

MOSCOW SCHOOL DISTRICT

CURRICULUM GUIDE

Subject/Course: Science
Kindergarten

Standard 1: Nature of Science

Students explore the process of scientific investigation through observations and collection of data over time. Students follow instructions and work with others.

| <i>Goal – The student will:</i> | <i>Objectives (to be reached by the end of Kindergarten)</i> | <i>Samples of Applications</i> | <i>Curriculum Materials (including technological resources)</i> | <i>Key Vocabulary for Standard 1</i> |
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| Goal 1.1: Understand Systems, Order, and Organization - No objectives at this grade level | | | | |
| Goal 1.2: Understand Concepts and Processes of Evidence, Models, and Explanations | <ul style="list-style-type: none"> • K.S.1.2.1 Make observations and collect data. (528.01.a) | <ul style="list-style-type: none"> • Pumpkin exploration activities, including comparison. • Apple exploration activities, including comparison. • Weather observation, comparison, and data collection • Explore and use various models | <ul style="list-style-type: none"> • Hands-On Science Supply Center • Liquid Measurement • Trade books • Food Pyramid • Pocket Chart • Globe • Mouth Model. • Centers (blocks, clay) | |
| Goal 1.3: Understand Constancy, Change, and Measurement | <ul style="list-style-type: none"> • K.S.1.3.1 Measure in non-standard units. (528.02.b) | <ul style="list-style-type: none"> • Measure objects in the classroom using: linking cubes, ribbons, string, one-inch cubes, and unit blocks. • Comparing height of other children to themselves. • Illustrate the way individuals appeared as babies, kindergartners, and the way they think they will look as adults. • Cooking activities. • Color Blending. | | |
| Goal 1.4: Understand the Theory that Evolution is a Process that Relates to the Gradual Changes in the Universe and of Equilibrium as a Physical State | <ul style="list-style-type: none"> • K.S.1.4.1 Apply the concepts of yesterday, today, and tomorrow. (528.03.a) | <ul style="list-style-type: none"> • Daily Calendar Activities. • Counting down to holidays or special events. | | |

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| Goal 1.5: Understand Concepts of Form and Function - No objectives at this grade level. | | | | |
| Goal 1.6: Understand Scientific Inquiry and Develop Critical Thinking Skills | <ul style="list-style-type: none"> • K.S.1.6.1 Make observations. (529.01.a) | <ul style="list-style-type: none"> • Weather observations. • Smother candle flame in a jar. • Compare animal habitat. • Use of magnifying glasses, tweezers, eyedroppers, and scale. • Use the five senses to gather information. • Draw a picture of which objects sink and which objects float. • Dictate a passage to an adult to explain why a duck is a good swimmer. | | |
| Goal 1.7: Understand That Interpersonal Relationships Are Important in Scientific Endeavors | <ul style="list-style-type: none"> • K.S.1.7.1 Use cooperation and interaction skills. (538.01.a) | <ul style="list-style-type: none"> • Provide opportunities and settings for the students to work together. | | |
| Goal 1.8: Understand Technical Communication | <ul style="list-style-type: none"> • K.S.1.8.1 Follow instructions. (538.02.a) | <ul style="list-style-type: none"> • Follow a three-step direction. (Push in chair and line up.) | | |

Standard 2: Physical Science

Students use their senses to investigate the organizational patterns in the world around them and describe a variety of objects.

| <i>Goal – The student will:</i> | <i>Objectives (to be reached by the end of Kindergarten)</i> | <i>Samples of Applications</i> | <i>Curriculum Materials (including technological resources)</i> | <i>Key Vocabulary for Standard 2</i> |
|---|---|--|--|--------------------------------------|
| Goal 2.1: Understand the Structure and Function of Matter and Molecules and Their Interactions | <ul style="list-style-type: none"> • K.S.2.1.1 Use senses to describe matter. (530.01.a) | <ul style="list-style-type: none"> • Mystery sack or surprise box to describe what is inside. • Closed-eye taste or smell test. • Predict and test whether an object will float. • Explore why some objects sink and others float. | <ul style="list-style-type: none"> • Hands-On Science Supply Center | |

Goal 2.2: Understand Concepts of Motion and Forces - No objectives at this grade level.

