

## Appendix B

# What Students Should Understand, Do, and Know

By the end of Kindergarten students should be able to:

### Understand:

- People can learn about things around them by just observing those things carefully.
- People are more likely to believe your ideas if you can give reasons for them.
- It is often helpful to work in a team and share findings with each other.
- Change happens to many things.
- Some changes are so slow or so fast that they are hard to see.
- Things move in many different ways.
- Most things are made of parts.

### Do:

- Observe the world around them and report on their observations.
- Demonstrate scientific processes, e.g., how wind and water move non-living things.
- Sort, group, and classify different materials.
- Compare and contrast, e.g., light and dark, physical properties of objects and how they affect their movement, the parts of different animals
- Investigate, interpret, and explain to others.
- Examine scientific phenomena, e.g., what happens when you block the sun's light.
- Communicate and share findings with others, e.g. ways weather can affect individuals
- Describe and discuss the world around them based on their observations and records e.g., weather conditions and how predicting the world around them can improve our lives.
- Conduct simple experiments and explain their findings, e.g., why things may not work the same if some of the parts are missing.
- Construct questions, give reasons, and share findings with others.

## Know:

- Big rocks break down into small rocks.
- Water and wind move non-living things.
- Earth materials can be sorted, grouped, and classified based on their properties.
- Light and dark in a day-night cycle form a pattern.
- Weather changes occur from day to day.
- Weather patterns occur from season to season.
- Weather changes affect individuals in different ways.
- Objects move in different ways, e.g., fast, slow, zigzag, round and round, straight line, back and forth, slide, roll, bounce, spin, swing, float, glide.
- Different objects move in different ways.
- Parts are used to build things and things can be taken apart.
- Things may not work the same if some of the parts are missing.
- Young plants and animals change over time as they grow into adults.
- The relationship between body parts and the five senses.
- Major parts of plants, e.g., roots, stem, leaf, flower, trunk, branches.
- Major parts of different animals, e.g., skin, fur, feathers, scales, hand, winds, flippers, fins.