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MIDDLE SCHOOL

3-8	200 Goopy, Slippery, Slimy, Weird & Fun Experiments	Janice Van Cleave	S-70
	This book is a collection of science experiments designed to show you that science is more than a list of facts – science is fun! The 200 experiments in the book take science out of the laboratory and put it into your daily life.		
4-8	Acid Rain : Student’s Handbook	EPA	E-1
	This contains information and activities to provide a better understanding of the acid rain problem and a greater interest in its resolution.		
5-8	Air Masses	Michigan State University	E-2
	This unit focuses on the collection and use of data about changes in weather. One set of weather data is provided in this unit or you could use weather from your local newspaper. Prior to this unit, students should have had experience using thermometers for collecting temperature data. They should have learned that wind is moving air and can come from different directions and at different speeds.		
5-8	Amateur Radio in Space	NASA	S-2
	The Space Amateur Radio Experiment (SAREX) is designed to facilitate communication between astronauts in orbit with students on the ground. Through SAREX, astronauts make scheduled and unscheduled amateur radio contacts from the Shuttle orbiter with schools selected through a proposal process from around the world. These contacts energize the participating students and families about science, technology, and learning.		
7-12	Art in Chemistry: Chemistry in Art	Barbara A. Greenberg Dianne Petterson	S-4
	Make chemistry interesting and art practical by integrating the two subjects with scores of hands -on activities and fascinating demonstrations. Through explorations of color, paint, clay, jewelry, photography and art forgery, students learn fundamental principals of chemistry.		
3-8	Astronomy for Every Kid 101 Easy Experiments That Really Work	Janice Van Cleave	S-98
	This guide contains activities that explore how life is affected by the things on and beyond the earth’s atmosphere as well as how celestial bodies affect each other.		
5-8	Awesome Experiments in Force & Motion	Michael DiSpezio	S-181
	This book is provides activities on inertia, Newton’s laws of motion, friction, gravitation, and energy		
5-8	Awesome Experiments in Light & Sound	Michael DiSpezio	S-182
	This book provides activities on properties of waves such as reflection, refraction and interference.		

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5-10	Astronomy: Project Earth Science	P. Sean Smith	S-5
	<i>Project Earth Science: Astronomy</i> spotlights ways to teach students about everything from why Earth has seasons to what a light year is. For the students, hands-on, teacher-tested activities bring the concepts of astronomy down to Earth. For the teachers, background information, supplementary readings, and suggestions for integrating other disciplines provide a framework to launch a successful introduction to astronomy.		
K-8	BIRDS, BIRDS, BIRDS : Ranger Rick's Nature Scope	National Wildlife Federation	E-3
	This guide combines science activities in <i>Birds, Birds, Birds</i> with language arts, history, creative writing, geography, social studies, math, and art activities to make this booklet as useful as possible.		
K-8	Bottle Biology	Mrill Ingram	S-6
	This activity guide uses soda bottle and film cans to create complete ecosystems. Activities include modeling a rainforest, building a decomposition column, and designing a gardening system. Each chapter contains construction details, background readings and assessment questions adaptable to all ages and skill levels.		
5-8	Bubble*ology	LHS GEMS	S-7
	Need a simple way to explore important concepts in chemistry and physics? This book uses soap bubble activities-making an ideal bubble-blowing instrument, using the Bernoulli principle to keep bubbles aloft, and making bubbles that last for days to make science accessible and fun.		
3-6	The Budding Botanist	AIMS	S-81
	This guide provides hands-on activities that investigate the world of plants. Particular attention is given to (1) seeds: their structure, how they grow, their properties, and how they are dispersed; (2) plants: their structure, how plant parts work, photosynthesis, and development of seeds and fruit. The last section is a short look at the structure of plant cells.		
4-12	Building Big	David MaCaulay	S-116
	Engages readers' imaginations and gets them thinking about structures they see every day – bridges, tunnels, skyscrapers, domes and dams. Includes 5 hrs. of video on 5 cassettes.		
6-10	Chemical Reaction	LHS GEMS	S-10
	An ordinary sandwich bag becomes a safe laboratory as students mix chemicals that bubble, change color, and produce gas, heat and odor. Students then experiment to determine what causes the heat in this chemical reaction.		
8-10	Chemistry That Applies	Michigan Department of Education	S-11
	This unit helps students construct a clear understanding of how new substances form from the old ones and how the Law of the Conservation of Matter applies to all of these situations. It also helps students learn to pose questions, search for solutions to problems, work together with others, and value the need for evidence in making decisions.		

