

# TEACHER'S GUIDE

## SCIENCE LAB Kindergarten Diagnostic

(Criterion-Referenced, Objective-Based Exam)

Objective	# Out of:
Nature of Science	7
Life Science	6
Physical Science	6
Earth Science	6
<b>TOTAL</b>	<b>25</b>

## Use of Diagnostics

- Diagnose student academic level at the beginning of the year.
- Track student progress for each objective covered and unit taught.
- Measure end of year gains through final mastery exam.

## Diagnostic Administration

- The diagnostic should take about 40 minutes to administer.
- It should be administered orally (and if applicable the Spanish translations should be read with it as well).
- Make sure that the students completely bubble in their answer choice on their own student guide.
- Each group of questions for the 4 objectives can be used separately to measure student success at the end of the unit.

## Texas Essential Knowledge & Skills Kindergarten Science

(1) Scientific processes. The student participates in classroom and field investigations following home and school safety procedures. The student is expected to:

- (A) demonstrate safe practices during classroom and field investigations; and
- (B) learn how to use and conserve resources and materials.

(2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:

- (A) ask questions about organisms, objects, and events;
- (B) plan and conduct simple descriptive investigations;
- (C) gather information using simple equipment and tools to extend the senses;
- (D) construct reasonable explanations using information; and
- (E) communicate findings about simple investigations.

(3) Scientific processes. The student knows that information and critical thinking are used in making decisions. The student is expected to:

- (A) make decisions using information;

(B) discuss and justify the merits of decisions; and

(C) explain a problem in his/her own words and propose a solution.

(4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. The student is expected to:

(A) identify and use senses as tools of observation; and

(B) make observations using tools including hand lenses, balances, cups, bowls, and computers.

(5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to:

(A) describe properties of objects and characteristics of organisms;

(B) observe and identify patterns including seasons, growth, and day and night and predict what happens next; and

(C) recognize and copy patterns seen in charts and graphs.

(6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to:

(A) sort organisms and objects into groups according to their parts and describe how the groups are formed;

(B) record observations about parts of plants including leaves, roots, stems, and flowers;

(C) record observations about parts of animals including wings, feet, heads, and tails;

(D) identify parts that, when separated from the whole, may result in the part or the whole not working, such as cars without wheels and plants without roots; and

(E) manipulate parts of objects such as toys, vehicles, or construction sets that, when put together, can do things they cannot do by themselves.

(7) Science concepts. The student knows that many types of change occur. The student is expected to:

(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;

(B) identify that heat causes change, such as ice melting or the Sun warming the air and compare objects according to temperature;

(C) observe and record weather changes from day to day and over seasons; and

(D) observe and record stages in the life cycle of organisms in their natural environment.

(8) Science concepts. The student knows the difference between living organisms and nonliving objects. The student is expected to:

(A) identify a particular organism or object as living or nonliving; and

(B) group organisms and objects as living or nonliving.

(9) Science concepts. The student knows that living organisms have basic needs. The student is expected to:

(A) identify basic needs of living organisms;

(B) give examples of how living organisms depend on each other; and

(C) identify ways that the Earth can provide resources for life.

(10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to:

(A) observe and describe properties of rocks, soil, and water; and

(B) give examples of ways that rocks, soil, and water are useful.

## Diagnostic Questions

### Objective 1: Nature of Science

*(7 Questions)*

1. Here is a picture of a balance, hand lens, and computer. What tool would you use to find out which object weighs more - the apple or the orange?
2. Of the pictures shown below, which is something that might be dangerous to touch?
3. Which one of the pictures could be used to help you see something bigger?
4. What part of the body do you use for using your sense of smell?
5. Here you see a cup, balance, and thermometer. What tool would you use if you were to investigate or study the weather?
6. Which picture shows the tools you need to plant a tree?
7. Here is a picture of a car, water, and a dog. Of the items which can be recycled?

### Objective 2: Life Science

*(6 Questions)*

1. Here you see a pillow, cat, and table. Which of these pictures shows something that is living?
2. Here you see a picture of a dog. What does the dog need in order to be alive?
3. Which of these pictures shows something that is natural or comes directly from the Earth?
4. Here you see a picture of a rock, a plant, and some animals. Which one of these pictures shows something that is not living?
5. Here you see a picture of a plant. Which of these things would help a plant survive?
6. Which animal likes to live in cool, dark places and out of the sun?

**Objective 3: Physical Science**

*(6 Questions)*

1. Which of these objects does NOT roll?
2. Here you see a stapler, a computer, and a paper clip. Pick the object that takes up the most space.
3. Which picture shows parts that would be used to make a bicycle?
4. Which one of these would melt into water if it was in the sun?
5. Pick the object that would be the lightest.
6. Which of these objects does NOT feel soft?

**Objective 4: Earth Science**

*(6 Questions)*

1. Which clothes would be best to wear if it were raining outside?
2. Which picture shows a kind of weather that normally happens in winter?
3. Here you see the sun, moon, and stars. Which one heats the Earth?
4. Here you have birds, water, and sun. Which of these pictures is NOT a resource from the Earth that you need to survive?
5. Which one of these pictures is a form of water?
6. Which of these pictures does NOT show a way that water is used?

## TEKS Correlation

### Objective 1: Nature of Science

<i>Test Question</i>	<i>TEKS Objective</i>
1. Here is a picture of a balance, hand lens, and computer. What tool would you use to find out which object weighs more - the apple or the orange?	K.1A K.3A
2. Of the pictures shown below, which is something that might be dangerous to touch?	K.1A K.3A
3. Which one of the pictures could be used to help you see something bigger?	K.1ABC K.4AB
4. What part of the body do you use for using your sense of smell?	K.2DE K.3AC
5. Here you see a cup, balance, and thermometer. What tool would you use if you were to investigate or study the weather?	K.2BCD K.3A
6. Which picture shows the tools you need to plant a tree?	K.1B K.2B
7. Here is a picture of a car, water, and a dog. Of the items which can be recycled?	K.1B

### Objective 2: Life Science

<i>Test Question</i>	<i>TEKS Objective</i>
1. Here you see a pillow, cat, and table. Which of these pictures shows something that is living?	K.8AB
2. Here you see a picture of a dog. What does the dog need in order to be alive?	K.9A
3. Which of these	K.9C
4. Here you see a picture of a rock, a plant, and some animals. Which one of these pictures shows something that is not living?	K.8AB
5. Here you see a picture of a plant. Which of these things would help a plant survive?	K.9AB
6. Which animal is underneath the rock?	K.10A

### Objective 3: Physical Science

<i>Test Question</i>	<i>TEKS Objective</i>
1. Which of these objects does NOT roll?	K.7A
2. Here you see a stapler, a computer, and a paper clip. Pick the object that takes up the most space.	K.5A K.7A
3. Which picture shows parts that would be used to make a bicycle?	K.6A
4. Which one of these would melt into water if it was in the sun?	K.7AB
5. Pick the object that would be the lightest.	K.5A
6. Which of these objects does NOT feel soft?	K.5A

### Objective 4: Earth Science

<i>Test Question</i>	<i>TEKS Objective</i>
1. Which clothes would be best to wear if it were raining outside?	K.7C
2. Which picture shows a kind of weather that normally happens in winter?	K.7C
3. Here you see the sun, moon, and stars. Which one heats the Earth?	K.7B
4. Here you have birds, water, and sun. Which of these pictures is NOT a resource from the Earth that you need to survive?	K.9C
5. Which one of these pictures is a form of water?	K.10A
6. Which of these pictures does NOT show a way that water is used?	K.10B