

Amplify Science

Balancing Forces Deconstructing Unit Phenomena

New York City Public Schools
July 2019
Presented by Your Name

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Workshop goals

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

- Deconstruct unit phenomena to understand how it gives students access to NYSSLS.
- Articulate the alignment between the Progress Build and the assessment system.
- Plan opportunities to engage students in academic discourse.
- Plan unit pacing with a focus on supporting key connections throughout the unit.





Balancing Forces

Plan for the day

- Welcome and reflection
- Unpacking unit phenomena
- Meaningful student discourse
- Unit preview
- Planning and connecting to unit phenomena
- Closing



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Norms: Establishing a culture of learners

Take risks: Ask any questions, provide any answers.

Participate: Share your thinking, participate in discussion and reflection.

Be fully present: Unplug and immerse yourself in the moment.

Physical needs: Stand up, get water, take breaks.

New York State P-12 Science Standards Development, Adoption, and Implementation

Phase I
Raise Awareness & Build Capacity

Phase II
Transition & Implementation

Phase III
Implementation & Sustainability

Ongoing curriculum & professional development

Instruction aligned to NYS P12
Science Learning Standards begins...

...September 2019
for Grades P-3 and 6

...September 2020
for Grades 4 and 7

...September 2021
for Grades 5 and 8

September 2022
Continue Phase III transition toward full
implementation of the NYS 9-12 Science
Learning Standards at the local level

2016

2017

2018

2019-20

2021

2022-24

December 2016 adoption
of NYS P-12 Science
Learning Standards.

Standards Become
Effective July 1, 2017

March 2018
NYS P-12 Science
Roadmap
Released

June 2020
Last administration
of Grade 4 science
test aligned to the
1996 Standards

June 2021
No Grade 4 science test; these
students will take new science
test in grade 5 in 2022
Last administration of Grade 8
science test aligned to the 1996
Standards

June 2022
First administration
of new Elementary
Grade 5 and
Intermediate
Grade 8 science
tests

June 2023
First
administration
Biology, and Earth
and Space Science
Regents Exams

June 2024
First administration
Chemistry and
Physics Regents
Exams

State Level Science Assessment Development & Implementation

Planning your year

Overview: Amplify Science K-5 Course Structure



PRIMARYLY LIFE SCIENCE



PRIMARYLY PHYSICAL SCIENCE



PRIMARYLY EARTH SCIENCE

All units have 22 lessons except Grade 5: The Earth System, which has 26 lessons.

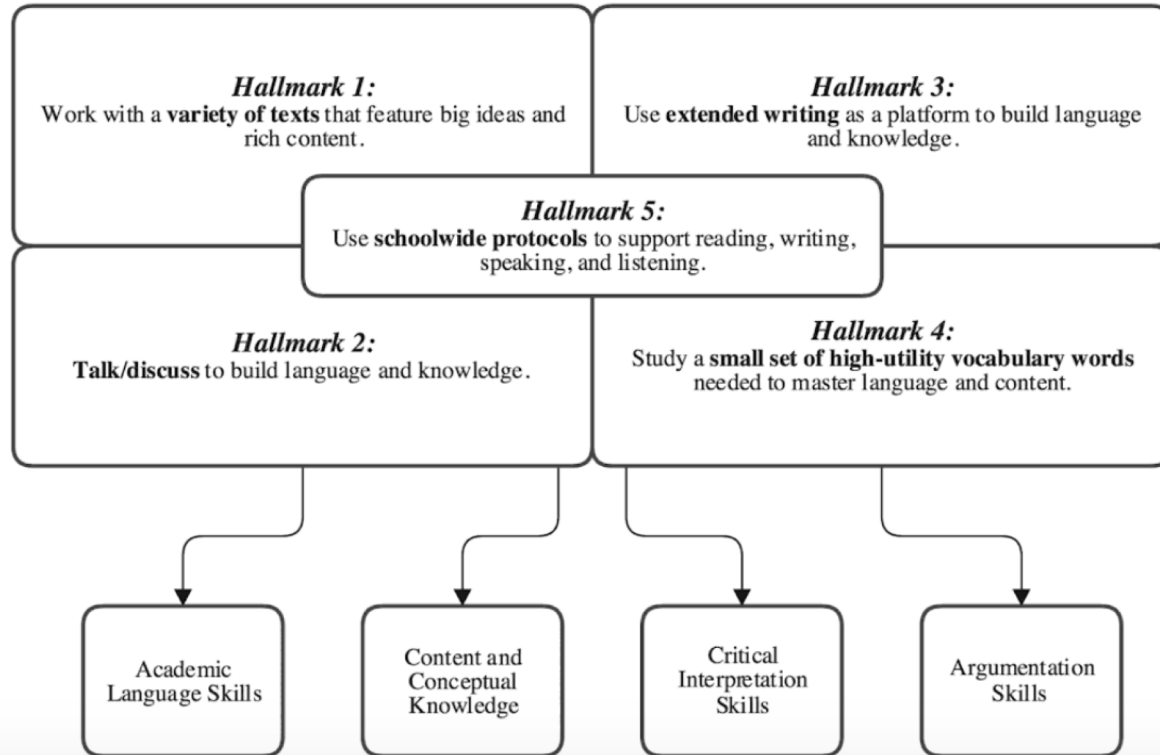
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Minutes per lesson
K	Needs of Plants and Animals			Pushes and Pulls			Sunlight and Weather			45	
1	Animal and Plant Defenses			Light and Sound			Spinning Earth			45	
2	Plant and Animal Relationships			Properties of Materials			Changing Landforms			60	
3	Balancing Forces		Inheritance and Traits		Environments and Survival		Weather and Climate			60	
4	Energy Conversions		Vision and Light		Earth's Features		Waves, Energy and Information			60	
5	Patterns of Earth and Sky		Modeling Matter		The Earth System (26 lessons)			Ecosystem Restoration			60