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3-8	Classroom Critters and the Scientific Method	Sally Kneidel	S-13
	Do goldfish hide? Are kittens left-handed or right-handed? Do anole lizards prefer mealworms or crickets? These and many other questions are answered when students use the 37 animal-friendly, behavioral experiments found in this innovative resource. Each experiment explores the five steps of the scientific method: question, hypothesis, method, result, and conclusion.		
K-8	Classroom GEMS Activities and Resources for		S-155
	This project is designed to provide Michigan's citizens of tomorrow with the knowledge and skills to understand, value, protect, and renew our precious groundwater resources.		
4-8	The Complete Science Fair Handbook	Anthony D. Fredericks Isaac Asimov	S-14
	This book is a systematic guide to the design and development of a successful science fair. It is intended to stimulate higher levels of participation, well-designed and functional projects, an abundance of originality, and your students' deeper appreciation of how they can actively participate in the scientific world. This book is also a convenient ready reference that helps teachers guide their students through the exciting and dynamic world of science.		
3-7	Cool Chemistry	Steven W. Moje	S-89
	Believe it or not, there is a chemistry lab waiting for you in your closets and kitchen cupboards! Gather your equipment, check your supplies and get ready to try dozens of the coolest chemistry experiments around.		
7-10	Cosmic Classroom: Maps Models & Measurements	Space Center – Houston	S-18
	By using the artifacts from the manned space program, and enlarging certain concepts of astronomy and earth science, teachers are able to build on their student's natural interest in stars, planets, extraterrestrials, astronauts, and a universe so vast that it can barely be imagined.		
K-6	Critters	AIMS	S-82
	<i>Critters</i> contains 30 investigations involving mealworms, snails, goldfish, brine shrimp, earthworms, crickets, moths, and silkworms, as members of the Critter Club. Activities involve classification, camouflage, biomes, food chains, etc.		
6-8	Community Land Use Planning and the Visual Environment	Joan Chadde, Jean Dunstan Linda Rulison, Ruth Ann Smith Ashley Hanson	S-78
	An Interdisciplinary Middle School Unit for language arts, social studies, math and science.		
6-12	Doc Fizzix's MOUSETRAP Powered Cars and Boats	Alden J. Balmer	S-189
	This book will help you learn the basic conceptual concepts that are needed to construct your own mouse trap car and how these concepts relate to mouse trap car engineering through lessons on force, inertia, simple machines, and energy transfer.		

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5-9	Down to Earth	AIMS	S-8
	<p><i>Down to Earth</i> contains studies in three areas: geology, meteorology, and oceanography. Students explore variables in meteorology by looking at relative humidity using a wet and dry bulb thermometer and take a closer look at heat absorption, the effect of the sun's angle on energy received, and evaporation rates. Other activities include finding the composition of a hill built by students, examining the idea of mapping the ocean floor, and calculating the amount of pollution a car produces in one minute.</p>		
5-8	Earth, Moon, and Stars	Cary I. Sneider	S-115
	<p>This guide focuses on the shape of the Earth and gravity; moon phases and eclipses; and the stars. In activities that involve real-world sky gazing, students observe and record changes in the sky and create models to explain their observations. A challenging questionnaire on the Earth's shape and gravity can be used as a pre- and post-assessment tool.</p>		
6-12	Earth Systems: Educating Activities for Great Lakes Schools	Ohio Sea Grant	E-7
	<ul style="list-style-type: none"> - Life in the Great Lakes - Great Lakes Environmental Issues - Great Lakes Climate & Water Movement - Land & Water Interactions in the Great Lakes 		
	<p>This guide demonstrates the range of instructional opportunities available for the classroom. The principles that guided development of the activities should also direct their classroom use: of historical and descriptive as well as experimental data; integration of science disciplines in a social context; and potential for collaborative learning and group decision making</p>		
6-12	EarthWatch: Pollution, Predation, Migration	Earthwatch Institute	S-12
	<p>Environmental case studies to supplement the teaching of ecology and human impact.</p>		
4-9	Electrical Connections	AIMS	S-84
	<p><i>Electrical Connections</i> is designed to clear up some of the mystery and alleviate some of the fear regarding electricity by learning a few basic electrical concepts. Major topics covered include: static electricity, attraction and repulsion of charges, electrical conductors, series and parallel circuits, electrical switches, and connections between magnetism and electricity.</p>		
7-12	Electricity – 19	TOPS Learning Systems	S-202
	<p>This book begins with task cards that investigate the nature of like and unlike charges, establishing the reason why current flows through wire. Students then improvise bulb and battery holders, and build a variety of different switches.</p>		
3-8	Electricity – 32	TOPS Learning Systems	S-199
	<p>Electricity requires no lab equipment or unusual supplies. Just photocopy the 20 activity sheets, gather simple materials (like bulbs, batteries, foil and clothespins), and you're ready to explore TOPS Learning Systems hands-on.</p>		

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K-6	Exploring Environments	AIMS	E-27
	<p><i>Exploring Environments</i> takes students on expeditions to eight different environments. Eight full color scenery posters (17"x 22") are provided. Sample plants and animals along with background information are given so that students can examine the interactions between living things and see how they meet their needs. Teaching tips are given for grade level spans K-2, 3-4, and 5-6. To complete the <i>Exploring Environments</i> activities, both the book and posters are needed.</p>		
K-12	Exploring Matter with TOYS	Mickey Sarquis	S-22
	<p>In this book you will find teacher-tested, motivating activities that draw students in with toys, gadgetry, fun-to-do experiments, and observations of scientific phenomena in everyday events. Each activity contains a list of the key science topics covered and process skills used, estimated time length, materials list, safety and disposal procedures, step-by-step instructions, extension suggestions, and reproducible handouts.</p>		
5-12	Exploring Meteorite Mysteries	NASA	S-23
	<p>Teachers and scientists designed this book to engage students in inquiry science with interdisciplinary connections. The study of meteorites provides a unifying theme that links almost every aspect of Earth and planetary science and mathematics, physics, chemistry and even biology. The effects of meteorite impacts have serious implications for social science. Many of the lessons begin with a simple activity and build to more complex ones.</p>		
3-6	Field Detectives	AIMS	E-28
	<p><i>Field Detectives</i> is designed to encourage students to look closely at the diverse habitats in and around their school playground. They become detectives who search for evidence of life and clues to the natural world around them. Activities emphasize the provision of needs within a habitat for food, water, air, shelter, and space. Students investigate relationships found within all habitats regardless of size or location.</p>		
4-8	First Lego League 2001 Team Manual Featuring Arctic Impact	First Lego League	S-158
	<p>A manual explaining the conditions and terms of the First Lego League competition for the year 2001.</p>		
5-9	Floaters & Sinkers	AIMS	S-85
	<p><i>Floaters & Sinkers</i> is an excellent source of hand-on activities for the middle school student that builds the concept of density as the ratio of mass to volume. Through a carefully planned series of experiences, student's measure volume, explore the idea of space between particles whether seen or not, discover the relationship between surface area and cargo capacity of boats, and explore the densities and volumes of different types of spherical objects and irregular shaped objects.</p>		
8-10	Food, Energy & Growth	Michigan Department of Education	S-24
	<p>This unit is designed to help students construct a clear understanding of the ways that food is used by our bodies for energy and for the materials needed for growth and repair. It has also been designed to help students learn to pose questions, search for solutions to problems, work together with others, and value the need for evidence in making decisions.</p>		

