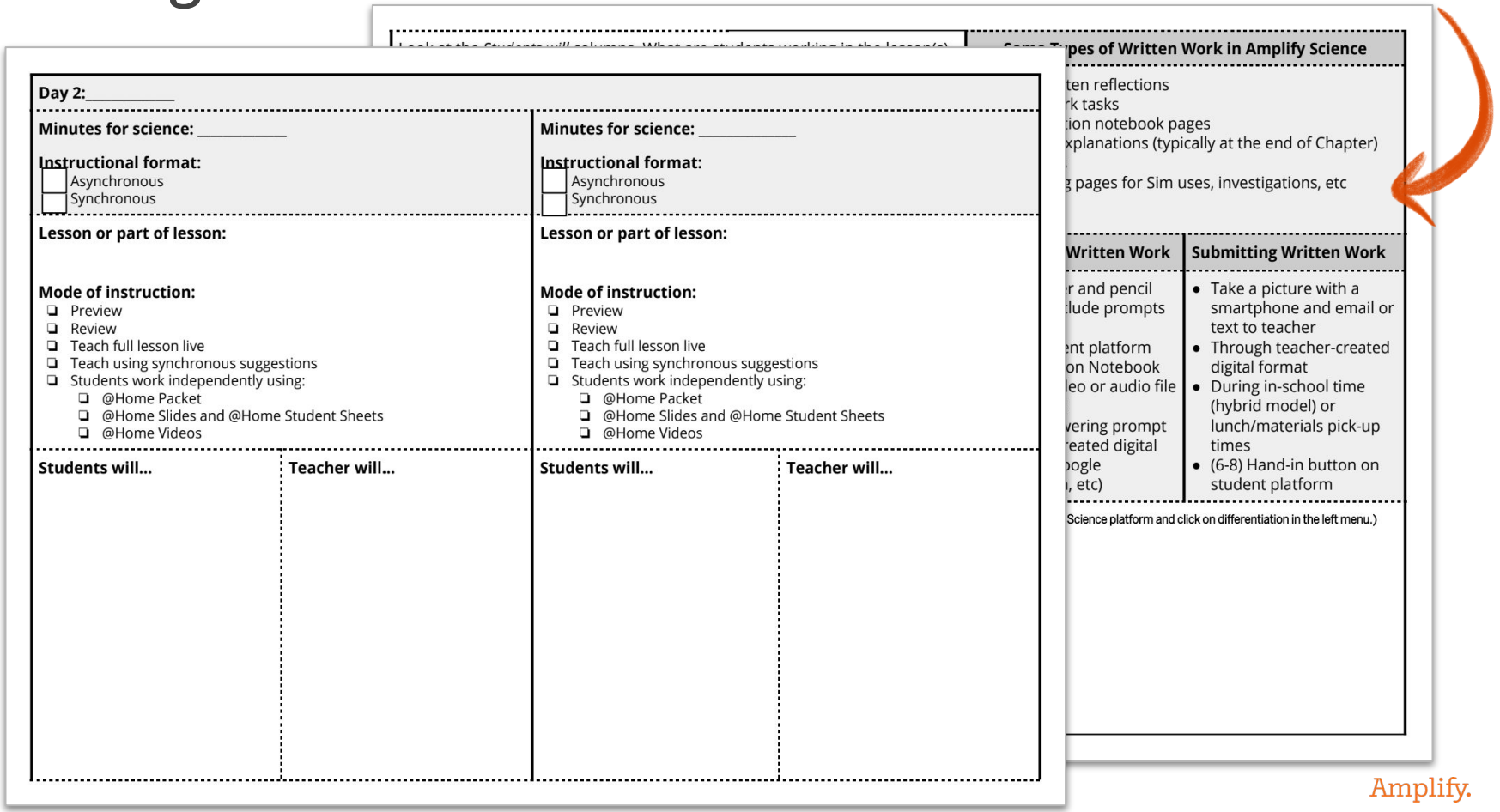
Repeated opportunities for students to listen to and speak with others are essential for promoting deep thinking and learning in science. Meaningful teacher-initiated questions create a rich context for promoting open-ended student dialogue and discussion. The *Science Framework for California Public Schools* explains that "Simply providing opportunities to talk is not enough. Effective questioning can scaffold student thinking" (*California Science Framework*, 2016, Chapter 11, p. 21). The Framework suggests that "Teacher-initiated questions are key to helping students expand their communication, reasoning, arguments, and representation of ideas in science" (*California Science Framework*, 2016, Chapter 11, p. 21). The types of questions that teachers pose are instrumental in supporting student understanding. The Framework calls for more open-ended teacher questioning that "prompts and facilitates students' discourse and thinking" and less teacher questioning that prompts "students to seek a confirmatory right answer" (*California Science Framework*, 2016, Chapter 11, p. 6).

