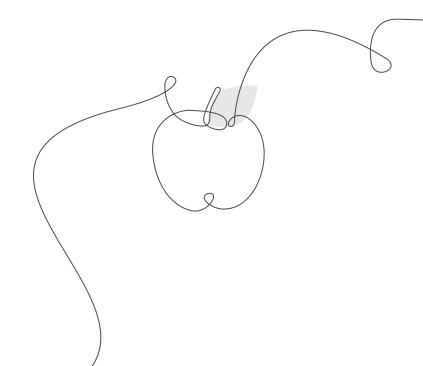
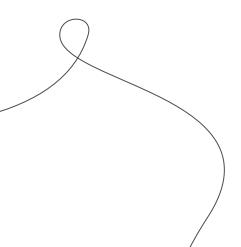
Overview of approach to standards and content









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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.

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Next Generation Science Standards (NGSS)

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
Life Science: Wondering About Noises in Trees	 Disciplinary Core Ideas: LS1.B: Growth and Development of Organisms LS1.C: Organization for Matter and Energy Flow in Organisms LS4.D: Biodiversity and Humans LS2: Ecosystems: Interactions, Energy, and Dynamics 	Needs of Plants and Animals • LS1.C
	Science and Engineering Practices: • Practice 7: Engaging in Argument from Evidence • Practice 8: Obtaining, Evaluating, and Communicating Information	Needs of Plants and Animals • Practice 7 • Practice 8
		Pushes and Pulls Practice 7 Practice 8
		Sunlight and WeatherPractice 7Practice 8
	Crosscutting Concepts: • Patterns	Needs of Plants and Animals • Patterns
	Cause and Effect	Pushes and Pulls Cause and Effect
		Sunlight and WeatherPatternsCause and Effect

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
Physical Science: Wondering About Buildings	Disciplinary Core Ideas:PS1.A: Structure and Properties of MatterETS1.A: Defining and Delimiting Engineering Problems	Needs of Plants and Animals ETS1.AETS1.B
	 ETS1.B: Developing Possible Solutions ETS1.C: Optimizing the Design Solution 	Pushes and Pulls ETS1.AETS1.BETS1.C
		Sunlight and Weather • ETS1.A • ETS1.B
	Science and Engineering Practices: • Practice 6: Constructing Explanations and Designing Solutions	Needs of Plants and Animals • Practice 6
		Pushes and Pulls • Practice 6
		Sunlight and Weather Practice 6
	Crosscutting Concepts: • Stability and Change	Needs of Plants and Animals • Patterns
	• Patterns	Sunlight and Weather • Patterns

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mplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions	CCSS-ELA strands addressed in all Amplify Science TK units	Amplify Science kindergarten units that highlight these strands
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:	Needs of Plants and Animals	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
	 Practice 1: Asking Questions and Defining Problems Practice 3: Planning and Carrying Out Investigations Practice 8: Obtaining, Evaluating, and Communicating Information 	 Practice 1 Practice 3 Practice 8 Pushes and Pulls Practice 1 Practice 3 Practice 8 	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
		 Sunlight and Weather Practice 1 Practice 3 Practice 8 	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
	Crosscutting Concepts: Cause and Effect Cause Proportion and Quantity:	Needs of Plants and Animals Scale, Proportion, and Quantity		Sunlight and Weather • RI.K.1; RI.K.3; RI.K.7; RI.K.10
	Scale, Proportion, and Quantity	Sunlight and WeatherCause and EffectScale, Proportion, and Quantity	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

TRANSITIONAL KINDERGARTEN

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

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Common Core State Standards for Mathematics (CCSS-Math)

CCSS-Math Practices and Domains addressed	Amplify Science kindergarten units that highlight these practices and domains
Math Practices: • MP1: Make sense of problems and persevere in solving them.	Needs of Plants and Animals • MP1
	Pushes and Pulls • MP1
	Sunlight and Weather • MP1
Math Domains:Measurement and Data (MD)Geometry (G)	Needs of Plants and Animals K.MD.1; K.MD.2 K.G.1; K.G.5
	Pushes and PullsK.MD.1; K.MD.2; K.MD.3K.G.1; K.G.4
	Sunlight and Weather • K.MD.1; K.MD.2
Math Practices: • MP1: Make sense of problems and persevere in solving them.	Needs of Plants and Animals • MP1
MP7: Look for and make use of structure.	Pushes and Pulls • MP1
	Sunlight and Weather • MP1
	Math Practices: • MP1: Make sense of problems and persevere in solving them. Math Domains: • Measurement and Data (MD) • Geometry (G) Math Practices: • MP1: Make sense of problems and persevere in solving them.

TRANSITIONAL KINDERGARTEN

Amplify Science TK unit	NGSS dimensions addressed	Amplify Science kindergarten units that highlight these dimensions
Physical Science: Wondering About Buildings	 Math Practices: MP1: Make sense of problems and persevere in solving them. MP7: Look for and make use of structure. 	Needs of Plants and Animals • MP1
		Pushes and Pulls • MP1
		Sunlight and Weather • MP1
	Math Domains:Measurement and Data (MD)Geometry (G)	Needs of Plants and Animals K.MD.1; K.MD.2K.G.1; K.G.5
		Pushes and PullsK.MD.1; K.MD.2; K.MD.3K.G.1; K.G.4
		Sunlight and Weather • K.MD.1; K.MD.2
Earth Science: Wondering About Puddles	Math Practices:MP1: Make sense of problems and persevere in solving them.	Needs of Plants and Animals • MP1
		Pushes and Pulls • MP1
		Sunlight and Weather • MP1
	Math Domains: • Counting and Cardinality (CC)	Needs of Plants and Animals • K.CC.3; K.CC.4; K.CC.4a; K.CC.5; K.CC.6;
		Pushes and Pulls • K.CC.5
		Sunlight and Weather K.CC.4; K.CC.5; K.CC.7

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