

## **GRADE 3**

### ***Overview of the Science Standards***

#### **I. PHYSICAL SCIENCE**

- *Energy and matter have multiple forms and can be changed from one form to another.*
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#### **II. LIFE SCIENCES**

- *Adaptations in physical structure or behavior may improve an organism's chance for survival.*
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#### **III. EARTH SCIENCES**

- *Objects in the sky move in regular and predictable patterns.*
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#### **IV. INVESTIGATION AND EXPERIMENTATION**

- *Scientific progress is made by asking meaningful questions and conducting careful investigations.*
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## *Aligning the Instructional Program with the Grade Level Standards and Benchmarks*

In order to align the instructional program with the prescribed content standards for the grade, it is critical that the standards and their affiliated benchmarks are reviewed regularly so as to become very familiar with them. At the outset of each quarter/trimester an initial decision must be made as to which standards and benchmark proficiencies will be included in the instructional program. At the end of each quarter/trimester the teacher should fill out the **response section next to each benchmark**. This activity will serve as a checkpoint and will help gauge what still needs to be taught or what should be re-taught.

### *Complete the Response Section*

**ST/B** = Standard and Benchmark    **P**: Priority benchmark    **Q**: Quarter 1 or 2 or 3 or 4

**At the start of the quarter/trimester**, select the benchmarks you consider to be your “priority benchmarks.” Mark the box under the “P” code.

At the end of each quarter/trimester complete the response section **of the standard/benchmark listings, indicating to what extent students have mastered the benchmark.**

**A: More than 75% of the students are proficient**

**B: About half of the students are proficient**

**C: fewer than 25% of the students are proficient**

## **Sample Recording of the Response Form GRADE 2**

### **I. PHYSICAL SCIENCE**

*The motion of objects can be observed and measured. As a basis for understanding this concept, students in the SECOND GRADE will ...*

ST/B	P	ST/B: Standard/Benchmark    P: Priority Benchmark	Q	Q	Q	Q
		Degree of Mastery: % of students at end of each Q: Quarter	1	2	3	4
		A= 75% or more    B=about half    C=fewer than 25%				
ST1.A	P	<i>know</i> that the position of an object can be described by locating it in relation to another object or to the background.	A	B	B	C
ST1.B		<i>know</i> that an object's motion can be described by recording the change in position of the object over time.	A	A	B	B

**GRADE 3**  
***Science Standards and Benchmark Proficiencies***

**I. PHYSICAL SCIENCE**

***Energy and matter have multiple forms and can be changed from one form to another. As a basis for understanding this concept, students in the THIRD GRADE will ...***

ST/B	P	ST/B: Standard/Benchmark P: Priority Benchmark Degree of Mastery: % of students at end of each Q: Quarter A= 75% or more B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
ST1.A		<i>know</i> that energy comes from the Sun to Earth in the form of light				
ST1.B		<i>know</i> that sources of stored energy take many forms, such as food, fuel, and batteries.				
ST1.C		<i>know</i> that machines and living things convert stored energy to motion and heat.				
ST1.D		<i>know</i> that energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.				
ST1.E		<i>know</i> that matter has three forms: solid, liquid, and gas.				
ST1.F		<i>know</i> evaporation and melting are changes that occur when the objects are heated.				
ST1.G		<i>know</i> that when two or more substances are combined, a new substance may be formed with properties that are different from those of the original materials.				
ST1.H		<i>know</i> that all matter is made of small particles called atoms, too small to see with the naked eye.				
ST1.I		<i>know</i> that people once thought that earth, wind, fire, and water were the basic elements that made up all matter. Science experiments show that there are more than 100 different types of atoms, which are presented on the periodic table of the elements.				
ST1.J		<i>know</i> that sunlight can be blocked to create shadows.				
ST1.K		<i>know</i> that light is reflected from mirrors and other surfaces.				
ST1.L		<i>know</i> that the color of light striking an object affects the way the object is seen.				
ST1.M		<i>know</i> that an object is seen when light traveling from the object enters the eye.				