The Amplify Science Teacher's Guide is infused with opportunities for students to discuss their developing ideas in response to open-ended prompts. Questions to promote student thinking and discussion are purposefully built into the Teacher's Guide instructional steps and Teacher Support notes that surround all our hands-on and reading activities. In addition, all units include discourse routines (e.g., Shared Listening, Think-Draw-Pair-Share, Write and Share, Word Relationships) that provide opportunities for students to use focal unit vocabulary as they think and talk with partners and the class about their understanding of key science content and practices. Many of the On-the-Fly Assessment suggestions provided throughout each unit offer open-ended follow-up questions that can be used to probe student thinking and formatively assess student understanding of the content. In addition, each unit includes multiple opportunities for students to respond to open-ended questions through additional modalities (e.g., in writing, with diagrams, through a kinesthetic model).

While the prompts embedded in each of the opportunities mentioned above provide fertile ground for student discussion, continued use of flexible, open-ended questions is invaluable for assessing students' knowledge and skills, promoting student-to-student discourse, and guiding student learning. A collection of grade-appropriate questions follows that can be used for these purposes. You will also find a list of activity types included within the Amplify Science curriculum that are particularly conducive to the use of these questions. You may choose to print out these questions and activity types for reference throughout your instruction.

Planning Resource

pages 6-9



Day 2:_____

Minutes for science: _____ Instructional format: ☐ Asynchronous ☐ Synchronous	Minutes for science: _____ Instructional format: ☐ Asynchronous ☐ Synchronous
Lesson or part of lesson: Mode of instruction: ❑ Preview ❑ Review ❑ Teach full lesson live ❑ Teach using synchronous suggestions ❑ Students work independently using: ❑ @Home Packet ❑ @Home Slides and @Home Student Sheets ❑ @Home Videos	Lesson or part of lesson: Mode of instruction: ❑ Preview ❑ Review ❑ Teach full lesson live ❑ Teach using synchronous suggestions ❑ Students work independently using: ❑ @Home Packet ❑ @Home Slides and @Home Student Sheets ❑ @Home Videos

Students will...	Teacher will...	Students will...	Teacher will...

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Written Work	Submitting Written Work
r and pencil lude prompts nt platform on Notebook eo or audio file vering prompt eated digital oogle , etc)	• Take a picture with a smartphone and email or text to teacher • Through teacher-created digital format • During in-school time (hybrid model) or lunch/materials pick-up times • (6-8) Hand-in button on student platform

Science platform and click on differentiation in the left menu.)

Natural Selection Engineering Internship

Overview of Days 2-5

Day 2: GROUP 1

- Interns continue the Research phase and are introduced to the practice of taking Daily Message Notes to identify the key ta
- sks and any important concepts.
- they actively read and discuss background information and engage in a hands-on activity that simulates mutations in a malaria parasite population when an antimalarial drug is introduced to the environment.

Day 3: GROUP 2

- Interns focus more on how drug resistance occurs in parasite populations and how the choices biomedical engineers make for drugs used in malaria treatments affect the overall distribution of traits for drug resistance in these populations.
- Interns use Malaria Med Design Tool in order to investigate the effect of using one drug on long-term drug resistance, and then discuss the pros and cons of each drug type.

