



Ramps Unit Overview

You can use the Ramps unit structure as shown here, or you may wish to vary the unit structure to meet your class's needs, for example: spread activities out over multiple days, repeat key activities to reinforce learning, revisit songs during class transitions, or extend Small Group conversations at the full-class Circle-Time: Wrap-Up.

Week 1: Move It!			
RAMPS	Lesson 1 Children explore ways they can make objects move and observe how objects move when they use a big force versus a little force.	Lesson 2 Children explore the force of gravity and how it pulls things downward.	Lesson 3 Children explore rolling and sliding and how an object's shape affects the way it moves.
Circle Time: Introduction	We Can Make It Move (hands-on) 5 mins. <ul style="list-style-type: none"> Explore different ways to make things move. Keep the Ball Rolling (hands-on) 5 mins. <ul style="list-style-type: none"> Explore giving a ball a big push, little push, and making it stop. 	Gravity Pulls Things Down (song) 10-15 mins. <ul style="list-style-type: none"> Sing a song about gravity. And Everyone Shouted, 'Pull!' (read-aloud) 10 mins. <ul style="list-style-type: none"> Act out the words to a song. "The Slide" Fingerplay (fingerplay) 5 mins. <ul style="list-style-type: none"> Act out a fingerplay "The Slide". 	Roll and Slide (song) 5 mins. <ul style="list-style-type: none"> Sing a song and play a circle game to explore "roll" and "slide". Tip It (hands-on) 5 mins. <ul style="list-style-type: none"> Predict whether objects will roll or slide on a ramp.
Small Group	Little Push, Big Push (hands-on) 15 mins. <ul style="list-style-type: none"> Give a block a big/little push and explore how far it slides. Coconut Star, Levels 1-3 (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how force affects how far a coconut rolls. 	I Can Be a Ramp (hands on) 5-15 mins. <ul style="list-style-type: none"> Explore making body ramps. 	How Many Rolls and Slides? (hands-on) 5-15 mins. <ul style="list-style-type: none"> Predict, test, and record which objects roll or slide.
Learning Centers	Blowing Paint (hands-on) 5-15 mins. <ul style="list-style-type: none"> Use force to blow paint across a paper. Push and Slide (hands-on) 5-15 mins. <ul style="list-style-type: none"> Use little and big pushes to land lids in near and far zones. Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how force, ramp steepness, and texture affect how far a coconut rolls. 	Watch It Fall (hands-on) 5-15 mins. <ul style="list-style-type: none"> Draw pictures to show objects falling, sliding, and rolling. Push and Slide (hands-on) 5-15 mins. <ul style="list-style-type: none"> Use little and big pushes to land lids in near and far zones. Toys on Ramps (hands-on) 5-15 mins. <ul style="list-style-type: none"> Explore sending small objects down ramps. 	Play Dough Shapes and Ramps (hands-on) 5-15 mins. <ul style="list-style-type: none"> Make play dough shapes and send them down a ramp. Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. Toys on Ramps (hands-on) 5-15 mins. <ul style="list-style-type: none"> Explore sending small objects down ramps.



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WK 1: RAMPS	Lesson 1	Lesson 2	Lesson 3
		Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> • Explore how force, incline, texture affect how far a coconut rolls. 	
Outdoors	Roll, Throw, Kick! (outdoors) 10-15 mins. <ul style="list-style-type: none"> • Roll, throw, or kick a ball to see which force sends it farthest. 	Roll, Throw, Kick! (outdoors) 10-15 mins. <ul style="list-style-type: none"> • Roll, throw, or kick a ball to see which force sends it farthest. 	Ramp Hunt (outdoors) 15 mins. <ul style="list-style-type: none"> • Hunt for and discuss outdoor ramps in your environment.
Circle Time: Wrap-Up	And Everyone Shouted, ‘Pull!’ (read aloud) 10 mins. <ul style="list-style-type: none"> • Act out the words to a song. 	Watch It Fall (hands-on) 5-15 mins. <ul style="list-style-type: none"> • Draw pictures to show objects falling, sliding, and rolling. “The Slide” Fingerplay (fingerplay) 5 mins. <ul style="list-style-type: none"> • Act out a fingerplay “The Slide”. 	How Many Rolls and Slides (hands-on) 5-15 mins. <ul style="list-style-type: none"> • Predict, test, and record which objects roll or slide. Ramp Hunt (outdoors) 15 mins. <ul style="list-style-type: none"> • Hunt for and discuss outdoor ramps in your environment.

