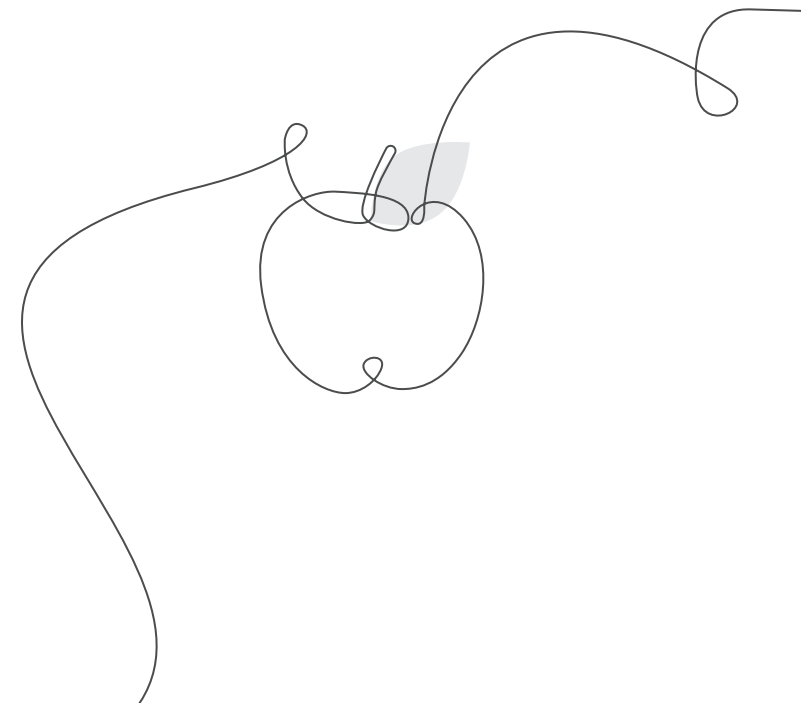


# Overview of approach to standards and content



# Table of contents

## Next Generation Science Standards (NGSS)

Life Science: Wondering About Noises in Trees .....	6
Physical Science: Wondering About Buildings .....	7
Earth Science: Wondering About Puddles .....	8

## Common Core State Standards for English Language Arts (CCSS-ELA)

Language (L) .....	9
Speaking and Listening (SL) .....	9
Reading: Informational Text (RI) .....	9
Writing (W) .....	9

## Common Core State Standards for Mathematics (CCSS-Math)

Life Science: Wondering About Noises in Trees .....	10
Physical Science: Wondering About Buildings .....	11
Earth Science: Wondering About Puddles .....	11

# Welcome to Amplify Science Transitional Kindergarten (TK)!

The Amplify Science Transitional Kindergarten (TK) units offer a pedagogical bridge between the foundational science learning experiences that students have in preschool and the sustained science learning experiences they will have in kindergarten and beyond. Given the unique placement of TK on the developmental trajectory between preschool and kindergarten, the programmatic approach and curricular design of the Amplify Science TK units take into account students' possible precursor learning experiences as well as anticipated future learning experiences. In crafting the units, the Amplify Science TK development team consulted early learning policy documents from the California Department of Education (e.g., CA Preschool Foundations, CA Preschool Curriculum Framework, The Alignment of CA Preschool Learning Foundations with Key Early Education Resources, CA TK Implementation Guide, CA Science Framework 2016) because California has the most well-developed transitional kindergarten initiative in place. These documents, along with the development team's deep knowledge of the Next Generation Science Standards (NGSS), were used to guide topic selection and to determine learning targets and expected outcomes for students.

Given that the NGSS and Common Core State Standards for Language Arts and Math (CCSS-ELA and CCSS-Math) frameworks do not currently include a unique set of standards tailored to students in transitional kindergarten, the Amplify Science TK units were designed to align to the frameworks' higher-level categories that span across grade levels—Disciplinary Core Ideas, Science and Engineering Practices, and Crosscutting Concepts for NGSS; Strands for CCSS-ELA; and Mathematical Practices and Domains for CCSS-Math. The goal of this alignment is to engage students in core practices

embedded throughout the standards without duplicating the content that students will experience when they enter kindergarten. The foundational standards-aligned learning experiences in Amplify Science TK are designed to position students to succeed in achieving the broader range of standards that they will engage with in kindergarten and beyond.