Natural Selection Engineering Internship

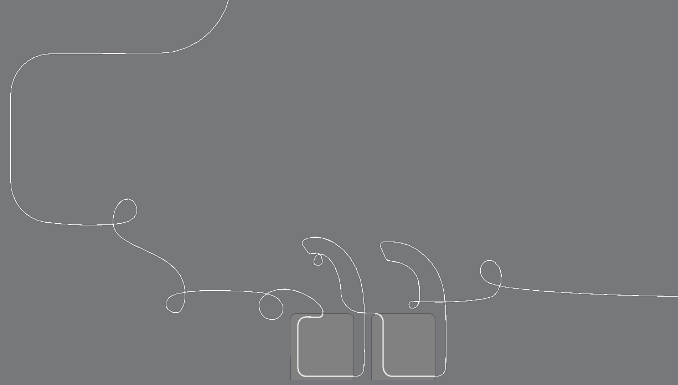
Overview of Days 2-5

Day 4: GROUP 3

- Interns read about the different antimalarial drugs available for their treatments in this Malaria Med model.
- Interns then run additional isolated tests to better understand the effects of different antimalarial drugs, doses, and days of treatment on the project criteria and complete the project summary

Day 5: GROUP 4

- Interns are introduced to The Design Cycle and iterative testing through a brief video that explains the process: Plan, Build, Test, Analyze.
- Interns begin to apply the practices of iterative testing to their designs, using MalariaMed to test different sequences and doses of antimalarial drugs.
- Finally, the internship coordinator guides the team through a data evaluation activity by color-coding a data set.



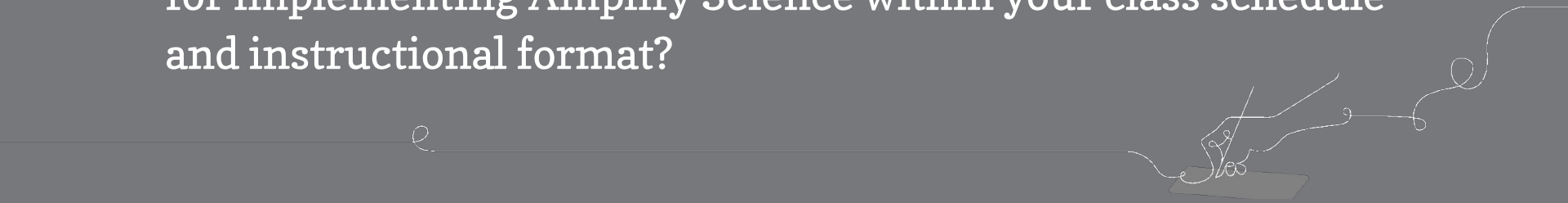
Questions?