Week 2: Ramp Steepness

RAMPS	Lesson 4	Lesson 5	Lesson 6
	Children continue to explore how an object’s shape affects the way it moves down a ramp.	Children explore how ramp steepness affects how fast/slow an object moves down a ramp.	Children explore how the steepness of a ramp affects how far an object rolls.
Circle Time: Introduction	Ramp It Up (hands-on) 10 mins. <ul style="list-style-type: none"> • Predict and test how far an object will roll or slide. “The Slide” Fingerplay (fingerplay) 5 mins. <ul style="list-style-type: none"> • Act out a fingerplay “The Slide”. 	Ramp Rolling (video) 10 mins. <ul style="list-style-type: none"> • Observe children building ramps and racing objects on the ramps. Coconut Star: Explore: Which Rolls Faster? (digital app) 5-10 mins. <ul style="list-style-type: none"> • Explore how force and ramp incline affect how fast a coconut rolls. 	“The Slide” Fingerplay (fingerplay) 5 mins. <ul style="list-style-type: none"> • Act out a fingerplay “The Slide”. Coconut Star: Explore: Which Rolls Farther? (digital app) 5-10 mins. <ul style="list-style-type: none"> • Explore how force and ramp incline affect how far a coconut rolls.
Small Group	Sorting Objects that Slide and Roll (hands-on) 15 mins. <ul style="list-style-type: none"> • Sort objects that roll and slide; identify features of each group. 	Faster and Slower (hands-on) 5 mins. <ul style="list-style-type: none"> • Watch objects move slowly or quickly on steep and gentle ramps. Which Is Faster? (digital journal) 10 mins. <ul style="list-style-type: none"> • Predict how an object will roll down a steep ramp. 	Steep & Gentle Ramp Experiments (digital journal) 15 mins. <ul style="list-style-type: none"> • Compare how far objects travel down steep and gentle ramps.



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WK 2: RAMPS	Lesson 4	Lesson 5	Lesson 6
<p>Learning Centers</p>	<p>Toys on Ramps (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore sending small objects down ramps. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. <p>Ramp Hunt (hands-on) 15 mins.</p> <ul style="list-style-type: none"> Hunt for and discuss outdoor ramps in your environment. <p>Rolling Marble Art (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Roll paint-covered marbles in a box lid. 	<p>Faster and Slower (hands-on) 5 mins.</p> <ul style="list-style-type: none"> Watch objects move slowly or quickly on steep and gentle ramps. <p>Which is Faster? (hands-on) 5 mins.</p> <ul style="list-style-type: none"> Notice how a shadow changes when a light is moved. <p>Listen to It Roll (hands-on) 5-10 mins.</p> <ul style="list-style-type: none"> Listen to the sound of a marble rolling in a tube. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. 	<p>Rolling Marble Art (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Roll paint-covered marbles in a box lid. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. <p>Which Is Faster? (digital journal) 10 mins.</p> <ul style="list-style-type: none"> Predict how an object will roll down a steep ramp. <p>Ramp Rolling (video) 10 mins.</p> <ul style="list-style-type: none"> Observe children building ramps and racing objects on the ramps.
<p>Outdoors</p>	<p>Sorting Objects Outdoors (outdoors) 10-15 mins.</p> <ul style="list-style-type: none"> Sort objects into things that roll, slide, or stay put. 		
<p>Circle Time: Wrap Up</p>	<p>Imagination Adventure (hands-on) 5 mins.</p> <ul style="list-style-type: none"> Imagine sliding down a steep and gentle slide. <p>Sorting Objects Revisited (hands-on) 10-15 mins.</p> <ul style="list-style-type: none"> Make and test predictions about how objects move down a ramp. 	<p>Ramp Rolling (video) 10 mins.</p> <ul style="list-style-type: none"> Observe children building ramps and racing objects on the ramps. 	<p>Steep & Gentle Ramp Review (digital journal) 5-10 mins.</p> <ul style="list-style-type: none"> Reexamine Steep & Gentle Ramp experiments. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, ramp steepness, and texture affect how far a coconut rolls.



