LRSD Pre-Kindergarten Curriculum
Science Lessons & Experiences

Science activities provide the opportunity for students to experience the word around them. Complementary science tasks were developed in June 2013 to enhance and give additional experiences related to what the students are learning throughout the course of the school year in Scholastic's *Big Day for Pre-K*. These are not a replacement for the current curriculum, but are an extension of the existing theme.

These activities are ***required*** and ***expected experiences*** for all LRSD prekindergarten students during the theme identified. The teacher will decide when to incorporate the lesson(s) into the theme. As a reminder, the curriculum map includes the designation **Science Kit* in the "Content Area" strand.

To ensure these tasks are taught and included in the preschool instruction, science kits have been developed. These kits will include materials to complete these required activities. The science kits will be delivered from the Science Department at the beginning of each semester and picked at the end of each semester. Apart from the consumable items, all science materials included in the kit must be returned to the Science Department.

The following lessons and activities are provided for the identified themes:

Theme	**Activity**	**Science Concept**
Theme 1	Body tracing	Measurement and Comparison
Theme 2	Make Jello	States of matter, Comparison, Make predictions
Theme 3	Objects in Motion	Cause and Effect
ST: Winter	Salt Dough	Measurement
ST: Winter Animals	Animals in Winter	Staying warm during hibernation
Theme 4	Animal Life Cycles	Life cycles of animals
Theme 5	Mixing Colors	Mixing Colors
	Which is Heavier?	Comparison
Theme 6	Feely Box	Sense of Touch
	What's that smell?	Sense of Smell
Theme 7	Growing Seeds	Life cycle of a plant
	Parts of a plant	Life cycle and parts of the pant
Theme 8	Body tracing	Measurement and Comparison

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Theme 1- Ready for School

Activity: Body Tracing

Lesson Focus: Measurement and Comparison

Benchmark: 3.18- Shows an awareness of time concept
3.22- Makes comparisons
3.30- Participates in exploratory measurement activities
3.31- Identifies self as boy or girl
4.1- Identifies body parts and understands their functions

Work Sampling: III.E.2
IV.A.3

Materials: Butcher Paper
Markers/Crayons
Scissors

Directions:

1. Trace each student on a large piece of butcher paper.
2. Students draw and color body parts. (face, fingers, feet, clothing, etc.)
3. Teacher cuts out each student's body.
4. Measure and compare each student's cutout.
5. Display in classroom or hallway.
6. Save each student's cutout to compare during Theme 8.

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Theme 2- My Family

Activity: Make Jello

Lesson Focus: States of matter, comparison, and making predictions

Benchmark: 3.21- Uses words to describe the characteristics of objects
3.22- Makes comparisons
3.30- Participates in exploratory measurement activities

Work Sampling: IV.A.1
IV.A.3

Materials: Jello
Dixie cups
Large mixing bowl
Spoon/Whisk
Measuring cup
Spoons

Directions:

1. Discuss states of matter; describing each state. (solid, liquid, gas) Jello goes from a solid, to liquid, then back to solid – when eating the Jello, it goes back to liquid.
2. Make Jello according to package directions.
3. Pour Jello into individual Dixie cups for each student.
4. Refrigerate.
5. Have students observe and discuss the characteristics of and changes in each state of matter.

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Theme 3 – Our Community

Activity: Objects in Motion

Lesson Focus: Cause and Effect

Benchmark: 3.23- Shows awareness of cause-effect relationships

Work Sampling: IV.A.2
IV.A.3

Materials: Flat surface (cookie sheet, board, long block, etc.)
Flat objects (paper clip, cube, book, eraser, paper, etc.)
Round objects (cylinder, ball, cotton ball, pom pom, car, crayon, etc)

Directions:

1. Discuss motion and speed.
2. Predict and chart objects that will roll and objects that will not roll.
3. Let students experiment with collected objects.
4. Discuss results.

Enrichment Activity:

1. Discuss sliding versus rolling.

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Theme - Winter

Activity: Salt Dough

Lesson Focus: Measurement

Benchmark: 3.30- Participates in exploratory measurement activities
5.10- Follows directions in sequence

Work Sampling: III.E.2
IV.A.2
VI.A.3

Materials: Salt
Flour
Measuring cups
Large bowl

Directions:

1. Create salt dough in large bowl – 1 cup salt, 2 cups all-purpose flour, 1 cup lukewarm water. Make additional batches as needed.
2. Allow students to create salt dough snowmen.
3. Bake at 200 F until the creation is dry (flat creations may take 60 minutes, thicker creations may take two to three hours) or allow to air dry for several days.

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Theme – Winter Animals

Activity: Animals in Winter

Lesson Focus: Understanding how animals stay warm during hibernation

Benchmark: 3.22- Makes comparisons
3.23- Shows awareness of cause-effect relationships
3.26- Discusses natural events in the environment

Work Sampling: IV.A.1
IV.A.3

Materials: Shortening
Large bowl
Ice Water

Directions:

1. Discuss hibernation and how animals stay warm in the winter.
2. Fill bowl with ice water.
3. Cover index finger on one hand with shortening to represent animal blubber.
4. Place both index fingers in ice water for 5 seconds.
5. Compare how each finger felt.