Plan for the day

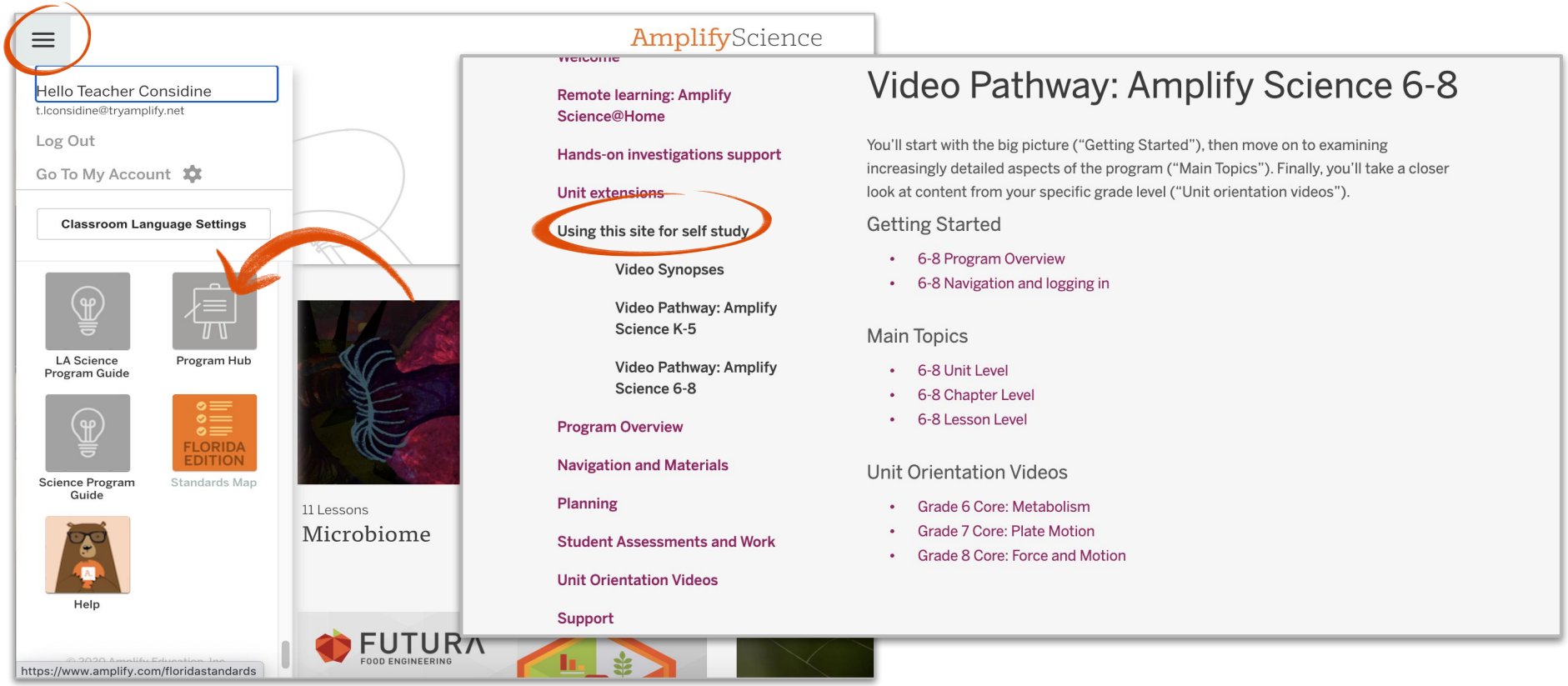
- Framing the day
  - Amplify Science Refresher
  - Introduction to Engineering Internships and Futura workspace
- Unit Internalization
  - Unit overview
  - Research phase
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- **Reflection and closing**

During this workshop did we meet our objectives?

- Were you able to internalize your upcoming unit?
- Do you know how to plan for **collecting evidence of student learning** in order to make instructional decisions to **support diverse learner needs**?
- Do you have the resources you need to develop a multi-day plan for implementing Amplify Science within your class schedule and instructional format?



Program Hub: Self Study Resources



AmplifyScience@Home

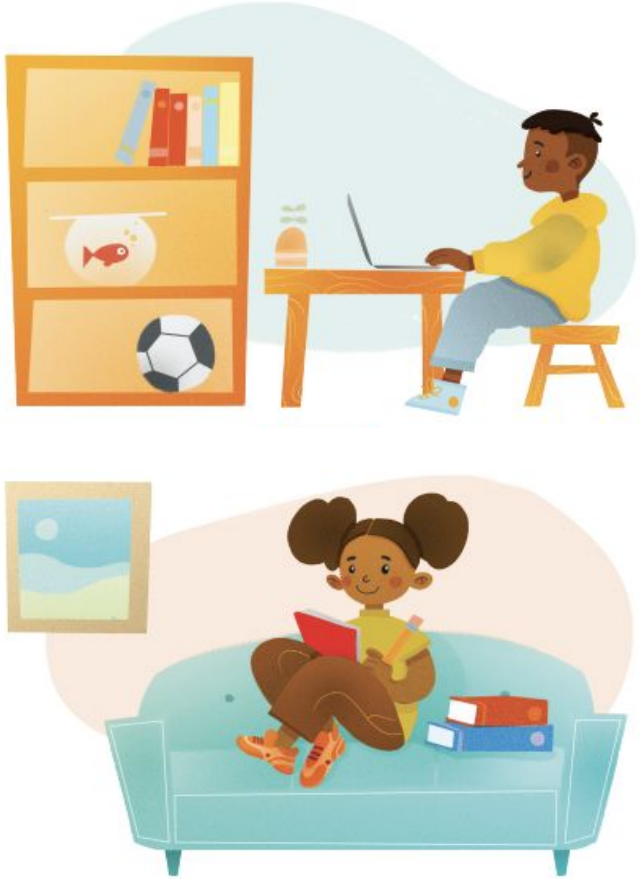
Two different options:

@Home Units

- Packet or slide deck versions of Amplify Science units condensed by about 50%

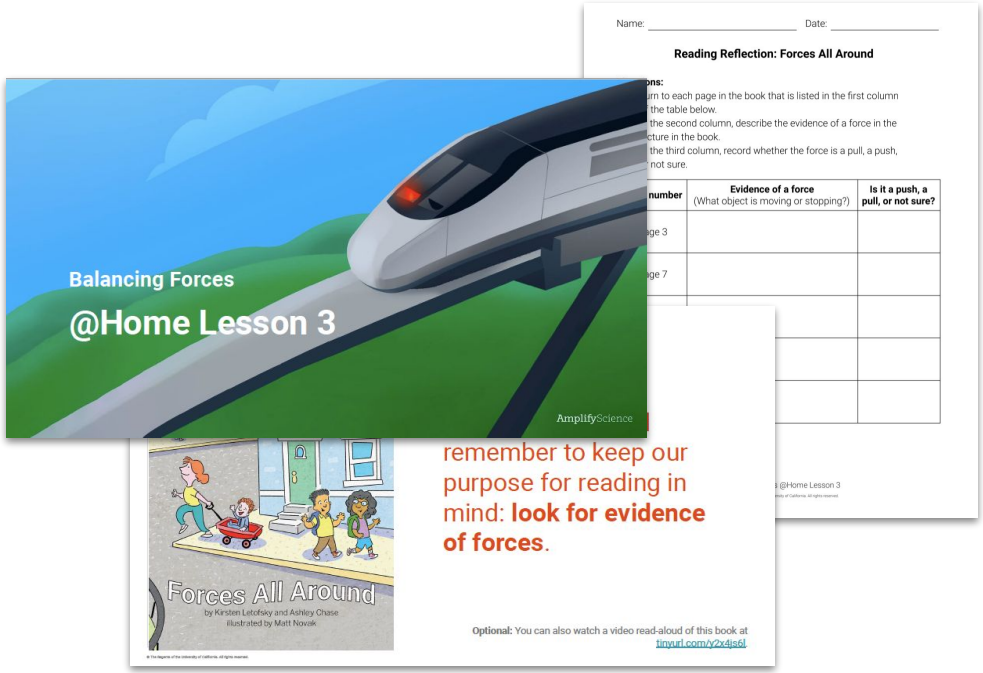
@Home Videos

- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers



@Home Units

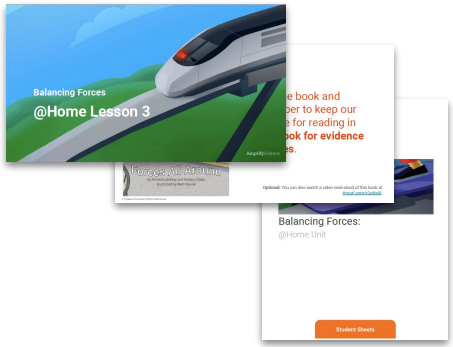
- Solution for **reduced instructional time**
- Print-based and tech-based access options
- Available in .pdf and Google Slides/Docs format



@Home Units

A shift in approach to respond to user feedback

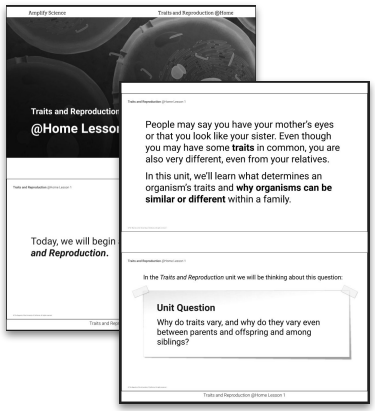
Original approach: two different resources