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5-9	From Head to Toe	AIMS	S-86
	<i>From Head to Toe</i> includes studies of the human body, its framework, respiratory system, and circulatory system. The activities focus on measurement and provide an excellent vehicle to build self-awareness and establish a basis for a good physical fitness program.		
5-9	Fun With Foods	AIMS	S-87
	<i>Fun With Foods</i> contains a series of hands-on investigations utilizing and analyzing common foods. The wonderment and curiosity that is aroused in working with and examining foods is the beginning of many delightful discoveries, some of which include the percent of an orange that is edible, how effective preservatives are in retarding the growth of mold, the presence of sugar in most foods, and mayonnaise as an emulsion.		
K-8	Garbage and Recycling	Sally Morgan Rosie Harlow	S-131
	This guide contains experiments that look at problems of producing too much garbage and explains how recycling can make our environment a cleaner place.		
5-10	Geology: Project Earth Science	Brent A. Ford	S-25
	<i>Use Project Earth Science: Geology</i> to introduce your students to plate tectonics and teach them what causes volcanoes and earthquakes. Lead explorations of these and other larger-than-the-classroom geological phenomena with the teacher-tested, <i>Standards</i> -based activities. Earth's physical evolution and dynamic processes are carefully explained in language accessible to students and teachers. Supplemental readings provide educators with the background information to answer student questions and concerns.		
7-8	Global Warming & the Greenhouse Effect	Colin Hocking Cary I. Sneider John Erickson Richard Golden	E-30
	Students explore global warming in a wide variety of formats, from hands-on science activities and experiments to a simulation game, analysis of articles, a story about an island threatened by rising sea levels, and a world.		
K-8	Glow in the Dark Constellations A Field Guide for Young Stargazers	C.E. Thompson	S-138
	Inside this handy beginner's guide to stargazing, you will find dazzling glow-in-the-dark illustrations of major constellations visible in each season of the year, step-by-step directions for finding more than 30 stars and star groups, brief retellings of the legends behind the names of the constellations and 8 simple glow-in-the-dark sky maps.		
6-12	Going Places, Making Choices Transportation and the Environment	National 4-H Council	S-140
	This unit is designed to help youth understand and respond to real life issues affecting their communities and lives concerning transportation and mobility issues.		

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5-12	Gravity Rules	AIMS	S-88
	<p><i>Gravity Rules!</i> is an activity book and video package using the high-energy sport of skydiving to teach students basic force and motion concepts. The one-hour video features actual in-the-air scenes of skydivers performing basic and advanced flight maneuvers. In the classroom students make simple paper models and explore how the forces acting on the models allow them to duplicate the motions of real skydivers. Students also collect, record, and analyze data taken directly from instruments seen in the video. To complete the <i>Gravity Rules!</i> activities, both the book and video are needed.</p>		
K-8	The Great Lakes in my World Activities Workbook	Lake Michigan Federation Great Lakes Commission	S-157
	<p>This guide focuses on the human impact on the natural processes and pollution issues concerning the Great Lakes.</p>		
6-8	The Great Lakes Kit and Educator's Guide	The Earth Generation	S-161
	<p>The Great Lakes kit is designed to coordinate with Michigan's seventh grade core curriculum guidelines. The projects are designed to build students awareness of some of today's environmental issues and tomorrow's responsibilities affecting Michigan and the Great Lakes.</p>		
K-12	Great Lakes Watershed Education Resource Kit		S-170
	<p>This kit contains teacher resources, children literature and posters to enhance teaching units on Great Lakes watersheds and environmental stewardship.</p>		
3-8	Guide to the Best SCIENCE FAIR PROJECTS	Janice VanCleave	S-27
	<p>This guide will help students develop a prize winning topic and determine the best way to create, assemble, and present it (with special tips about successful displays). Try our favorite experiments on topics from astronomy and biology to chemistry, math, and engineering.</p>		
3-8	Guide to MORE of the Best SCIENCE FAIR PROJECTS	Janice VanCleave	S-28
	<p>A second complete guide to winning science fair projects. (See: Guide to the Best SCIENCE FAIR PROJECTS)</p>		
K-8	HANDS ON - Earth Science Activities	Marvin N. Tolman	S-29
	<p>More than 160 inquiry activities covering air, water, Earth, ecology, meteorology, and astronomy. Each activity encourages students to analyze, synthesize, and infer based on their own hands-on experiences. Includes integration possibilities for other disciplines, step-by-step procedures, and teacher information.</p>		
K-8	HANDS ON – Life Science Activities	Marvin N. Tolman	S-30
	<p>More than 150 discovery experiences covering plants and seeds, animal life cycles, adaptation, body structure, the senses, health, nutrition, and more. Each activity encourages students to analyze and synthesize information based on their own hands on experiences. Includes integration possibilities for other disciplines, step-by-step procedures, and teacher information.</p>		

