

TEKS-Based Activity for Grade 4

Detecting Systems

Description:

In this activity, students observe and identify living and nonliving systems working together.

Time Frame:

1 lesson (45 minutes)

Correlation to Texas Essential Knowledge and Skills:

During this activity, students will be exposed to the following Texas Essential Knowledge and Skills:

Note: Some TEKS statements below end with a ; or *and* and nothing thereafter—this indicates that further TEKS statements follow but are not included here.

(4.5) Science concepts. The student knows that complex systems may not work if some parts are removed. The student is expected to:

- (A) identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a light bulb in a circuit; and

Note: The TEKS listed here are the main content TEKS for this activity; however, this activity may also cover additional content and process skills included in other TEKS.

Materials:

Digging tool (1 per student group)
Hand lens (1 per student)
Detecting Systems chart (included at the end of this activity)

Advance Preparation:

1. Locate an area on or near the school grounds where students can observe systems.
2. Prepare copies of the Detecting Systems chart for each student.

Procedures:

1. Tell the students they will be going outside to locate both living and nonliving systems that are working together. Explain that the systems can be found above, on, and under the ground. Distribute a digging tool to each group to investigate systems under the ground.
2. Students are to complete the Detecting Systems chart as they make their observations.

3. After returning to the classroom have students list all the systems they found while outside. List these on the board. Have students describe the systems, the characteristics they have in common, and where the systems were located. An example of a living system might include a squirrel, a tree, or a stream, while nonliving systems might include buildings, a swing set, rocks in the soil, or even the nonliving elements of a pond.
4. Have students look at their Detecting Systems chart and review where the systems were located. Ask,
 - How do these systems depend on each other?
 - Can some systems function without one another?
 - What are the parts of the non-living systems you discovered?
 - How do the two systems work together?

Detecting Systems

System	Description	Location
Describe a system that contains plants and note its location.		
Describe a system that contains animals and note its location.		
Describe a system that contains living organisms and nonliving objects that are interacting and note its location.		