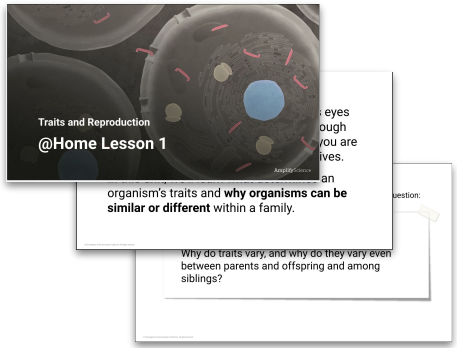


Print-based: @Home packets

Digital: @Home slides and student sheets

Updated approach: one resource, two formats





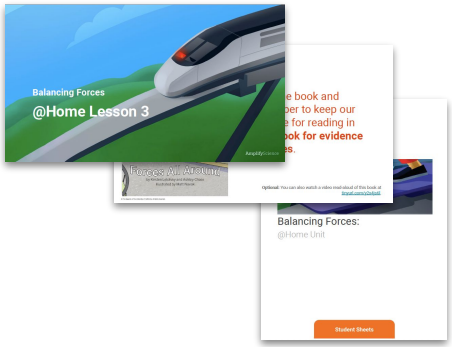
Print-based: PDFs of @Home Slides and student sheets

Digital: Google Slides @Home Slides and Google Doc student sheets

@Home Units

A shift in approach to respond to user feedback

Print-based:
@Home packets



Digital:
@Home slides and student sheets

Original approach: two different resources

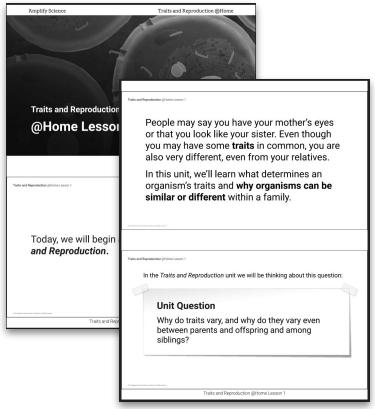
- Force and Motion
- Geology on Mars
- Harnessing Human Energy
- Plate Motion
- Metabolism
- Microbiome

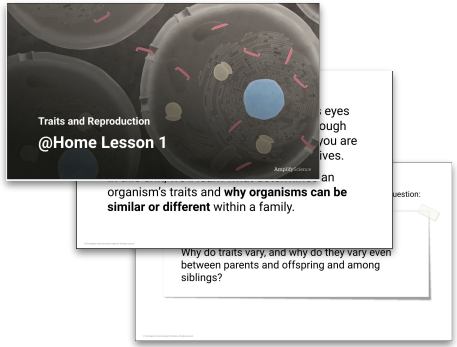
@Home Units

A shift in approach to respond to user feedback

All units released from November 4 onward (those not listed on previous slide) will follow the updated approach.

Updated approach: one resource, two formats





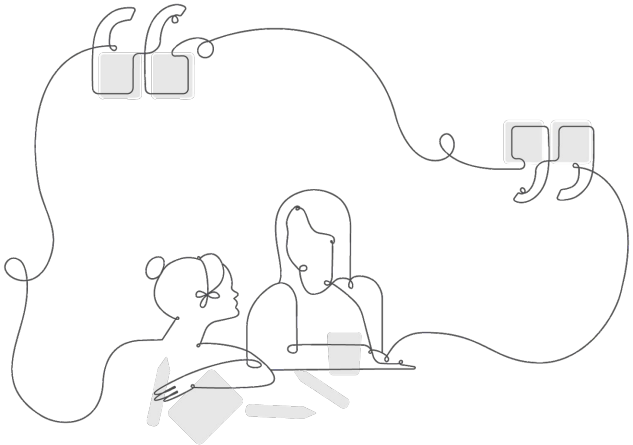
Print-based: PDFs of @Home Slides and student sheets