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K-6	Hands-On Nature	Jenepher Lingelbach Lisa Purcell	S-117
	Information and activities for exploring the environment with children, by asking meaningful questions, making careful observations, testing new ideas, and sharing thoughts and observations.		
1-12	Hands On – Save Our Streams	Izaak Walton League of America	E-10
	This guide will help you learn how to monitor and find out if a stream is healthy. It begins with an explanation of watersheds and how water flows through the soil, waterways and atmosphere. Instructions for monitoring		
6-10	Hands on Science – Electricity & Magnetism	Joel Beller Kim Magliore	S-196
	The best way to learn science is to do science. This guide offers 16 ready -to-use activities that help your students build a solid understanding of the physical world around them. Your students can experience the nature of static electricity, explore the properties of magnets, construct series and parallel circuits, investigate batteries and more.		
6-10	Hands on Science - Light & Color	Michael Margolin	S-194
	This supplement to teaching offers hands -on, fun activities that will turn students on to science. It will open the door of discovery to your students as they explore how light and color affect the world around them. streams and steps to plan a science project are included.		
5-6	Hard as Ice	Michigan Department of Education	S-31
	This unit is designed to help grade students construct a clear understanding of the solid and liquid states of matter and what happens when solids melt into liquids or liquids freeze into solids. It has also been designed to help students learn to pose questions, search for solutions to problems, work together with others, and value the need for evidence in making decisions.		
6-10	How to...Teach with Topographic Maps	Dana Van Burgh Elizabeth N. Lyons Marcy Boyington	S-34
	This "How To" guide is divided into two sections. The first section provides an overview and background information on topo maps for the instructor. The second section is a series of classroom activities to help teach topo map skills. The guide includes a topo map produced by the United States Geological Survey.		
7-12	How to...Write to Learn Science	Bob Tierney	S-35
	Use writing and drawing exercises to help your students experience the exhilaration of science. The activities focus on building trust in the classroom and tapping into students' creativity, allowing them to express science in their own words and art instead of memorizing it from a textbook.		
K-8	INCREDIBLE INSECTS : Ranger Rick's Nature Scope	National Wildlife Federation	E-11
	This guide combines science activities in <i>Incredible Insects</i> with language arts, history, creative writing, physical education, social studies, math, and art activities to make this guide as useful as possible.		

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5-8	<p>Investigating Solids, Liquids & Gases with TOYS</p> <p>In this book you will find teacher-tested, motivating activities that draw students in with toys, gadgetry, fun-to-do experiments, and observations of scientific phenomena in everyday events. Each activity contains a list of the key science topics covered and process skills used, estimated time length, materials list, safety and disposal procedures, step-by-step instructions, extension suggestions, and reproducible handouts.</p>	<p>Jerry Sarquis Lynn Hogue Mickey Sarquis Linda Woodward</p>	S-38
K-12	<p>In Touch With Girls and Science</p> <p>This manual provides activities that are designed for use with girls in school, community, and home settings, such as school science and mathematics programs, scouting and church-based programs, and college science and engineering student societies. They can be used with the guidance of adult leaders, teachers, parents, or young-adult mentors. Special emphasis is placed on having girls come in contact with female role models and mentors. The activities in this manual were selected because they foster problem-solving skills through the use of data collection and analysis.</p>	AAAS	S-36
2-12	<p>Keeping a Nature Journal</p> <p>Learn to observe and connect with the world around you through drawings and descriptive writing.</p>	<p>Clare Walker Leslie Charles Roth</p>	S-120
K-8	<p>Lake Effects – Lake Superior Curriculum Guide</p> <p>There are four sections of lessons in the <i>Lake Superior Curriculum Guide</i> The Physical Lake Superior: lessons that focus mostly on the physical evolution and dynamics of Lake Superior. The Living Lake Superior: activities that teach about the plants and animals for the basin, from arctic disjuncts to zooplankton. The Cultural Lake Superior: lessons about human dimension, including history, human geography and environmental issues. Synthesis: lessons and activities that just couldn't be categorized: truly interdisciplinary programs that go beyond the classroom walls.</p>	Great Lakes Aquarium	E-12
K-12	<p>Let's Reduce and Recycle: Curriculum for Solid Waste Awareness</p> <p>Designed to increase solid waste awareness and promote recycling participation by children.</p>	EPA	S-119
6-12	<p>The Life of the Lakes A Guide to the Great Lakes Fishery</p> <p>The purpose of this guide is to describe the current status of the Great Lake fishery; to detail the Great Lake fishery of the past including the social, technological and environmental changes it has faced over time; and to discuss fisheries issues expected in the future.</p>	<p>Mich. Sea Grant Extension Mich. State University</p>	S-139

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6-11	Light – 17	TOPS Learning Systems	S-205
	Light requires few specialty items other than pocket mirrors, blue and yellow cellophane, penny-sized convex lenses and hand lenses with straight rigid handles. You'll need at least 2 of these hand lenses per lab group. Gather these and other simple materials, photocopy the 36 task cards, and you're ready to explore TOPS Learning Systems hands-on.		
5-7	The Lives of Plants	Michigan Department of Education	S-39
	This unit is designed to help students construct a clear understanding of the way plants perform the unique and critical energy transformation of photosynthesis. It has been designed to help students learn to pose question, search for solutions to problems, work together with others, and value the need for evidence in making decisions.		
6-12	Looking at Earth from Space	NASA	S-166
	This guide was designed for teachers to focus on the study of meteorology, with application to satellite imagery.		
5-9	Machine Shop	AIMS	S-92
	<i>Machine Shop</i> allows students to join the characters "Fantastic Force" and "Mucky Mass" in their adventures as they discover the utility of simple machines. Hands-on activities help students develop an understanding of the physics involved. Students are challenged to apply their understanding to weigh each other using a seesaw, to have tug-of-wars with pulleys, to determine how bicycle gears work, and to construct catapults and racing machines. The pervasive concepts of conservation of energy, forces, and power are developed through each of these intriguing activities.		
8-12	Magnetism – 20	TOPS Learning Systems	S-206
	These experiments reveal much about the nature of magnetic domains. Add coiled wire and dry cells to your inexpensive "refrigerator" magnets to create a surprising array of wonderful inventions: electromagnets, solenoids, telegraphs, buzzers, motors, generators and relay switches. Magnetism 20 is great science, and great fun		
3-8	Magnetism – 33	TOPS Learning Systems	S-198
	Magnetism is filled with wonderful inventions that run on simple materials. This unit uses small, rectangular, ceramic magnets about as wide as postage stamps.		
K-12	Mammal Tracks Life Size Tracking Guide	Heartwood Press	S-213
	This life size tracking key will help you determine which species made the footprints you are observing. It is in a three-part key...movement pattern, group, or species. This is a great tool when checking out the Wolf Box for Making Tracks Kit from our equipment list.		
5-10	Meteorology: Project Earth Science	P. Sean Smith Brent A. Ford	S-42
	Integrated activities cover the origin and composition of the atmosphere, as well as the variables that influence weather and affect the movement of air masses. From studying the hydrologic cycle to reading weather maps and tracking hurricanes, your students will become skilled weather watchers.		

