

Summer S.T.E.A.M. Activities

Week 1 Science:

Make observations, ask questions, make predictions, and explore the environment to understand how the world works.

	Bubble Foam	Giant Ice Balls	Peekaboo	Tornado in a Bottle	Water Play	Rainbow Foods	Imaginary Seed
Instructions	Make foam with tear free bubble bath/soap. Add food coloring and explore.	<i>Freeze a filled water balloon the size of your hand. Cut the balloon off to get an ice ball.</i>	Make peekaboo cards using paper, print outs, glue, crayons.	<i>Thick plastic bottle, water, dish soap, items to watch in the mixture secure lid with glue.</i>	Spoon, water and Toys.	Bread, milk, food coloring, paint brushes.	Create a picture and story about a magical seed with paper and crayons.
Infants	Allow your child to touch and feel the foam. As you explore add words to describe the experience.	Infant's explore the cold ball.	Play peek a boo with baby, baby pulls off the blanket.	Make tornado bottle for baby with eye catching floating items, glue lid on.	Make a baby water table with a cookie sheet and racks. Put baby on several towels to play.	Baby mixes different colored baby foods together on highchair.	Talk to your baby about seeds. Show pictures, books, magazines with images.
Toddlers	Use different utensils such as whisk, hand mixer or spoon or exploration. Cups for scooping and pouring.	Make the ice balls different colors roll around and crash together.	Play hide and seek teaching counting in 'the home.	Adult puts in small floating items, child pours in fluid, glue lid on.	Water table with dish pan. Food coloring and funnels and basters.	Food coloring in small amount of milk and paint bread. Toast and eat.	Draw pictures of seeds. Talk to your child about where to find seeds.
Preschool	Include your child in the preparation of the foam. Have them select the colors they will like to use and predict the outcome.	Use an eye dropper to drop different colors on to the ice ball. Ask a few questions to your child about the outcome.	Cut and glue a picture to a folded paper, ask your child questions about who is behind the window or card.	Make one tornado bottle with water and floating items, then try making one with corn syrup and floating items. Do the items inside move the same? Faster? Slower?	Create a miniature stream or river by using a spoon to dig a trench. Use the hose to see if your "river" works. Build a dam and see what happens!	Food coloring in small amount of milk and paint bread. Toast and eat.	Understanding the world around while explaining the way seeds grow. Invite your child to draw a picture to show the process.

**Supervision required on all activities:**

*For infants and toddlers, please supervise children when using balloons and small objects, such as lids, these are considered choking hazards.*

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Week 2 Technology:

Technology: More than phones and computers. Any type of man-made object or tool, such as pulleys and levers, a magnifying glass, or a measuring tape.

	Ramp Rolling	Catapults	Plastic bottle Wind Spiral	Shadows and light	Table Blocks	Parachute Play	Colorful Streamers
<b>Instructions</b>	<i>Materials to build ramps, things to roll.</i>	Create a catapult to launch items into a basket,	<i>Plastic bottle, markers, scissors. Cut bottom off then into spirals. Hang.</i>	Flashlight exploration.	Home-made blocks.	Use a bed sheet to bounce or balance items on and create parachute.	Using pipe cleaners for ring or any other rings and tissue paper into long strips/ribbon make a streamer.
<b>Infants</b>	Infant ball, books for ramp, pillows for height.	Sheet, large towel, soft items for launching.	Show infant the wind catcher, talk about its movement.	Show baby different material with light shining through.	Stuff empty clean food boxes or other clean containers with newspaper, junk mail etc. Secure with duct tape.	Provide visual stimulation by bouncing balls and/or stuffed animals on sheet.	Observing different body movements, dance and play around for baby to see how you and the streamer move.
<b>Toddlers</b>	Hampers, laundry Baskets, tote lids, things to roll.	Kitchen cooking utensil to launch soft toys into a basket.	Toddler colors plastic bottle, adult cuts into spiral strips.	Toddler can play I spy in a dark room shining the light on the item requested.	Use smaller block type items to use for stacking; jewelry box, sponges, bar soap box, etc..	Have child hold one end of sheet and shake around to make items bounce while trying to keep them from falling out of sheet.	Using body to represent ideas, using streamers encourage your child to imitate your movements.
<b>Preschool</b>	Home-made teeter totter for items to roll different ways.	Experiment with Jumbo craft sticks, rubber bands, spoons, and items to launch.	Add streamers, beads to bottom.	Shine the flashlight on your child's back and let them watch their shadow move like them! Is it the same size as them?	Stack canned foods.	Have child hold one end of sheet and shake around to make items bounce while trying to keep them from falling out of sheet.	Support your child's creativity by letting them add different size strips. Explore creative movement while dancing and playing with streamers.