The tables below outline the core standards addressed in each Amplify Science TK unit, as well as in the Amplify Science kindergarten units that instantiate and build upon these standards.

# Next Generation Science Standards (NGSS)

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
<b>Life Science:</b> <b>Wondering About Noises in Trees</b>	<b>Disciplinary Core Ideas:</b> <ul style="list-style-type: none"> <li>LS1.B: Growth and Development of Organisms</li> <li>LS1.C: Organization for Matter and Energy Flow in Organisms</li> <li>LS4.D: Biodiversity and Humans</li> <li>LS2: Ecosystems: Interactions, Energy, and Dynamics</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>LS1.C</li> </ul>
	<b>Science and Engineering Practices:</b> <ul style="list-style-type: none"> <li>Practice 7: Engaging in Argument from Evidence</li> <li>Practice 8: Obtaining, Evaluating, and Communicating Information</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>Practice 7</li> <li>Practice 8</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>Practice 7</li> <li>Practice 8</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>Practice 7</li> <li>Practice 8</li> </ul>
	<b>Crosscutting Concepts:</b> <ul style="list-style-type: none"> <li>Patterns</li> <li>Cause and Effect</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>Patterns</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>Cause and Effect</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>Patterns</li> <li>Cause and Effect</li> </ul>

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
<b>Physical Science:</b> <b>Wondering About Buildings</b>	<b>Disciplinary Core Ideas:</b> <ul style="list-style-type: none"> <li>PS1.A: Structure and Properties of Matter</li> <li>ETS1.A: Defining and Delimiting Engineering Problems</li> <li>ETS1.B: Developing Possible Solutions</li> <li>ETS1.C: Optimizing the Design Solution</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>ETS1.A</li> <li>ETS1.B</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>ETS1.A</li> <li>ETS1.B</li> <li>ETS1.C</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>ETS1.A</li> <li>ETS1.B</li> </ul>
	<b>Science and Engineering Practices:</b> <ul style="list-style-type: none"> <li>Practice 6: Constructing Explanations and Designing Solutions</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>Practice 6</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>Practice 6</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>Practice 6</li> </ul>
	<b>Crosscutting Concepts:</b> <ul style="list-style-type: none"> <li>Stability and Change</li> <li>Patterns</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>Patterns</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>Patterns</li> </ul>

**Amplify Science TK unit**

**NGSS dimensions addressed**

**Amplify Science kindergarten units that highlight these dimensions**

**Earth Science:  
Wondering About Puddles**

**Disciplinary Core Ideas:**

- ESS2.A: Earth Materials and Systems
- ESS2.C: The Roles of Water in Earth's Surface Processes
- PS1.A: Structure and Properties of Matter

**Science and Engineering Practices:**

- Practice 1: Asking Questions and Defining Problems
- Practice 3: Planning and Carrying Out Investigations
- Practice 8: Obtaining, Evaluating, and Communicating Information