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6-8	Matter and Molecules	Michigan State University	S-41
	<p>This is a teacher's guide for the science book of <i>Matter and Molecules</i>, a set of instructional materials about the kinetic molecular theory written at the middle school level. The complete <i>Matter and Molecules</i> materials include a science book, an activity book, 17 transparencies, three wall posters, and teachers guide for both the science book and activity book.</p>		
6-10	Methods of Motion: An Introduction to Mechanics	NSTA Jack E. Gartrell, Jr.	S-43
	<p>This manual is designed to help you introduce the daunting subject of Newtonian mechanics to students in the middle grades. The 27 teacher-created activities use readily available materials to combat students' misconceptions.</p>		
K-12	Michigan WISE Project	DNR	E-14
	<p>The Great Lake WISE (Waste Information Series for Education) Project is a K-12 science-based curriculum created by the Michigan Departments of Natural Resources and Education to allow teachers to integrate solid waste and related environmental issues into existing curricula. By encouraging students to think critically about our trash dilemma and propose solutions, students learn the importance of individual action and develop lifelong habits of caring for the environment.</p>		
5-12	Microgravity	NASA	S-44
	<p>This curriculum guide defines and explains and shows how microgravity can help us learn about the phenomena of our world. The front section of the guide is designed to provide teachers of science, mathematics, and technology at many levels with a foundation in microgravity science and applications.</p>		
4-8	Microscopic Explorations	LHS GEMS	S-45
	<p>This guide features 10 learning stations designed to enliven student curiosity in a number of scientific fields. Using hand lenses and microscopes, students observe, record, and investigate water droplets, fingerprint ridges, dollar bills, insects, and much more.</p>		
K-8	Mining for Music	National Energy Foundation	S-74
	<p>This guide is a multi-disciplinary unit of instruction which can be successfully integrated into curricula in history, earth science, general science, math, social studies, geography, language arts, art, photography, and technology.</p>		
K-12	Monarch Butterfly	Royal Mail	S-46
	<p>This manual contains ideas that you can further develop with your creativity and experience. It is our hope that by carrying out the activities in this manual, the Monarch Butterfly can be protected during its journey through the cities that participate in the project. The activities were designed to be used during the migration in the months of September, October and November.</p>		
2-8	Mostly Magnets	AIMS	S-101
	<p><i>Mostly Magnets</i> provides students with fascinating and enjoyable activities that help them learn about the varied behavior of magnets and related science concepts.</p>		

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5-8	NASA's Student Glovebox	NASA	S-165
	This unit is designed to help you build and understand what a Glovebox is and what the astronauts use it for in space. A poster of the Glovebox parts accompanies this unit.		
5-12	Oceanography: Project Earth Science	P. Sean Smith Brent A. Ford	S-53
	Embark on a voyage of discovery as you steer your students through activities designed to teach them about currents, waves, and tides. From an understanding of the properties that make water unique, your students will get a global view of the marine environment, including the impact of human activities on the oceans.		
6-10	Our Solar System – Hands on Science Series	Karen Kwitten Steven Souza	S-50
	Your students will have fun exploring the scale of the solar system, Kepler's laws, planets, orbits, phases of the moon, comets, and meteors. Activities have Internet connections, suggested quiz topics and an evaluation plan.		
5-9	Our Wonderful World	AIMS	E-29
	<i>Our Wonderful World</i> is an environmental studies book which explores how we relate to our surroundings. Most of the activities are appropriately implemented out-of-doors and include these topic areas: air, water, transpiration, soil, plants, animals, and insects. Students build a water still to extract water from the air through condensation in one activity and study the reaction of insects to temperature changes in another.		
6-12	Out of the Rock	National Energy Foundation	S-51
	The information and wide array activities that focus on developing an understanding of what mineral resources are; develop awareness of the diverse and important uses of mineral resources; develop an appreciation for the individuals who work in the mineral resources industry; develop an understanding of the economic and environmental impact of mineral resource development; develop more advanced learning skills including problem solving, decision making and critical and creating thinking.		
4-8	Out of This World	AIMS	S-102
	<i>Out of This World</i> deals with the solar system and astronomy. It concentrates on studies involving the planets and moon by using simulations, fact sheets, and investigations.		
3-6	Overhead & Underfoot	AIMS	S-103
	<i>Overhead & Underfoot</i> is filled with investigations that focus on weather and our natural environment. Students take a closer look at relative humidity by building a simple hygrometer, air pressure by building a barometer, and wind speed and direction by building an anemometer and a wind vane. Students will also examine soil composition, pollution, insect travel, and peanut butter and jelly geology.		
7-12	Pendulums – 01	TOPS Learning Systems	S-204
	A washer swings on a thread, sweeping the face of a cereal box. This box is covered with a grid that measures length and amplitude. It is, in short, a classically simple TOPS learning system.		
4-9	Pendulums – 34	TOPS Learning Systems	S-200
	Task cards in this book run on little more than thread, paper clips, pennies and masking tape. Now you can teach science on less than a shoestring and your students will love it		