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Week 3 Engineering:

Using materials to design, build, and problem-solve. Understanding how and why things work.

	Fill and Spill Buckets	Collage	Weave	Rattle Snake	Maracas	Target Practice	Rock Star
<b>Instructions</b>	<i>2 chairs for brace, thread broom through, yarn to tie bucket to broom, fill and spill.</i>	<i>Explore and compare materials such as sticky contact paper, scissors, tape, and markers.</i>	<i>Weaving different items together.</i>	<i>Fill tube sock with items that will make different noises and provide tactile stimulation.</i>	<i>Explore sound and movement using homemade musical instrument.</i>	<i>Paper towel tubes and balls.</i>	Use metal loaf pan and rubber bands. Duct tape side of pans for safety.
<b>Infants</b>	Sit baby next to the fill and spill bucket with soft items.	Allow your child to explore the sticky sensation by playing with a piece of tape or contact paper.	Upside down laundry basket, small toys under basket, can baby move to retrieve the toys.	Use ribbon or thread to separate belly into different sections. Each section should have different material.	Fill plastic egg or small container with noise making material; secure with glue, and duct tape.	Play with babies visually having them look through the tube to see you!	Metal pans and wooden spoons to bang.
<b>Toddlers</b>	Toddler puts toys in to fill and spill the bucket over repeat.	Explore textures of tape, glue, and paper. Practice pasting and removing from collage.	Toy placed in bottom of basket. Thread yarn across, like a spider web in laundry basket. Tie off, give to toddler to get toy.	Use nontoxic permanent -safe markers to draw eyes and tongue on rattlesnake.	Use 2 plastic spoons, place plastic egg or small container with noisy material inside between the spoons and duct tape.	Stand multiple paper towel tubes on end balance balls on top shoot them or knock them down.	Metal and Plastic dishes and wooden spoons.
<b>Preschool</b>	For preschoolers, place yarn over the broom and tie to bucket to create a pulley for hoisting the bucket up and letting it down.	Plan how your picture/drawing will look and arrange materials to make lines and shapes.	Using a chain link fence, weave streamers, cloth, etc. into it for an art statement.	Put different items in 3 or more socks. See if they can identify the items by sound or by touch, such as the bell snake, rock snake, etc.	Children add materials to containers, add colorful ribbons to maracas for visual movement.	Tape paper towel tubes together to make a tunnel. Aim at a target and knock it down. Explore with different size balls. Are some faster, why?	Wrap bands on the long side of loaf pan and pull on rubber bands then let go to make music.

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Week 4 Art:

Activities that require creativity and imagination. Drawing, painting, music, and pretend play.