Goal 2.3: Understand the Total Energy in the Universe is Constant. - No objectives at this grade level.

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| Goal 2.4: Understand the Structure of Atoms - No objectives at this grade level. |
| Goal 2.5: Understand Chemical Reactions - No objectives at this grade level. |

Standard 3: Biology

Students observe plants and animals and describe their characteristics.

| <i>Goal – The student will:</i> | <i>Objectives (to be reached by the end of Kindergarten)</i> | <i>Samples of Applications</i> | <i>Curriculum Materials (including technological resources)</i> | <i>Key Vocabulary for Standard 3</i> |
|---|--|---|---|--------------------------------------|
| Goal 3.1: Understand the Theory of Biological Evolution | <ul style="list-style-type: none"> • K.S.3.1.1 Observe and describe the characteristics of plants and animals. (532.01.a) | <ul style="list-style-type: none"> • Vegetable attributes • Plant flowers and parts (root, stem, petals) • Explore animals (wild, farm, pets, birds) | <ul style="list-style-type: none"> • Butterfly Nursery • Root Vue 2 | |
| Goal 3.2: Understand the Relationship between Matter and Energy in Living Systems | <ul style="list-style-type: none"> • K.S.3.2.1 Describe the difference between living and non-living things. (533.01.a) | <ul style="list-style-type: none"> • Sort pictures of living and non-living items. • List difference of living and non-living items found in the classroom | | |
| Goal 3.3: Understand the Cell is the Basis of Form and Function for All Living Things - No objectives at this grade level. | | | | |

Standard 4: Earth and Space Systems

Students make and describe observations of seasonal changes.

| <i>Goal – The student will:</i> | <i>Objectives (to be reached by the end of Kindergarten)</i> | <i>Samples of Applications</i> | <i>Curriculum Materials (including technological resources)</i> | <i>Key Vocabulary for Standard 4</i> |
|---|--|---|---|--------------------------------------|
| Goal 4.1: Understand Scientific Theories of Origin and Subsequent Changes in the Universe and Earth Systems | <ul style="list-style-type: none"> • K.S.4.1.1 Name the four seasons. (534.01.a) • K.S.4.1.2 Place the four seasons in order. (534.01.a) | <ul style="list-style-type: none"> • Learn the terms fall, winter, spring, and summer. • Use appropriate colors to draw a picture of each season. • During calendar/morning meeting dress a bear in clothing appropriate for daily weather. • Sequence pictures according to seasons. | | |
| Goal 4.2: Understand Geo-chemical Cycles and Energy in the Earth System - No objectives at this grade level. | | | | |

Standard 5: Personal and Social Perspectives; Technology

Students describe local environments

| <i>Goal – The student will:</i> | <i>Objectives (to be reached by the end of Kindergarten)</i> | <i>Samples of Applications</i> | <i>Curriculum Materials (including technological resources)</i> | <i>Key Vocabulary for Standard 5</i> |
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| Goal 5.1: Understand Common Environmental Quality Issues, Both Natural and Human Induced | <ul style="list-style-type: none"> • K.S.5.1.1 Describe the characteristics of a man-made environment (home, school.) (536.01.a) | <ul style="list-style-type: none"> • Tree versus pencil. • Rock versus airplane. • Classroom walk outside to find natural objects; classroom walk inside to find objects made by humans. • Computerized reading program or other computer learning aids. • Tape player at listening center. | | |
| Goal 5.2: Understand the Relationship between Science and Technology - No objectives at this grade level. | | <ul style="list-style-type: none"> • Explore concept of recycling - Collect aluminum cans and art scraps. Visit a recycling plant. | | |
| Goal 5.3: Understand the Importance of Natural Resources and the Need to Manage and Conserve Them - No objectives at this grade level. | | <ul style="list-style-type: none"> • Discuss conservation of natural resources - forests, water. Use children’s literature to illustrate concept. | | |