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5-6	Phases of the Moon	MSU	S-52
	The goal of this unit is to get students to explain where the moon is in its orbit when we see it as a crescent, and when it is full, and why the moon shows these phases at different places in orbit.		
2-6	The Pillbug Project: A Guide to Investigation	Robin Burnett	S-54
	Help children see for themselves what science is all about with the perfect classroom critter, the docile pillbug. Organized around 10 days of activities, this innovative book helps students explore organisms' life cycles and environments, understand scientific inquiry, and have fun. You'll like the practical lesson plans, assessments, and reproducibles; kids will love the whimsical illustrations and the adventures of Patricia Pillbug.		
5-12	Planetary Geology	NASA	S-163
	This guide provides activities on geologic processes, impact craters, planetary atmosphere, planetary surface, and geologic mapping.		
6-12	Pond and Stream Safari: A Guide to the Ecology of Aquatic Invertebrates		S-121
	Excellent resource and activities for pond and stream studies.		
K-8	Project Learning Tree	American Forest Foundation	E-15
	Through hands-on, interdisciplinary activities, PLT provides students with opportunities to investigate environmental issues and encourages them to make informed, responsible decisions.		
6-12	Project Learning Tree: Focus on Forest	American Forest Foundation	S-148
	This module gives students a chance to examine a variety of complex environmental issues. The activities seek to teach students how to think about the environment, not what to think of about it.		
6-12	Project Learning Tree: Focus on Risk	American Forest Foundation	S-149
	The activities will help students develop skills they need to participate meaningfully in public dialogue and decision making processes that address environmental and human health issues and personal risk.		
6-12	Project Learning Tree: Forest Ecology	American Forest Foundation	S-150
	The activities in this module are designed to encourage students to explore and learn about forest ecosystems through hands-on discovery and experimentation.		
6-12	Project Learning Tree Secondary Environmental Education Program	American Forest Foundation	E-16
	Through hands-on, interdisciplinary activities, PLT provides students with opportunities to investigate environmental issues and encourages them to make informed, responsible decisions.		
6-12	Project Learning Tree: Secondary Modules	American Forest Foundation	S-151
	PLT's secondary environmental education modules were developed in response to a growing need and concern in America today for quality environmental education materials for the secondary level.		

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K-12	Project Wet	Project Wet	E-17
	The goal of <i>Project WET</i> is to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources through the development and dissemination of classroom-ready teaching units.		
K-12	Project WILD	Western Regional Environmental Education Council	S-122
	Interdisciplinary activities on wildlife appreciation, diversity, ecology, and conservation.		
K-12	Project WILD-Aquatic	Western Regional Environmental Education Council	S-123
	Interdisciplinary curriculum/activity guide that teaches about wildlife and water.		
4-8	Ray's Reflections	AIMS	S-108
	<i>Ray's Reflections</i> takes the students on an exciting integrated math/science journey as they explore the reflection of light from plane mirrors in "The Pharaoh's Charmers," through U-shaped and S-shaped tunnels, and play "pool" with light rays, among other things. Discover how the science vocabulary used to describe the behavior of light and its reflection "mirrors" is the same as the mathematical vocabulary used to describe geometric points and lines.		
6-8	The Real Reasons for Season	Alan Gould Carolyn Willard Stephen Pompea	S-55
	This guide provides connections between the seasons, the Sun, and the Earth. Among its appealing features: eight attention-getting activities, including an imaginary trip to the Sun. The book includes teacher-friendly directions, materials lists, backgrounders, summary outlines, and reproducibles.		
6-9	River Cutters	University of California at Berkeley	S-179
	Three ways that River Cutters can fit into your curriculum: Earth Science, will help your students understand the forces that shape the earth; Environmental Studies will provide your students with hands-on activities that illustrate how certain human activities impact natural systems; and Integrated Science can help students apply concepts in physical, Earth, and environmental sciences to real world problems.		
6-10	Rocks & Minerals – Hands on Science Series	Barry Fried Michael McDonnell	S-56
	Give students the excitement of geological exploration with 18 demonstrations covering the essentials of minerals, mineral identification, rock formation, weathering, erosion and deposition, and fossils and geologic history. Includes complete teacher support: detailed background, materials lists, safety tips, scoring rubrics, reproducibles.		
4-12	Rockets	NASA	S-57
	This guide begins with background information on history of rocketry, scientific principles, and practical rocketry. The sections on scientific principles and practical rocketry focus on Sir Isaac Newton's Three Laws of Motion. These laws explain why rockets work and how to make them more efficient. Following the background sections are a series of activities that demonstrate the basic science of rocketry while offering challenging tasks in design.		

