LESSON	Teaching Topics		Experiment / Activity / Project	Materials	Objectives
1	**Color Carnival**	What Is RYB? / Mixing Colors	**Activity 1**: RYB **Activity 2**: Mixing Colors	**Activity 1**: blue/yellow/red cellophane, plastic bag, glue, scissors **Activity 2**: watercolor paints, paintbrush, palette	★ Identify Primary Colors Recognize and name the primary colors: red, yellow, and blue. ★ Define the RYB Color Model Understand the concept of the RYB color model and its components (Red, Yellow, Blue). ★ Explore Color Mixing Experiment with combining RYB primary colors to create secondary colors. ★ Apply RYB Knowledge Apply the understanding of RYB in practical scenarios.
2		Color Changing Water Color Changing Sensory Bottle	**Experiment 1**: Color Changing Water **Experiment 2**: Color Changing Sensory Bottle	**Experiment 1**: water, a glass, food coloring, two spoons, a clear container **Experiment 2**: a bottle, food coloring, baby oil, oil based food coloring, chopsticks	★ Color mixing principles Showcase color mixing principles by observing color transformations in water. ★ Sensory experience Create a calming sensory experience by displaying color changes using various materials inside the bottle.
3		Magic Milk Painting	**Experiment**: Magic Milk Painting	**Experiment**: a bottle of milk, food coloring, a wide bowl or dish, a bottle of dish soap cotton swabs	★ Surface Tension Demonstrate dish soap's impact on milk's surface tension. ★ Chemical Reactions Observe reactions between dish soap, milk, and food coloring. ★ Colors and Patterns Explore colorful patterns and learn color mixing. ★ Scientistic Method Learn to think like a scientist.
4		Making Beautiful Light Crafting Coloring Flowers	**Experiment 1**: Making Beautiful Light **Experiment 2**: Crafting Coloring Flowers	**Experiment 1**: one cello tape roll, markers, a flashlight, scissors **Experiment 2**: a piece of paper towel, pipe cleaners, markers, a glass of water, scissors	★ Explore how light forms rainbows Demonstrate how light bends and spreads to create rainbows. ★ Understand Color Theory Teach the principles of color mixing and how different colors blend to create new shades and hues. ★ Enhance Creativity Encourage creativity by engaging students in a hands-on activity that allows them to experiment with colors and artistic designs. ★ Develop Fine Motor Skills Improve fine motor skills through cutting, shaping, and assembling various materials to create the colored flowers. ★ Promote Learning through Art Integrate art and science by using crafting as a medium to teach concepts related to colors.
5		From Nervous to Natural	Learn to be a good speaker Presentation skills	worksheet / practical application	★ "Talk and Share" session Concentrate on providing a brief introduction, encouraging sharing sessions, boosting confidence, and understanding body language and gestures for public speaking.

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1	**Exploring the World of Bubbles!**	Daily Bubbles Oil Bubbles in Water	**Activity**: Observe bubbles in our daily lives **Experiment**: Oil Bubbles in Water	**Activity**: worksheet **Experiment**: oil, a teaspoon, water, a jar, salt	★ Exploration Bubbles Recognize and identify examples of bubbles in daily life. Understand the concept of bubbles through visual representations Express and share personal experiences and opinions related to bubbles. ★ Oil Bubbles in Water Demonstrate an understanding of the interaction between oil and water in the formation of bubbles.
2		Which Materials Can Catch a Bubble? What Kind of Gloves Can Make Bubbles Bounce?	**Activity 1**: Which Materials Can Catch a Bubble? **Activity 2**: What kind of gloves can make bubbles bounce?	**Activity 1**: worksheet **Activity 2**: worksheet	★ Hands-on Learning Experience Explore different types of gloves and their effectiveness in catching bubbles, fostering understanding of materials and their properties in a fun and interactive way. ★ The Phenomenon of Bubbles Address the phenomenon of the drying out of air inside a bubble. Clarify the reasons behind a bubble's eventual pop. Introduce and define the fundamental components necessary for forming a bubble.
