

**ISPS Science K-12
Standards and Benchmarks**

Pre-Kindergarten (revised Jan. 2009)

Strands

1. Earth and Space Sciences
2. Life Sciences
3. Materials and their Properties
4. Physical Processes-(not covered at this grade level)
5. The Nature of Science

Strand 1 – Earth and Space Sciences

Standard 3 - Students will understand the composition and structure of the universe and the Earth's place in it.

Benchmarks - By the end of Pre-Kindergarten, students will:

- 3 – 1 Explore the idea that the Earth includes the ground, water and sky.

Strand 2 – Life Sciences

Standard 5 - Students will understand the structure and function of cells and organisms.

Benchmarks - By the end of Pre-Kindergarten, students will:

- 5 – 1 Know that living things go through a process of growth and change.

Standard 6 - Students will understand relationships among organisms and their physical environment.

Benchmarks - By the end of Pre-Kindergarten, students will:

6 – 1 Understand the living things have similar needs (e.g. water, food)

Strand 3 – Materials and their Properties

Standard 8 - Students will understand how to classify materials.

Benchmarks - By the end of Pre-Kindergarten, students will:

- 8 – 1 Know that vocabulary is used to describe some observable properties (e.g. color, shape, size) of objects
- 8 – 2 Know how to sort objects based on observable properties.
- 8- 3 Know that the physical properties of things can change

Strand 5: The Nature of Science

Standard 15: Ideas and Evidence in Science.

Benchmarks - By the end of Pre-Kindergarten, students will:

15 – 1 understand that it is important to collect evidence by making observations and measurements when trying to answer a question.

Standard 16: Investigative Skills

PLANNING

Students will be able to:

16 – 1 ask questions [for example, 'How?', 'Why?', 'What will happen if ... ?'] and decide how they might find answers to them.

16 – 2 use first-hand experience and simple information sources to answer questions.

16 – 3 think about what might happen before deciding what to do.

16 – 4 recognise when a test or comparison is unfair.

OBTAINING AND PRESENTING EVIDENCE

Students will be able to:

16 – 5 follow simple instructions to control the risks to themselves and to others

16 – 6 explore, using the senses of sight, hearing, smell, touch and taste as appropriate, and make and record observations and measurements.

16 – 7 communicate what happened in a variety of ways, including using ICT [for example, in speech and writing, by drawings, diagrams, tables, block graphs and pictograms].

CONSIDERING EVIDENCE AND EVALUATING

Students will be able to:

16 – 8 make simple comparisons [for example, hand span, shoe size, prepared non-standard measurements] and identify simple patterns or associations

16 – 9 compare what happened with what they expected would happen, and try to explain it, drawing on their knowledge and understanding.

16 – 10 use observations, measurements or other data to draw conclusions. □

16 – 11 review their work and explain what they did to others.