NYC Middle School Unit Pacing Calendars and Unit Guides

Sept.			Oct.			Nov.			Dec.			Jan.			Feb.			Mar.			Apr.			May			Jun.											
9/9	9/16	9/23	9/30	10/7	10/14	10/21	10/28	11/4	11/11	11/18	11/25	12/2	12/9	12/16	12/30	1/6	1/13	1/20	1/27	2/3	2/10	2/24	3/2	3/9	3/16	3/23	3/30	4/6	4/20	4/27	5/4	5/11	5/18	5/25	6/1	6/8	6/15	6/22
																																						
																																						
																																						
9/9	9/16	9/23	9/30	10/7	10/14	10/21	10/28	11/4	11/11	11/18	11/25	12/2	12/9	12/16	12/30	1/6	1/13	1/20	1/27	2/3	2/10	2/24	3/2	3/9	3/16	3/23	3/30	4/6	4/20	4/27	5/4	5/11	5/18	5/25	6/1	6/8	6/15	6/22

Advanced literacies

Strengthening the instructional core



Danielson framework

- Domain 1: Planning and Preparation
 - 1a. Demonstrating Knowledge of Content and Pedagogy
 - 1e. Designing Coherent Instruction
- Domain 3: Instruction
 - 3b. Using Questioning and Discussion Techniques
 - 3c. Engaging Students in Learning
 - 3e. Using Assessments in Instruction

Amplify Science: What's new for 2019-2020



Lesson 1.4: Sedimentary Rock Formation Activity 2


Name: _____ Date: _____

Rock Observations

1. With a partner, observe your rock sample.
2. Draw your rock sample and label the features you observe.

Turn to page 12, Rock Observations, in your notebooks.

You will draw your rock sample in the box on this page.



Teacher action:
At the top of that column, draw just the outline of a rectangle. (Leave enough room to insert a medium-bright rectangle between the dark and bright rectangles in a later lesson.) Label the outlined rectangle "bright." Point to the label and read it aloud.

Ask students:
What is the difference between dark and completely dark?

Students may respond:
In completely dark places, you cannot see anything. In dark places, you can still see some things.

Classroom Slides



Amplify Science

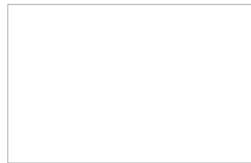
Name: _____ Date: _____

Soil Profile Test

Part 1: Conducting the Soil Profile Test

1. On the line below, write the name of the soil you will test.
2. Add 2-3 cm of soil to your container.
3. Add a pinch of alum.
4. Fill the container with water, leaving 1 cm empty at the top.
5. Put the lid on the container.
6. Shake the container for 5 seconds.
7. Place the container on a flat surface.
8. In the box below, draw and label your prediction of what you will observe in the container after several minutes have passed.

Soil _____



Ecosystem Restoration:
Matter and Energy in a Rain Forest







Flexextension Compilation

Ecosystem Restoration—Soil Profile Test
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Hands-on
Flexextensions

Printable Resources

-  Colección de hojas para copiar
-  Cuaderno de investigación
-  Multi-Language Glossary
-  NGSS Information for Parents and Guardians
-  Materiales impresos (8.5" x 11")
-  Materiales impresos (11" x 17")

**Video Quema de papel:
preguntas de discusión**

- ¿Qué le sucedió al papel cuando se quemó?
- ¿Qué piensas que les sucedieron a los átomos del papel cuando el papel se quemó?