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3-6	Schoolyard Ecology	Teacher's Guide	LHS GEMS	E-18
	Turn your elementary students into ecologists: help them learn key ecological and biological concepts as they investigate the immediate environment. This guide discusses biological sampling and mapping, while also developing mathematical capabilities. Students complete journals to promote a language arts connection.			
4-6	Science & Stories		Hilarie N. Staton	S-185
	Integrating Science and Literature		Tara McCarthy	
	Bring science to life through popular literature. Grade-level appropriate science correlate with easily available books and pay careful attention to reading strategies, oral language skills and writing skills.			
K-12	Science Demonstration Projects in Drinking Water		EPA	S-60
	This pamphlet includes a brief selection of science demonstration projects related to drinking water for K-12 students. The general areas covered by the demonstration projects include the chemical/physical aspects of water, contamination and treatment of drinking water, distribution and supply of drinking water, and water conservation.			
4-9	Science Equals Success		U.S. Department of Education	S-61
	This book is a hands-on, discovery science activity that center around four EQUALS processes -problem solving, cooperative learning, spatial skills and career awareness. Activities are designed to increase students' interest and motivation in math, improve confidence and competence in doing math.			
K-12	Science Experiments by the Hundreds		Julie H. Cothron	S-62
			Ronald N. Giese	
			Richard J. Rezba	
	This two-book set teaches students experimental design, ways to explore project ideas, how to write safe procedures, methods of analyzing data, and how to write an experimental report. There is a student book and a teacher's guide.			
4-8	Science Experiments with Sound & Music		Shar Levine	S-183
			Leslie Johnstone	
	These cool science projects will give you good vibrations! They're all about sound – where it comes from, and how it works and affects us. You'll find out some very interesting and unusual things. Open up your mind (and your ears) to solve some of the weird and wonderful mysteries of sound!			
4-8	Show Me How To...Write An Experimental Science Fair Paper		Judy Fisher Shubkagel	S-66
	Fill-in-the-blank pages to guide students through every detail of their own projects - including selecting a topic, writing the abstract, reporting results, presenting data, writing a bibliography, and creating a display.			
5-9	The Sky's the Limit		AIMS	S-110
	<i>The Sky's the Limit</i> invites students to explore every aspect of the science of aerodynamics through simple and inexpensive materials. "Flying" is magic for children of all ages! This book attempts to clarify some of the reasons why the magic works while preserving its sense of mystery. Students enjoy constructing kites, paper airplanes, balloon rockets, super tubes, and much more.			

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4-9	Soap Films & Bubbles	AIMS	S-111
	<i>Soap Films & Bubbles</i> provides extensive explorations into the behavior of soap films. Valuable insights will be acquired through activities that are sure to intrigue students.		
5-8	Solar System Puzzle Kit	NASA	S-168
	An activity kit that provides a 3-D picture of the solar system.		
7-12	Solutions – 12	TOPS Learning Systems	S-203
	This unit begins with corn starch. Mixed cold, it forms a coarse suspension that clears by filtering or settling. When boiled it forms both a cloudy colloidal suspension and clear true solution. Concepts and vocabulary learned here are then applied to a series of tasks that clean muddy water.		
7-12	Sound – 18	TOPS Learning Systems	S-201
	Sound requires tuning forks, but no other special equipment. Just photocopy the 20 task cards, gather simple materials (like bobby pins, cans, soda bottles and adding-machine tape), and you're ready to explore TOPS Learning Systems hands-on.		
5-8	Space Based Astronomy	NASA	S-67
	This curriculum guide uses hands-on activities to help students and teachers understand the physical science concepts that make space based astronomy possible. (Astronomical observations made from outer space).		
K-8	Space Food and Nutrition	NASA	S-169
	This unit explores the meals that were available from the Mercury Project to the International Space Station and how it has changed and developed to meet the needs of the astronauts.		
5-12	Spills and Ripples	AIMS	S-112
	<i>Spills and Ripples</i> is an innovative, exciting, and wet set of investigations designed to arouse curiosity about fluid dynamics. Students improve their understanding of density, pressure, and surface tension by learning to control boundaries between fluids, to manipulate Cartesian divers and to construct low-cost instruments, like a hydrometer and manometer.		
K-12	The Stars	H.A. Rey	S-129
	This guide provides information about constellations and their position in the celestial sphere throughout the year.		
6-7	Steamed UP!	Michigan Department of Education	S-68
	This unit is designed to help students construct a clear understanding of how evaporation and condensation work at the molecular and macroscopic levels. It has also been designed to help students develop familiarity with the scientific approach to experimentation and how results of such experiments can be applied to real-world problems.		

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3-8	Stop Faking It – Energy	William C. Robertson, Ph. D.	S-192
	<p>If you fear the study of energy is beyond you, this entertaining book will do more than introduce you to the topic. It will help you actually understand it. There are explanations of energy basics - work, kinetic energy, potential energy, and the transformation of energy and energy as it relates to simple machines, heat energy, temperature and heat transfer.</p>		
3-8	Stop Faking It – Force and Motion	William C. Robertson, Ph. D.	S-193
	<p>Intimidated by inertia? Frightened by forces? Mystified by Newton's laws of motion? You're not alone, and help is at hand. This is a jargon-free way to learn the background for teaching middle school physical science with confidence.</p>		
5-12	Suited for Spacewalking	NASA	S-164
	<p>This unit discusses the space environment, the history of spacewalking and NASA's current spacesuit. It also challenges students to design and build a spacesuit prototype and to understand important topics in spacesuit design.</p>		
5-8	Taking Charge – An Introduction to Electricity	Larry E. Schafer	S-195
	<p>This guide is designed to help teachers bring the intimidating subject of electricity to students in the middle grades. Students explore static electricity in the first module before seeing that static electricity can move as current electricity, investigated in the second module.</p>		
K-12	Targeting Students' Science Misconceptions	Joseph Stepan, Ph. D.	S-197
	<p>This book provides activities to correct student misconception of physical science concepts.</p>		
K-9	Teaching Chemistry with TOYS	Jerry Sarquis Micky Sarquis John Williams	S-71
	<p>Innovative activities use everyday toys to demonstrate the principles of chemistry in ways children easily understand. Each activity contains a list of the key science topics covered and process skills used, estimated time length, materials list, safety and disposal procedures, step-by-step instructions, extension suggestions, and reproducible handouts.</p>		
K-9	Teaching Physics with TOYS	Beverley Taylor James Poth Dwight Portman	S-72
	<p>In this book you will find teacher-tested, motivating activities that draws students in with toys, gadgetry, fun-to-do experiments, and observations of scientific phenomena in everyday events. Each activity contains a list of the key science topics covered and process skills used, estimated time length, materials list, safety and disposal procedures, step-by-step instructions, extension suggestions, and reproducible handouts.</p>		
5-12	Teaching Soil and Water Conservation	The USDA Soil Conservation Service	S-135
	<p>Provides hands-on soil science and soil water activities covering topics such as: organic matter, soil water holding capacity, erosion, fertilizers, bird and insects forest soils.</p>		