## II. LIFE SCIENCES

***Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept, students in the THIRD GRADE will...***

ST/B.	P	ST/B: Standard/Benchmark    P: Priority Benchmark Degree of Mastery: % of students at end of each Q: Quarter A= 75% or more    B=about half    C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
ST1.A		<i>know</i> that plants and animals have structures that serve different functions in growth, survival, and reproduction.				
ST1.B		<i>know</i> that examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.				
ST1.C		<i>know</i> that living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.				
ST1.D		<i>know</i> that when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.				
ST1.E		<i>know</i> that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.				

## III. EARTH SCIENCES

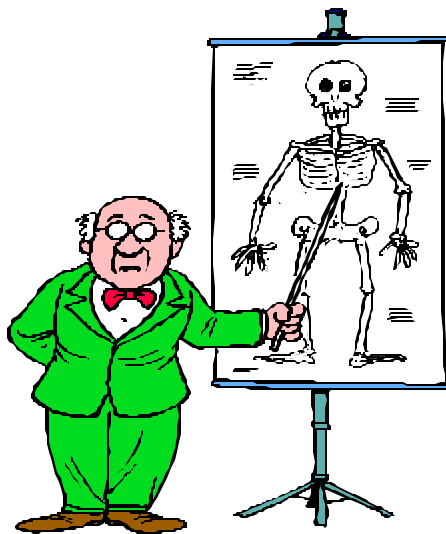
***Objects in the sky move in regular and predictable patterns. As a basis for understanding this concept, students in the THIRD GRADE will ...***

ST/B	P	ST/B: Standard/Benchmark    P: Priority Benchmark Degree of Mastery: % of students at end of each Q: Quarter A= 75% or more    B=about half    C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
ST3.A		<i>know</i> that the patterns of stars stay the same, although they appear to move across the sky nightly, and different stars can be seen in different seasons.				
ST3.B		<i>know</i> that the way in which the Moon's appearance changes during the four-week lunar cycle.				
ST3.C		<i>know</i> that telescopes magnify the appearance of some distant objects in the sky, including the Moon and the planets. The number of stars that can be seen through telescopes is dramatically greater than the number that can be seen by the unaided eye.				
ST3.D		<i>know</i> that Earth is one of several planets that orbit the Sun and that the Moon orbits Earth.				
ST3.E		<i>know</i> that the position of the Sun in the sky changes during the course of the day and from season to season.				

## IV. INVESTIGATION AND EXPERIMENTATION

*Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students in the THIRD GRADE will...*

ST/B.	P	ST/B: Standard/Benchmark P: Priority Benchmark Degree of Mastery: % of students at end of each Q: Quarter A= 75% or more B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
ST4.A		<i>repeat</i> observations to improve accuracy and know that the results of similar scientific investigations seldom turn out exactly the same because of differences in the things being investigated, methods being used, or uncertainty in the observation.				
ST4.B		<i>differentiate</i> evidence from opinion and know that scientists do not rely on claims or conclusions unless they are backed by observations that can be confirmed.				
ST4.C		<i>use</i> numerical data in describing and comparing objects, events, and measurements.				
ST4.D		<i>predict</i> the outcome of a simple investigation and compare the result with the prediction.				
ST4.E		<i>collect</i> data in an investigation and analyze those data to develop a logical conclusion.				



**GRADE THREE**  
**Standards Based Vocabulary of Science**

**Physical Sciences**

atom	compare	energy
kinetic	periodic table of elements	potential
absorption	reflection	refraction
shadows		

**Life Sciences**

adaptation	algae	bacteria
biome	camouflage	consumer
decomposer	extinct	fungus
lichen	organism	predator
prey	producer	succulent

**Earth Sciences**

axis	constellation	crescent
moon	satellite	orbit
rotate	North Star	solar and lunar
eclipse	phase	telescope
ellipse	revolve	