Spanish Digital
Teacher's Guide



Balancing Forces

Plan for the day

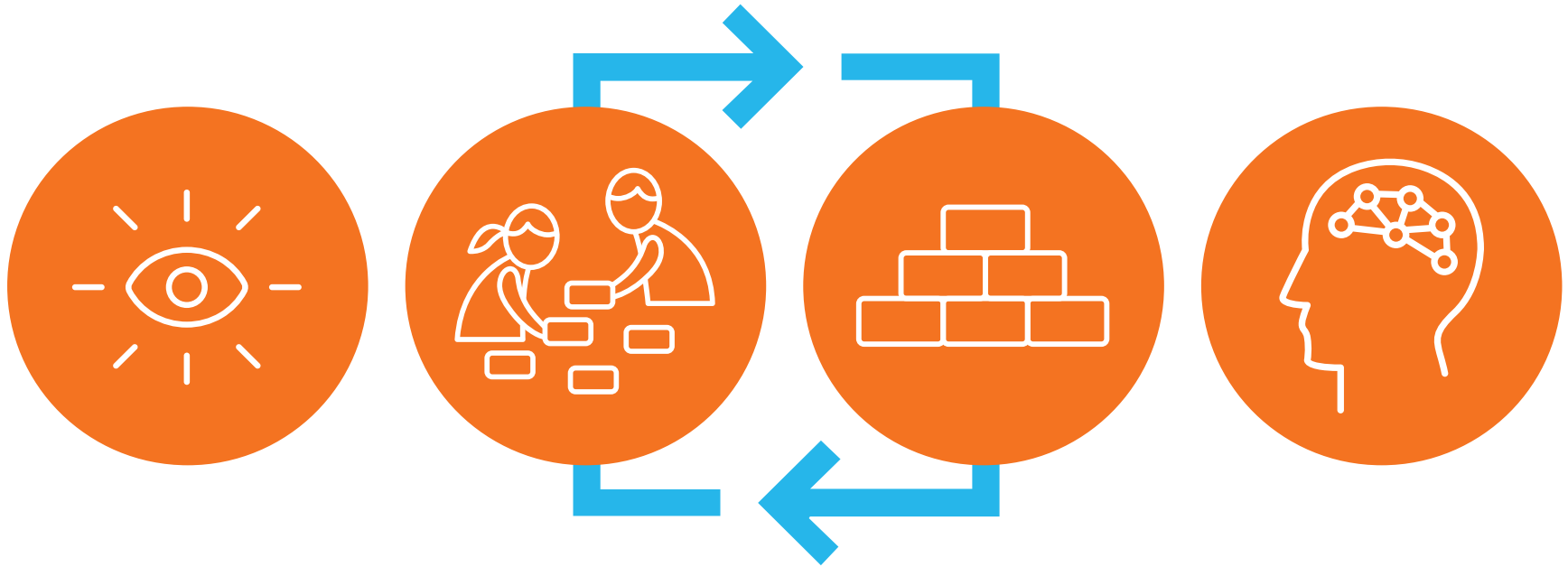
- Welcome and reflection
- **Unpacking unit phenomena**
- Meaningful student discourse
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Unpacking Unit phenomena

The purpose of this section is to help you:

- Understand how the three dimensions of the NYSSLS/NGSS comprise Performance Expectations.
- Analyze three dimensions of the unit and describe how they support students in figuring out unit phenomenon.
- Visualize the relationship between the unit phenomenon, Progress Build, and embedded assessment opportunities.

Amplify Science approach



**Introduce a phenomenon
and a related problem**

**Collect evidence from
multiple sources**

**Build increasingly
complex explanations**

**Apply knowledge
to a different context**

Creating a visual story of the unit

Part 1: Access materials

Part 2: Organize cards

Part 3: Annotate your visual

Part 4: Share out





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Meaningful student discourse

The purpose of this section is to help you:

- Understand academic language and academic discourse.
- Leverage discourse routines to engage ALL students in academic discourse.
- Obtain peer feedback to inform implementation in your classroom.

Meaningful student discourse



Balancing Forces

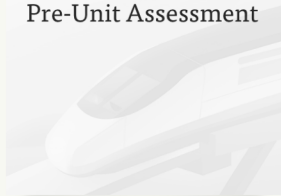




Chapter 1: Why does the train rise?

▼ JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1:
Pre-Unit Assessment



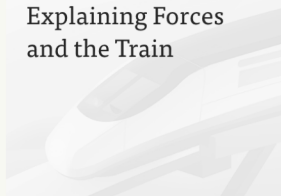
Lesson 1.2:
Making an Object
Move



Lesson 1.3:
Forces All Around



Lesson 1.4:
Explaining Forces
and the Train



Chapter 2: Why does the train rise without anything touching it?

