In *Kindergarten*, instructional time should focus on six core ideas:

**ESS**
- 2. Earth’s Systems
- 3. Earth and Human Activity

**LS**
- 1. From Molecules to Organisms: Structures and Processes

**PS**
- 1. Matter and its Interactions
- 2. Motion and Stability
- 3. Energy

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**WHAT TO LOOK FOR**

A quick guide for observing classroom content and practice

In a *Kindergarten classroom* science content may be integrated in a variety of ways. Science and engineering practices may also be incorporated throughout a number of centers, themes, and experiences. When observing science in a Kindergarten classroom, you should see students engaged with at least one science concept and one practice:

**Science and Engineering Practices**

- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations and designing solutions
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

**Science Concepts**

**Earth and Space Science (ESS2, ESS3)**
- Using and sharing quantitative observations of weather to describe patterns.
- Constructing an argument supported by evidence for how plants and animals can change the environment.
- Obtaining and using information about weather forecasting to prepare for, and respond to, different types of local weather.
- Communicating solutions to reduce the amount of natural resources an individual uses.

**Life Science (LS1)**
- Observing and communicating that animals and plants have needs to survive.
- Recognizing that all plants and animals grow and change over time.

**Physical Science (PS1, PS2, PS3)**
- Investigating and communicating the idea that different kinds of materials can be a solid or liquid depending on temperature.
- Comparing the effects of different strengths or directions of pushes and pulls on the motion of an object.
- Making observations to determine that sunlight warms materials on the Earth’s surface.
- Using tools and materials to design and build a model of a structure that will reduce the warming effect of sunlight on an area.

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**NOTES**

Comments on the Science and Engineering Practices:
- For a list of specific skills, see the *Science and Engineering Practices Progression Matrix* ([www.doe.mass.edu/stemreview.html](http://www.doe.mass.edu/stemreview.html)).
- Practices are skills *students* are expected to learn and do; standards focus on some but not all skills associated with a practice.
**Science What to Look For**

The example below features three Indicators from the CT Common Core of Teaching. These Indicators are just a sampling from the full set of Standards and were chosen because they create a sequence: the educator plans a lesson that sets clear and high expectations, the educator then delivers high quality instruction, and finally the educator uses a variety of assessments to see if students understand the material or if re-teaching is necessary. This example highlights teacher and student behaviors aligned to the three Indicators that you can expect to see in a rigorous kindergarten classroom.

### Domain 1

**Classroom Environment, Student Engagement and Commitment to Learning**

**What is the teacher doing?**
- Clearly communicating the learning objectives for the lesson orally and visually in student-friendly terms
- Creating culturally responsive lessons that engage and sustain student attention
- Focusing attention on newly learned scientific language (e.g., linguistic complexity, conventions, and vocabulary)

**What are the students doing?**
- Persisting when engaging with meaningful scientific tasks
- Using scientific language precisely to convey meaning and understanding of concepts
- Understanding what they will learn in a lesson and how it connects to prior learning

### Domain 2

**Planning for Active Learning**

**What is the teacher doing?**
- Providing opportunities for students to communicate ideas and ask questions to inform their thinking
- Designing lessons that support successful cooperation in culturally sensitive ways
- Eliciting student observations that build upon their prior knowledge

**What are the students doing?**
- Asking questions that can be answered by observations
- Identifying common features and differences between a model and the real object
- Using counting and numbers to identify and describe patterns

### Domain 3

**Instruction for Active Learning**

**What is the teacher doing?**
- Using multiple formative approaches to assess student learning (e.g., classroom conversation, completion of investigation)
- Conducting frequent checks for student understanding and adjusting instruction accordingly

**What are the students doing?**
- Demonstrating learning in multiple ways (e.g., classroom conversation, completion of investigation)
- Engaging in challenging learning tasks regardless of learning needs (e.g., linguistic background, disability, academic gifts)
- Working cooperatively on a shared activity

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*This document is based on the CT Core Standards Classroom "Look Fors" and the MA Curriculum Guide*