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Week 3: Ramp Textures

RAMPS	Lesson 7 Children build bowling games with obstacles and observe how a marble rolls on the ramp.	Lesson 8 Children explore how texture and friction affect how far and fast objects slide and roll.	Lesson 9 Children continue to explore how texture and friction affect how objects roll and slide down a ramp.
Circle Time: Introduction	Ramp Rolling Revisited (video) 10 mins. <ul style="list-style-type: none"> Observe children building ramps and racing objects on the ramps. Design a Bowling Lane & Let's Bowl (hands-on) 15-20 mins. <ul style="list-style-type: none"> Design a bowling lane to fit in specific classroom space. 	Smooth, Fuzzy, Bumpy (hands-on) 5-8 mins. <ul style="list-style-type: none"> Feel and test different textured surfaces. Coconut Star: Explore Texture (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how different textures affect how far a coconut rolls. 	Watch Them Slide (hands-on) 5 mins. <ul style="list-style-type: none"> Observe and compare how textured objects move on a slide. Coconut Star, Levels 7-12 (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how different textures affect how far a coconut rolls.
Small Group	Design a Bowling Lane & Let's Bowl (hands-on) 15-20 mins. <ul style="list-style-type: none"> Design a bowling lane to fit in specific classroom space. Ready, Set, Roll the Marble: Experiments (digital journal) 15 mins. <ul style="list-style-type: none"> Observe, record what happens when a marble hits an obstacle. 	Textured Blocks (hands-on) 5 mins. <ul style="list-style-type: none"> Explore how different-textured blocks move down ramps. Ramp Rider (digital journal) 10 mins. <ul style="list-style-type: none"> Explore sliding a stuffed animal down a cardboard ramp. 	Smooth & Rough Ramp Experiment (digital journal) 15 mins. <ul style="list-style-type: none"> Compare how far objects move down smooth and rough ramps. Record result. Down They Go (video) 5 mins. <ul style="list-style-type: none"> Watch children roll objects down grassy hills and paved walkways.
Learning Centers	Amazing Slides (hands-on) 5-15 mins. <ul style="list-style-type: none"> Cast shadows on a large sheet. Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how different textures affect how far a coconut rolls. Ready, Set, Roll the Marble: Revisited (digital journal) 15 mins. <ul style="list-style-type: none"> Observe, record what happens when a marble hits an obstacle. 	Texture Collage (hands-on) 5-10 mins. <ul style="list-style-type: none"> Move a light to make big, small, and clear shadows. Ramp Rider (digital journal) 10 mins. <ul style="list-style-type: none"> Explore sliding a stuffed animal down a cardboard ramp. Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. Design a Bowling Lane & Let's Bowl (hands-on) 15-20 mins. <ul style="list-style-type: none"> Design a bowling lane to fit in specific classroom space. 	Texture Collage (hands-on) 5-15 mins. <ul style="list-style-type: none"> Make textured box collage and watch a marble roll in it. Exploring Textured Ramps (hands-on) 5-15 mins. <ul style="list-style-type: none"> Explore how surface texture affects how an object moves. Coconut Star (digital app) 5-10 mins. <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. Ramp Rider (digital journal) 10 mins. <ul style="list-style-type: none"> Explore sliding a stuffed animal down a cardboard ramp.



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WK 3: RAMPS	Lesson 7	Lesson 8	Lesson 9
	<p>Design a Bowling Lane & Let's Bowl (hands-on) 15-20 mins.</p> <ul style="list-style-type: none"> Design a bowling lane to fit in specific classroom space. 		
Outdoors			<p>Hills and Surfaces (outdoors) 15 mins.</p> <ul style="list-style-type: none"> Watch how far objects roll down a variety of outdoor surfaces.
Circle Time: Wrap Up	<p>Ready, Set, Roll the Marble: Revisited (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Predict what happens when a marble hits an obstacle. <p>Design a Bowling Lane & Let's Bowl (hands-on) 15-20 mins.</p> <ul style="list-style-type: none"> Design a bowling lane to fit in specific classroom space. Review previous videos. 	<p>Ramp Rider (digital journal) 10 mins.</p> <ul style="list-style-type: none"> Explore sliding a stuffed animal down a cardboard ramp. 	<p>Down They Go (video) 5 mins.</p> <ul style="list-style-type: none"> Watch children roll objects down grassy hills and paved walkways. <p>Hills and Surfaces Revisited (video) 5 mins.</p> <ul style="list-style-type: none"> Review outdoor experiments.