3		Making Fantastic Bubble Solution Bubble Solution Fun	**Activity**: Making Fantastic Bubble Solution Bubble Solution Fun **Experiment**: Bubble Solution Fun	**Activity**: a straw, dishwashing liquid, a teaspoon, sugar, a container, water, a cup **Experiment**: a pencil, two pipe cleaners, sewing thread, bubble solution, a plate	★ Bubbling Magic: Creating Enchanting Bubble Solution Create a captivating bubble solution to reinforce understanding of required materials and creation methods. ★ Bubbly Wonders: Unleashing Creativity with DIY Bubble Wands Gather materials, follow instructions with patience, record steps, and unleash creativity by making and using personalized bubble wands, enhancing their hands-on skills and enjoyment of bubble experiments.
4		Making the Most Bubble Layers Making Cool Bubble Blower	**Experiment 1**: Making the Most Bubble Layers **Experiment 2**: Making Cool Bubble Blower	**Experiment 1**: a tray or a table with smooth surface, a pencil, a straw, bubble solution **Experiment 2**: two paper cups, a pencil, a tack, tape, a straw, bubble solution, a plate to fit the cup's edge	★ Discovering the Magic of Bubble Layers Create a mesmerizing bubble layer by following instructions, exploring bubble layering potential, and discovering the secrets to maximize layers. ★ Empowering Exploration Master the Art of Bubble Blowing by Creating and Operating Their Own Bubble Blower.
5		Bubble Bath Scoops What Can We Learn from Bubble?	**Experiment**: Bubble Bath Scoops **Activity**: Talk and Sare It	**Experiment**: shampoo, baby oil, ice cream spoon, a tank filled with water, food coloring, baking soda, baking paper **Activity**: worksheet	★ Fizz and FunCreate bubble bath scoops and observe the Dissolving Dance of DIY Bubble Bath Scoops. ★ Bubble Reflections Share favorite bubble experiments and family plans, enhancing oral and written communication skills.

LESSON	Teaching Topics		Experiment / Activity / Project	Materials	Objectives
1	**Balance**	Balance Balance in the Human Body	**Activity**: Balance in the Human Body	**Activity**: Body Movement	★ Balance Describe how balance is achieved when things are steady and don't tip over. Use relatable examples, like a tower of building blocks, to illustrate this concept. ★ Body Movement Demonstrate that balance depends on correct alignment and proper weight distribution. A misaligned structure can become unstable and collapse, highlighting the importance of precision.
2		Balancing Bird Sculptures with a Twist	**Experiment 1**: Balancing Bird **Experiment 2**: Sculptures with a Twist	**Experiment 1**: 2 coins, scissors, 1 bird template, 1 pencil with an eraswer, markers, tape **Experiment 2**: 1 bottle filled with water, tape, some bottle caps, some big or small balloons, glue, some long and short bamboon sticks,some lumps of clay, some big or small erasers	★ Balancing Bird Show how the "Balancing Bird" maintains equilibrium by aligning its center of gravity with its point of support, illustrating how weight distribution influences stability. ★ Sculptures with a Twist Demonstrate how sculptures can be designed to stay balanced through careful placement and tension, emphasizing the importance of stability in art and engineering.
3		Craft Stick Engineering Part 1 Craft Stick Engineering Part 2	**Experiment 1**: Craft Stick Engineering Part 1 **Experiment 2**: Craft Stick Engineering Part 2	**Experiment 1**: 4 building bricks,1 long, flat stick (dowel rod) household items to balance (e.g., pen, scissors, forks, ruler, etc.), 1 red marker **Experiment 2**: 4 building bricks,1 long, flat stick (dowel rod), some craft sticks, some LEGO pieces: 2X4 bricks, 2X2 bricks, 1 red marker	★ Craft Stick Engineering Part 1 Introduce fundamental engineering concepts such as structure, load-bearing, tension, and compression, using craft sticks as the main teaching tool. ★ Craft Stick Engineering Part 2 Design and construct various structures with craft sticks, focusing on creativity and innovation in the building process.