	Watercolor	Corn syrup and food coloring, and paper	Foot-Print Painting	Yarn Painting	Playdough	Concrete Painting	Newspaper Down by the Bay hats
Instructions	Use dried out children markers, dip into water for watercolor painting on paper. Or explore watercolors, and salt on paper.	<i>Corn syrup and food coloring, and paper.</i>	Large paper, paint, feet	Tie yarn onto popsicle stick or clothes pin for handle, dip in tempera paint and paint on paper.	<i>Mix flour, salt, warm water, food coloring and vegetable oil.</i>	<i>Water, paint rollers and paint brushes.</i>	<i>Using newspaper put on child's tape around child's head. Pull off roll up edges for a brim and decorate it. Ask your teacher to play "Down by the Bay" on your visit!</i>
Infants	Exploring with watercolors.	Paper, with colored corn syrup, into taped Ziploc bag, push around.	Dip babies' feet in paint stand on them on paper to feel the squish.	Finger painting on paper with apple sauce.	Place dough in Ziplock bag and duct tape edges for safety.	On cool concrete let baby explore a trickling water hose.	Put a hat on baby and yourself. When baby pulls of put back on talking about off and on.
Toddlers	Painting with watercolor and a little salt.	Finger painting type paper is best brushes and corn syrup with a drop of food coloring.	Paint feet and walk on paper making footprints.	Put paint on pieces of yarn and paint across a piece of paper.	Add spices like cinnamon, cloves, mint or rosemary for sensory experience.	Paint outside fences with mom and dad's clean paint brushes and paint rollers.	Let your toddler use and feel some of the different materials to decorate it.
Preschool	Try painting using old markers dipped into water on coffee filters. What happens as the filter absorbs different colors?	Drop or drizzle colored corn syrup onto a piece of wax paper. Let it harden then peel off the wax paper. Beautiful art that is edible too!	sitting in a chair, let child dip each foot in a different color paint. Move feet around to mix paint. What new color did they make?	Dip pieces of yarn into glue. Make shapes, squiggles or cross them over and under on a piece of wax paper. Let dry then enjoy your 3D art piece!	Let your preschooler mix the dry ingredients, then the liquids. What happens when you put them together?	Explore evaporation. Paint with water on the concrete then count how many seconds it takes your art to evaporate.	Make a hat for each family member. Teach your child how to roll up the brim and decorate them.

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Week 5 Math:

Children's use of patterns and sorting; number and operations, adding and subtracting; measurement and geometry

	<b>Rock, stick, leave collection</b>	<b>Ball Transfer</b>	<b>Homemade pool table</b>	<b>Rolling</b>	<b>Color Bottles or Color Sorting and Patterns</b>	<b>Sensory Number Book</b>	<b>Obstacle course</b>
<b>Instructions</b>	<i>Classification of each material.</i>	<i>Kitchen spoons, balls and kitchen bowls.</i>	<i>Solo cups, painters' tape onto kitchen table edges, roll balls into cups.</i>	<i>Create ramps with shoe boxes, cardboard, tape, paper, cars or balls.</i>	<i>Use laundry baskets to collect and sort different items around the home.</i>	Using Ziplock baggies and yarn or ribbon to put together.	Painters tape arrows on floor directing children to run around house, over cushions and around tables.
<b>Infants</b>	Baby explores a safe stick, and rock.	Baby holds wooden spoon and adult set ball in, baby drops, and adult puts back on.	Standing Infants roll tennis sized ball from coffee table into laundry basket.	Allow your child to observe how the toys go down and practice picking them up to learn how things work.	Color bottles, using plastic bottles, all material in bottle is same color.	Glue or tape number of items on note card, place inside baggie, duct tape ends for safety. Hold baggies together with yarn.	Baby crawls over and around items to get to parents.
<b>Toddlers</b>	Toddler collecting each item in separate containers.	Toddler uses wooden spoon to scoop out tennis sized ball and drop into another bowl across the room.	Tape cups to coffee table rolling ping pong sized ball into cups. Use words like in and on and under.	Practice finger skills by grabbing and rolling the car or ball down over and over.	Have child collect items and place in designated basket; name colors.	Child can glue items to notecards.	Put couch cushions on floor to go over, table chair to go under, arrow to go between furniture.
<b>Preschool</b>	Go rock hunting. Sort them by smooth or rough, by color, or by small medium and large.	Ping Pong Balls, and serving spoon, with bowls and numbers across the room, putting the amount of balls in each bowl.	Use words like left side pocket.	Predict and measure how far the car or ball will go by marking distance with a piece of tape.	Older children can also sort shapes.	Child can count, name and describe items on each page.	Put a number on the floor to stop and jump 5 times before moving on.

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