Week 4: Build Ramps and Pathways			
RAMPS	Lesson 10	Lesson 11	Lesson 12
	<p>Children build ramps and explore how different objects roll down the ramps.</p>	<p>Children build, test, and revise pathways and obstacle courses that have ramps and flat surfaces.</p>	<p>Children build large marble runs with multiple sections that vary in steepness.</p>
Circle Time: Introduction	<p>Homemade Hill (video) 5 mins.</p> <ul style="list-style-type: none"> Watch a video of children sliding objects down home-made ramps. <p>Coconut Canyon, Levels 1-4 (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps. 	<p>Around the Obstacle Course (hands-on) 20 mins.</p> <ul style="list-style-type: none"> Design a track and move a sled through obstacles. <p>Coconut Canyon, Levels 5-12 (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps. 	<p>And Everyone Shouted, 'Pull!' (read-aloud) 10 mins.</p> <ul style="list-style-type: none"> Act out the words to a song.



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WK 4: RAMPS	Lesson 10	Lesson 11	Lesson 12
Small Group	<p>Smooth & Rough Ramp Experiments (hands-on) 15 mins.</p> <ul style="list-style-type: none"> Explore how objects move down smooth and rough ramps. 	<p>Around the Obstacle Course (hands-on) 20 mins.</p> <ul style="list-style-type: none"> Design a track and move a sled through obstacles. <p>Coconut Canyon (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps. 	<p>Giant Marble Runs (digital journal) 20-30 mins.</p> <ul style="list-style-type: none"> Take a video of a marble moving down a long pathway.
Learning Centers	<p>Ramps, Pathways, Games: Part 1 (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore which objects roll faster and farther on a ramp. <p>Exploring Textured Ramps (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore how surface texture affects how an object moves. <p>Toys on Ramps (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore sending small objects down ramps. <p>Coconut Canyon (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, ramp steepness and texture affect how far a coconut rolls. 	<p>Ramps, Pathways, Games: Part 2 (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Build marble trackways. <p>Rolling Marble Art (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Roll paint-covered marbles in a box lid. <p>Exploring Textured Ramps (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore how surface texture affects how an object moves. <p>Coconut Star (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. 	<p>Ramps, Pathways, Games: Part 3 (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Build a bowling lane with obstacles. Roll marbles down. <p>Exploring Textured Ramps (hands-on) 5-15 mins.</p> <ul style="list-style-type: none"> Explore how surface texture affects how an object moves. <p>Around the Obstacle Course (hands-on) 20 mins.</p> <ul style="list-style-type: none"> Design a track and move a sled through obstacles. <p>Coconut Canyon (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps.
Outdoors			<p>Ramp Hunt (outdoors) 15 mins.</p> <ul style="list-style-type: none"> Hunt for and discuss outdoor ramps in your environment.
Circle Time: Wrap Up	<p>Homemade Hill (video) 5 mins.</p> <ul style="list-style-type: none"> Watch a video of children sliding objects down homemade ramps. <p>Coconut Star, Levels 13–16 (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how force, incline, texture affect how far a coconut rolls. 	<p>Around the Obstacle Course (hands-on) 20 mins.</p> <ul style="list-style-type: none"> Design a track and move a sled through obstacles. <p>Coconut Canyon, Levels 5–12 (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps. 	<p>Giant Marble Runs Demo (digital journal) 15 mins.</p> <ul style="list-style-type: none"> Share and describe giant marble runs with the class. <p>Coconut Canyon, Levels 5–12 (digital app) 5-10 mins.</p> <ul style="list-style-type: none"> Explore how far a coconut will move on different textured ramps.



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