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6-12	Telescope Power	Gregory L. Matloff	S-97
	This activities book will take you through selecting, understanding and observing with your telescope to tracking the planets, following the stars and observing the sun. A complete guide to help you understand the telescope.		
K-12	A Thousand Friends of Frogs	The Center for Global Environmental Education	S-130
	This activity guide encourages an understanding of frogs, their habitat, and their roles as bio-indicators.		
6-12	Touching the Future		S-154
	This Challenger Center Teacher Workshop demonstrates how space can be used to teach skills in many disciplines. It Emphasizes experiential activities that promote team learning and problem solving.		
K-8	Trees Are Terrific! Ranger Rick's Nature Scope	National Energy Foundation	E-19
	In this book we've got a lot of tree teaching ideas for you – ideas that you can use throughout the year. We've also provided some ways you and your group can "show your gratitude" to trees, such as by planting trees. This book offers ideas so you have fun teaching your students about trees.		
K-12	The Universe at Your Fingertips Astronomy Activities & Resources	Project Astro	S-76
	<i>The Universe at Your Fingertips</i> is a key product of Project ASTRO, containing exemplary classroom activities selected by a team of teachers and astronomers, comprehensive resource lists and bibliographies, brief background material on astronomical topical, and teaching ideas from experienced astronomy educators.		
K-12	More Universe at Your Fingertips Astronomy Activities & Resources	Project Astro	S-77
	<i>More Universe at Your Fingertips</i> is the second compilation of astronomy activities and teaching resources from Project ASTRO at the Astronomical Society of the Pacific. This book is designed to stand on its own apart from <i>The Universe at Your Fingertips</i> . and does not require access to the other book for effective use.		
K-8	ViewFinders	The Dunn Foundation	E-27
	<i>ViewFinders</i> is a universally applicable upper elementary curriculum emphasizing the connections between the environment, community and aesthetics. <i>ViewFinders</i> was developed to raise awareness of the importance of the visual environment and how it affects our communities and quality of life.		
K-8	Walk Around the Block Center for Understanding the Built Environment	Ginny Graves, Hon. AIA	S-142
	A guide that increases understanding of the architectural design, city planning and human processes which influence how our cities work.		
6-12	Watermarks: Poems from the Coast of Keweenaw	Barbara Simila	S-137
	A poem collection celebrating Lake Superior and the Keweenaw - great history lessons.		

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3-8	Water Matters:	NSTA Press	
	Vol. 1 Wetlands, Water Use and Wastewater Treatment		E-20
	Vol. 2 Navigation, Groundwater and Water Quality		E-21
	Vol. 3 Oceans, Watersheds, and Hazardous Waste		E-22
	Each <i>Water Matters</i> volume comes with six posters (three with text geared for elementary students and three for middle level) that can be displayed separately or linked together into a huge, nine-poster mural! The teacher's guides have activities that directly tie into the poster scenes, depicting wetlands, water use, wastewater treatment, navigation, groundwater, water quality, oceans, watersheds, and hazardous waste.		
2-6	Water Precious Water	AIMS	S-113
	<i>Water Precious Water</i> contains investigations that relate to water awareness, water cycle, evaporation, conservation, treatment, quality, absorption and erosion, distribution and water properties.		
6-12	Watershed Science for Educators	Karen Edelstein Nancy Trautmann Marianne Krasny	S-32
	This packet is written for high school and middle school teachers and students who wish to incorporate watershed monitoring into both science and humanities classes or into after-school environmental or science clubs.		
6-12	Windows on the Wild - Biodiversity Basics	World Wildlife Foundation	E-25
	The goal of WOW is to educate people of all ages about biodiversity and to stimulate critical thinking, discussion, and informed decision making on behalf of the environment. The program also promotes creative partnerships and interdisciplinary education at all levels.		
4-6	A World in Motion	SAE International	S-160
	This guide is a fully integrated print and video program that emphasizes hands-on discovery of science principles through engineering activities.		
6-8	World of the Whitetail	Wisconsin Department of Natural Resources	S-212
	This unit is to help your students learn about the biology, ecology, and management of whitetail deer and our relationship with them. (NOTE: This unit is correlated with a Deer Box which we do not have access to).		
K-12	WOW!: The Wonders of Wetlands	Environmental Concern Inc. The Watercourse	E-26
	<i>WOW!: The Wonders of Wetlands</i> is for educators. Classroom teachers that will find useful background material and stimulation activities to fit their programs. The first part of <i>WOW!</i> is filled with background material for teachers preparing wetland study units and wetland activities.		
6-8	A Year of Math on the Internet	Teaching Technology	S-93
	This book is to provide the teacher with an array of activities from which to choose. The teachers can choose the activities that are most appropriate for your students and the progression of your units. A <i>computer symbol</i> will designate activities using the Internet. A <i>Email symbol</i> will designate activities using the Internet to send email messages.		

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6-8

A Year of Science on the Internet

Teaching Technology

S-1

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