Digital: Google Slides @Home Slides and Google Doc student sheets

Upcoming LAUSD Office Hours

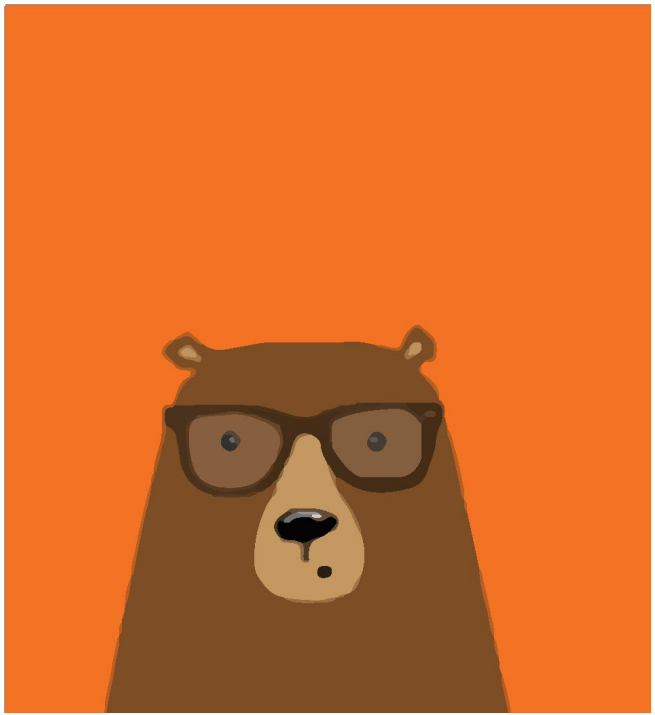
Monthly through January

- Thursday, 4/22 (3-4pm)
- Thursday, 5/13 (3-4pm)
- Thursday, 5/27 (3-4pm)



http://bit.ly/LAUSDMSOfficeHours

Additional Amplify resources

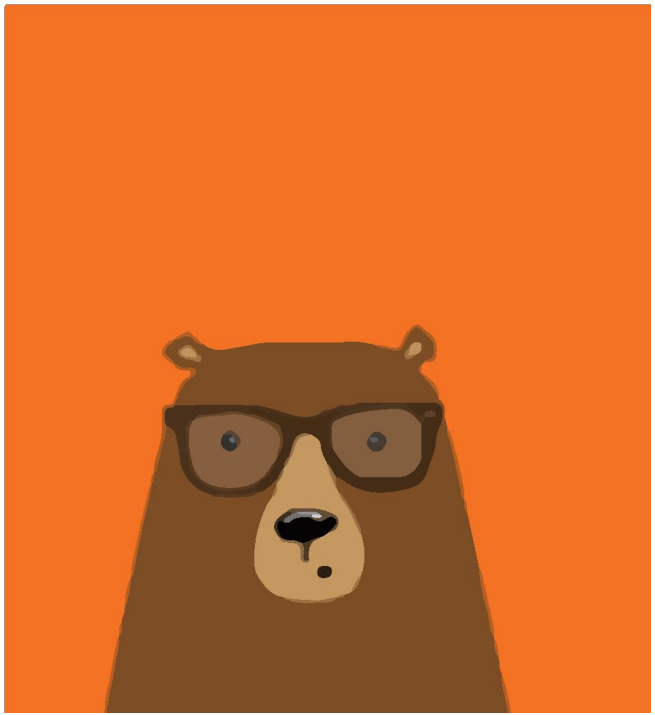


Caregivers site

Provide your students' families information about Amplify Science and what students are learning

amplify.com/amplify-science-family-resource-intro/

Additional Amplify resources



Program Guide

Glean additional insight into the program's structure, intent, philosophies, supports, and flexibility.

http://amplify.com/science/california/review

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify Support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-7PM EST.

scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible.
- Copy your district or site IT contact on emails.

Creating Assignments in Schoology

- Click Add Materials.
- Select Add Assignment.
- Fill out the Create Assignment form.
- Options. Use Options to turn on/off the following features: Use Individually Assign to only display the assignment to a specific member of the course or a grading group.
- Click Create to complete

LAUSD Shared Logins

AmplifyScience

Go to: my.amplify.com

A. Log In with Amplify

District Shared Logins		
Grade	**Username**	**Password**
Kindergarten	LAUSDscienceK	LAUSD1234
1	LAUSDscience1	LAUSD1234
2	LAUSDscience2	LAUSD1234
3	LAUSDscience3	LAUSD1234
4	LAUSDscience4	LAUSD1234
5	LAUSDscience5	LAUSD1234
6	LAUSDscience6	LAUSD1234
7	LAUSDscience7	LAUSD1234
8	LAUSDscience8	LAUSD1234