4		Homemade Scale Walking Paper Horse	**Experiment 1**: Homemade Scale **Experiment 2**: Walking Paper Horse	**Experiment 1**: 1 plastic hanger, 2 paper cups, 6 30-centimeter long strings, 1 pushpin, some coins, small objects for weighing (e.g., a marker, small toys, buttons) **Experiment 2**: 1 rectangular piece of pasteboard (15 cm X 4.5 cm long), scissors, markers, 1 building brick,1 book	★ Homemade Scale Create a simple scale using a plastic hanger, paper cups, string, and a tack. ★ Walking Paper Horse Give instructions for making a simple paper horse, including steps for cutting, folding, and assembling the parts, with an emphasis on achieving proper balance for movement.
5		The Cup Tower Team Challenge: Bridge Master	**Experiment**: The Cup Tower **Team Challenge**: Bridge Master	**Experiment**: Solo cups (or any similar disposable cups), 1 timer **Team Challenge**: 2 piles of books, 1 plastic cup with 100 pennies, any supplies in the classroom	★ Bubbling Magic: Creating Enchanting Bubble Solution Create a captivating bubble solution to reinforce understanding of required materials and creation methods. ★ Bubbly Wonders: Unleashing Creativity with DIY Bubble Wands Gather materials, follow instructions with patience, record steps, and unleash creativity by making and using personalized bubble wands, enhancing their hands-on skills and enjoyment of bubble experiments.

LESSON	Teaching Topics		Experiment / Activity / Project	Materials	Objectives
1	**Seasons and Weather**	The Weather in Four Seasons Weather Wheel	**Poem**: Seasons and Weather **Activity**: Talk and Share It **Experiment**: Weather Wheel	**Activity**: worksheet (activity record) **Experiment**: markers, a round paper plate, a tack, scissors, a two-legged nail, paper	★ Four Seasons Weather Exploration Understand the characteristics of each season through discussion and hands-on experimentation. ★ Bubbly Wonders Unleashing Creativity with DIY Bubble Wands Gather materials, follow instructions with patience, record steps, and unleash creativity by making and using personalized bubble wands, enhancing their hands-on skills and enjoyment of bubble experiments.
2		Winter Do You Want to Build a Snowman?	**Poem**: Winter **Experiment**: Let's make a snowman. **Activity**: Scientific Method	**Experiment**: googly wiggle eyes, 2 twigs, a big bowl, hair conditioner, some buttons, a tray, 1 orange straw, baking soda Activity: worksheet	★ Winter Wonderland Exploration Identify winter clothing items, express preferences for winter activities, and improve oral communication through group recitation of a winter-themed poem. ★ Fake Snow Fun discuss and identify the recipe for creating fake snow, conduct the experiment using the identified materials, and accurately document the process on a worksheet.
3		Spring Colorful Bouncy Eggs Butterfly, butterfly. Flap, flap, flap.	**Poem**: Spring **Experiment**: Colorful Bouncy Eggs	**Experiment**: a spoon, 1 raw egg, a clear glass jar, food coloring, white vinegar **Activity**: scissors, butterfly template, markers, tape, big straw, small straw	★ Exploring Spring Explore spring themes, enhance reading skills with a collective poem reading and encourage expression of spring preferences, and foster collaboration through group recitations. ★ Unveiling the Wonders of Eggs Introduce materials, guide students in reading instructions, facilitate active participation in the egg experiment, and promote safety awareness in handling and exploring egg bouncing on a soft surface.
4		Summer Make Ice Cream with Science Let It Spin, Hopter	**Poem**: Summer **Experiment**: Make Ice Cream with Science **Activity**: Let It Spin, Hopter	**Experiment**: a bag of ice, half cup of salt, flavored milk, cereal crumbs, raisins, a cloth, a newly small and large sealed bag **Activity**: paper templates, scissors	★ Bubbling Magic: Creating Enchanting Bubble Solution Create a captivating bubble solution to reinforce understanding of required materials and creation methods. ★ Bubbly Wonders: Unleashing Creativity with DIY Bubble Wands Gather materials, follow instructions with patience, record steps, and unleash creativity by making and using personalized bubble wands, enhancing their hands-on skills and enjoyment of bubble experiments.