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Theme 4 – Awesome Animals

Activity: Animal life cycles

Lesson Focus: Life cycles of animals

Benchmark: 3.14- Demonstrates the ability to order and sequence
3.18- Shows an awareness of time concepts

Work Sampling: III.E.1
III.E.2

Materials: Life Cycle Sequencing Kit

Directions:

1. Discuss animal life cycles.
2. Allow students to sequence animal life cycles using the sequencing kit provided.
3. When activity is complete, place life cycle sequencing kit in the science center for students to explore.

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Theme 5- Imagine It, Make It

Activity: Mixing Colors

Lesson Focus: Mixing colors

Benchmark: 3.20- Uses senses to learn about the characteristics of the environment and to collect data
3.23- Shows awareness of cause-effect relationships

Work Sampling: IV.A.1
IV.A.2

Materials: 6 Test tubes
Droppers
Food Coloring

Directions:

1. Fill six test tubes with water.
2. In three test tubes, add food coloring to create primary colors. (red, yellow, blue)
3. Uses droppers to create secondary colors in remaining three test tubes. (orange, green, purple)

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Theme 5 – Imagine It, Make It

Activity: Which is Heavier?

Lesson Focus: Comparison

Benchmark: 3.21- Uses words to describe the characteristics of objects
3.22- Makes comparisons

Work Sampling: III.E.1
IV.A.1
IV.A.2
IV.A.3

Materials: 25 - Straws (one per student)
6 - Ping Pong balls
6 – Golf balls
Cotton balls
Rocks (collect outside)
Sticks (collect outside)
Chenille stems

Directions:

1. After completing the "Which is Stronger?" required activity, use this as an enrichment activity.
2. Predict which items the students will be able to move by blowing through a straw.
3. Allow each student to test each item.
4. Discuss and chart results.

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Theme 6 – Growing Up Healthy

Activity: Feely Box (to be added to science center)

Lesson Focus: Sense of Touch

Benchmark: 3.20- Uses senses to learn about the characteristics of the environment and to collect data
3.21- Uses words to describe the characteristics of objects
3.22- Makes comparisons

Work Sampling: III.E.1
IV.A.1
IV.A.3

Materials: Sponge
Foam
Sandpaper
Cork
Pinecone (collect outside)
Smooth rock
Rough rock
Swatch of – satin, leather/vinyl, burlap
Cube
Box – not provided (for example - tissue box, brown bag, feely box, etc.)

Directions:

1. Place items in box.
2. Place box in science center and allow students to explore.

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Theme 6 – Growing Up Healthy

Activity: What's that smell?

Lesson Focus: Sense of Smell

Benchmark: 3.20- Uses senses to learn about the characteristics of the environment and to collect data
3.21- Uses words to describe the characteristics of objects
3.22- Makes comparisons

Work Sampling: III.E.1
IV.A.1
IV.A.3

Materials: Film canisters
Cotton Balls
Scented oils

Directions:

1. Poke holes through the lid of the film canisters.
2. Place one cotton ball in each canister.
3. Add one scent to each cotton ball and close lids.
4. Place film canisters in science center and allow students to explore.

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Theme 7 – Nature All Around Us

Activity: Growing Seeds

Lesson Focus: Observing the life cycle of a plant

Benchmark: 1.33- Delays gratification
3.20- Uses senses to learn about the characteristics of the environment and to collect data
3.22- Makes comparisons
3.24- Finds more than one solution to a problem
3.26- Discusses natural in events in the environment

Work Sampling: IV.A.1
IV.A.3

Materials: 20 - Plastic gloves
100 - Cotton balls
100 - Bean seeds
20 – Twist tie

Directions:

1. Students wet cotton balls, squeeze out the extra water then drop one wet cotton ball into each finger of the gloves.
2. Drop one seed into each finger space with the wet cotton ball.
3. Close the top of the glove with a twist tie and tape the glove to a window.
4. Observe seed growth over time and have students document data.

Enrichment Activity:

1. Have students place gloves in different areas versus all on the window.
2. Predict and graph which seeds will sprout first.
3. After observing, discuss why the seeds did or did not grow.

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Theme 7 – Nature All Around Us

Activity: Parts of a Plant

Lesson Focus: Observing the life cycle of a plant

Benchmark: 1.33- Delays gratification
3.20- Uses senses to learn about the characteristics of the environment and to collect data
3.22- Makes comparisons
3.24- Finds more than one solution to a problem
3.26- Discusses natural in events in the environment

Work Sampling: IV.A.1
IV.A.3

Materials: 20 – 10oz transparent cups
Marigold seeds
Soil
Pea gravel

Directions:

1. Discuss parts of the plant.
2. Place a layer of pea gravel in the bottom of cup.
3. Fill the cup ¾ full with soil.
4. Add seeds.
5. Cover seeds with soil.
6. Water.
7. Observe flower growth over time and record data.

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Theme 8 – Moving On

Activity: Body Tracing

Lesson Focus: Measurement and Comparison

Benchmark: 3.18- Shows an awareness of time concept
3.22- Makes comparisons
3.30- Participates in exploratory measurement activities
3.31- Identifies self as boy or girl
4.1- Identifies body parts and understands their functions

Work Sampling: III.E.2
IV.A.3

Materials: Butcher Paper
Markers/Crayons
Scissors

Directions:

1. Trace each student on a large piece of butcher paper.
2. Students draw and color body parts. (face, fingers, feet, clothing, etc.)
3. Teacher cuts each student's body.
4. Measure and compare each student's cutout.
5. Collect students' cutouts from Theme 1.
6. Compare student's growth from August to May.