

# Contents

Introduction .....	5
<b>Standard Set 1. Physical Sciences</b>	
Electricity and magnetism are related effects that have many useful applications in everyday life. As a basis for understanding this concept: .....	7
1.a. Students know how to design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs .....	7
1.b. Students know how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field. ....	19
1.c. Students know electric currents produce magnetic fields and know how to build a simple electromagnet.....	24
1.d. Students know the role of electromagnets in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.....	30
1.e. Students know electrically charged objects attract or repel each other .....	36
1.f. Students know that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other.....	44
1.g. Students know electrical energy can be converted to heat, light, and motion.....	48
<b>Standard Set 2. Life Sciences</b>	
All organisms need energy and matter to live and grow. As a basis for understanding this concept: .....	53
2.a. Students know plants are the primary source of matter and energy entering most food chains.....	53
2.b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem. ....	62
2.c. Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.....	72
<b>Standard Set 3. Life Sciences</b>	
Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept: .....	81
3.a. Students know ecosystems can be characterized by their living and nonliving components.....	81
3.b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.....	87
3.c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter. ....	100
3.d. Students know that most microorganisms do not cause disease and that many are beneficial.....	107