5		Fall An Anemometer	**Poem**: Summer **Experiment**: An anemometer (Wind Speed Meter) **Activity**: Talk and Share It	**Experiment**: a hoel punch, a pushpin, five paper cups, two straws, a pencil **Activity**: worksheet	★ Bubbling Magic: Creating Enchanting Bubble Solution Create a captivating bubble solution to reinforce understanding of required materials and creation methods. ★ Bubbly Wonders: Unleashing Creativity with DIY Bubble Wands Gather materials, follow instructions with patience, record steps, and unleash creativity by making and using personalized bubble wands, enhancing their hands-on skills and enjoyment of bubble experiments.

Air Presses and Squeezes				
LESSON	**Teaching Topics**	**Experiment / Activity**	**Experiment / Activity Materials**	**Target Language**
1	**Story**: Air Presses and Squeezes (Part I)	Story Activity		1. Understand a story: Air Presses and Squeezes (Part I) 2. Name Pictures or Objects: • Earth - the planet where we live on • air - gases on the earth • breathe - take in and let out air from lungs • gas - a kind of air around us 3. Ask and answer questions: • Can you see (the air)? Yes, I/we can. I/We can see (the air). No, I/we can't. I/We can't see (the air). 4. Do an experiment about air and talk about how it works.
	Vocabulary : Earth, air, breathe, gas	Game: What's Missing		
	Sentence Patterns: Can you see (the air)? Yes, I/we can. I/We can see (the air). No, I/we can't. I/We can't see (the air).	Game: Answer the Question		
	Thor's Lab	**Activity: An Air Pump**	2 sponges, 1 straw, 1 ziploc bag, tape, light objects	
2	**Story**: Air Presses and Squeezes (Part II)	Story Activity		1. Understand a story: Air Presses and Squeezes (Part II) 2. Name Pictures or Objects: • sun - a star • heat - become hot or warm • hot - having a high temperature • cold - having a low temperature 3. Learn new sentence patterns: • Hot air rises. • Cold air sinks. 4. Do an experiment and talk about where air moves.
	Vocabulary : sun, heat, hot, cold	Game: Point and Say		
	Sentence Patterns: • Hot air rises. • Cold air sinks.	Game: Charade		
	Thor's Lab	**Activity: Where Does the Balled Paper Go?**	1 glass bottle, 1 small piece of paper	
3	**Story**: Air Presses and Squeezes (Part III)	Story Activity		1. Understand a story: Air Presses and Squeezes (Part III) 2. Name Pictures or Objects: • move - change place • low pressure - hot air rising leading to bad weather • high pressure - cold air sinking leading to fine weather • air pressure - the weight of air pressing on the earth 3. Ask and answer questions: • How does air move? It/Air moves from high to low pressure. 4. Do an experiment and talk about air pressure.
	Vocabulary : move, low pressure , high pressure, air pressure	Game: Say Aloud the Word		
	Sentence Patterns: How does air move? It/(Air) moves from high to low pressure.	Game: Q&A		
	Thor's Lab	**Activity: The Bottle Inflate**	1 empty bottle, 1 balloon, hot water, ice cold water, 2 bowls	
4	**Thor's Lab**	**Activity: A Water Dispenser**	1 clear plastic bottle, 1 balloon, 2-3 cups (or bowls), water, food coloring, clay, 1 bendy straw, a nail (or screw)	1. Review a story: Air Presses and Squeezes (Part I~III) 2. Review words in Lessons 1~3 3. Review sentence patterns in Lessons 1~3 4. Students do an experiment and talk about how it works.
	Thor's Lab	**Experiment: The Rocket**	**Material package**	