**Crosscutting Concepts:**

- Cause and Effect
- Scale, Proportion, and Quantity

**Needs of Plants and Animals**

- Practice 1
- Practice 3
- Practice 8

**Pushes and Pulls**

- Practice 1
- Practice 3
- Practice 8

**Sunlight and Weather**

- Practice 1
- Practice 3
- Practice 8

**Needs of Plants and Animals**

- Scale, Proportion, and Quantity

**Sunlight and Weather**

- Cause and Effect
- Scale, Proportion, and Quantity

# Common Core State Standards for English Language Arts (CCSS-ELA)

**CCSS-ELA strands addressed in all Amplify Science TK units**

**Amplify Science kindergarten units that highlight these strands**

**Language (L)**

**Needs of Plants and Animals**

- L.K.4; L.K.6

**Pushes and Pulls**

- L.K.4; L.K.6

**Sunlight and Weather**

- L.K.4; L.K.6

**Speaking and Listening (SL)**

**Needs of Plants and Animals**

- SL.K.1; SL.K.2; SL.K.3; SL.K.4; SL.K.5

**Pushes and Pulls**

- SL.K.1; SL.K.2; SL.K.4

**Sunlight and Weather**

- SL.K.1; SL.K.2; SL.K.5

**Reading: Informational Text (RI)**

**Needs of Plants and Animals**

- RI.K.1; RI.K.2; RI.K.3; RI.K.4; RI.K.5; RI.K.7; RI.K.10

**Pushes and Pulls**

- RI.K.1; RI.K.2; RI.K.3; RI.K.4; RI.K.5; RI.K.7; RI.K.10

**Sunlight and Weather**

- RI.K.1; RI.K.3; RI.K.7; RI.K.10

**Writing (W)**

**Needs of Plants and Animals**

- W.K.2; W.K.7; W.K.8

**Pushes and Pulls**

- W.K.2; W.K.7; W.K.8

**Sunlight and Weather**

- W.K.2; W.K.7; W.K.8

# Common Core State Standards for Mathematics (CCSS-Math)

Amplify Science TK unit	CCSS-Math Practices and Domains addressed	Amplify Science kindergarten units that highlight these practices and domains
<b>Life Science:</b> <b>Wondering About Noises in Trees</b>	<b>Math Practices:</b> <ul style="list-style-type: none"> <li>MP1: Make sense of problems and persevere in solving them.</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>MP1</li> </ul>
	<b>Math Domains:</b> <ul style="list-style-type: none"> <li>Measurement and Data (MD)</li> <li>Geometry (G)</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2</li> <li>K.G.1; K.G.5</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2; K.MD.3</li> <li>K.G.1; K.G.4</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2</li> </ul>
	<b>Math Practices:</b> <ul style="list-style-type: none"> <li>MP1: Make sense of problems and persevere in solving them.</li> <li>MP7: Look for and make use of structure.</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>MP1</li> </ul>

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
<b>Physical Science:</b> <b>Wondering About Buildings</b>	<b>Math Practices:</b> <ul style="list-style-type: none"> <li>MP1: Make sense of problems and persevere in solving them.</li> <li>MP7: Look for and make use of structure.</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>MP1</li> </ul>
	<b>Math Domains:</b> <ul style="list-style-type: none"> <li>Measurement and Data (MD)</li> <li>Geometry (G)</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2</li> <li>K.G.1; K.G.5</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2; K.MD.3</li> <li>K.G.1; K.G.4</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>K.MD.1; K.MD.2</li> </ul>
<b>Earth Science:</b> <b>Wondering About Puddles</b>	<b>Math Practices:</b> <ul style="list-style-type: none"> <li>MP1: Make sense of problems and persevere in solving them.</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>MP1</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>MP1</li> </ul>
	<b>Math Domains:</b> <ul style="list-style-type: none"> <li>Counting and Cardinality (CC)</li> </ul>	<b>Needs of Plants and Animals</b> <ul style="list-style-type: none"> <li>K.CC.3; K.CC.4; K.CC.4a; K.CC.5; K.CC.6;</li> </ul> <b>Pushes and Pulls</b> <ul style="list-style-type: none"> <li>K.CC.5</li> </ul> <b>Sunlight and Weather</b> <ul style="list-style-type: none"> <li>K.CC.4; K.CC.5; K.CC.7</li> </ul>

For more information on Amplify Science,  
contact your Amplify representative today.

**(800) 823-1969**

**[amplify.com/science-tk](https://amplify.com/science-tk)**

**Amplify.**

All curriculum materials © 2019 The Regents of the University of California.  
© 2019 Amplify Education, Inc. All trademarks and copyrights are the property of Amplify or its licensors.