

SCIENCE OUTCOMES

FOURTH GRADE

Abilities Outcome.

1. **Apply science to life** (apply the following to each outcome).
 - A. Use knowledge of science to develop abilities.
 1. **Higher thinking** (analyze, solve, decide, evaluate, classify, develop, create, predict, estimate, generalize).
 2. **Communications** (present, persuade, demonstrate, explain, defend, consider, deduce, recommend, share).
 3. **Goal setting and attainment** (research, envision, brainstorm, plan, organize, conduct, persist).
 4. **Experience** (collaborate, ethics, relate, summarize, record, interpret, compare, simplify, conclude).
 - B. Use the scientific method with problems and experiments (think/talk about, decide, try, see if you were right).
 - C. Use scientific equipment in a proper manner.
 - D. Use technology to assist in problem solving.
 - E. Understand the relationship between humans, the environment, and earth's resources.
 1. Effects of pollution.
 2. Practices of conservation (reuse, reduce, recycle, refuse).
 3. What we can do to promote a healthy world.

Content Outcomes.

2. **Understand the basics of electricity (how generated, how conducted, open/closed circuits).**
 - A. Know terms "static" and "current electricity".
 - B. Identify a number of materials that are conductors and insulators.
 - C. Construct an electric game based on open/closed circuit.
3. **Understand the basics of magnetism.**
 - A. Know how a magnet works.
 - B. Compare the effects of permanent magnets upon a variety of common materials.
 - C. Discover that magnets display forces of attraction and repulsion.
4. **Identify the skeletal and muscle systems of the human body.**
 - A. Observe and investigate the human body skeletal system and muscle system.
 - B. Build mechanical models to demonstrate how muscles are responsible for human movement.
 - C. Acquire the vocabulary associated with the human skeleton and muscle system.

- 5. Observe, describe, and record properties of earth materials.**
- A. Use measuring tools to gather data about rocks.
 - B. Seriate minerals on the basis of one property.
 - C. Use evaporation to investigate rock composition.
 - D. Investigate the effect of vinegar on a particular mineral calcite.
- 6. Use techniques to see details in objects that would otherwise be difficult to see.**
- A. Explore the techniques of chromatography, rubbings, and carbon printing.
 - B. Express individual and group creativity through open-ended discoveries.
 - C. Invent applications to extend the use of specific techniques.