▼ JUMP DOWN TO CHAPTER OVERVIEW

Lesson 2.1:

Discovering Non-Touching Forces

Lesson 2.2:

What Objects Do Magnetic Forces Act On?

Lesson 2.3:

Investigating Ways Magnetic Force Moves Objects

Lesson 2.4:

What My Sister Taught Me About Magnets

Lesson 2.5:

Explaining Magnetic Force and the Train

Chapter 2: Why does the train rise without anything touching it?

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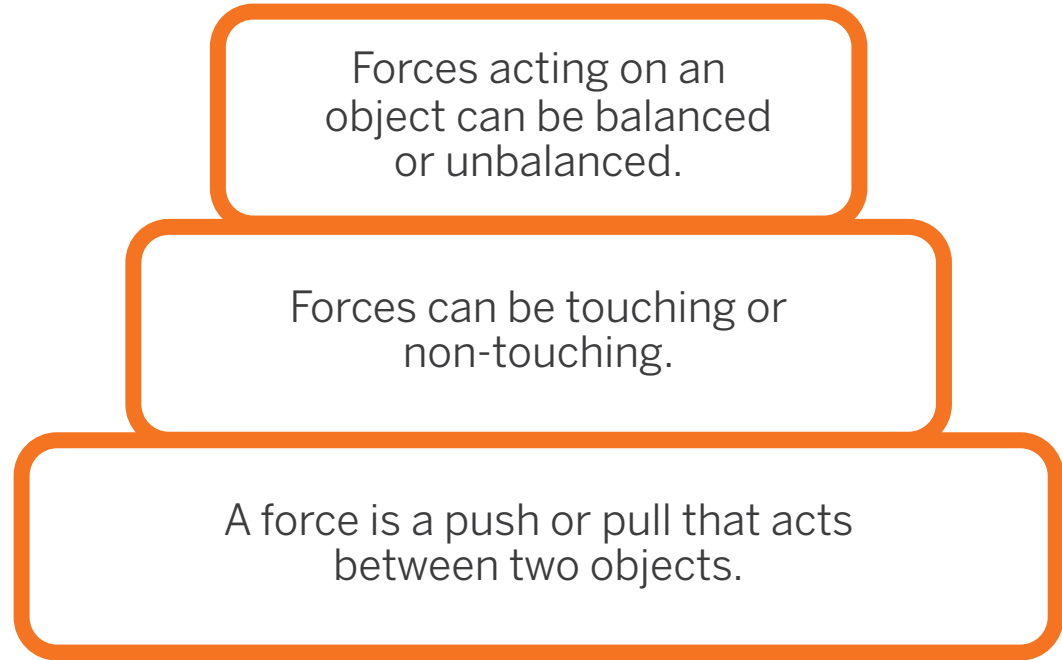
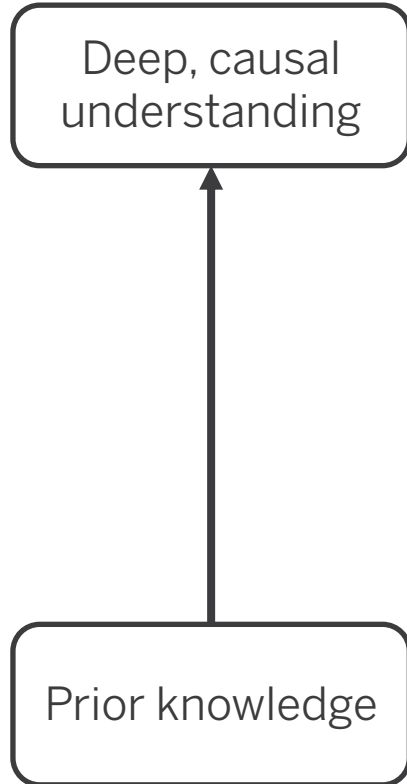
Lesson 2.4:

What My Sister Taught Me About Magnets

Lesson 2.5:

Explaining Magnetic Force and the Train

Balancing Forces Progress Build



Planning Ahead

What is one strategy that you will implement to engage ALL students in academic discourse?



Lunch Break





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Unit preview: Phenomenon and Progress Builds

The purpose of this section is to help you:

- Understand the phenomena and focal Performance Expectations of the next Unit in the Amplify Science scope and sequence.



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Connecting to unit phenomena

The purpose of this section is to help you:

- Plan unit pacing with a focus on supporting key connections throughout the unit and promoting academic discourse.



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