

Science & Health Curriculum
Van Buren Community Schools
K-6

Developed Summer of 2004 by
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Title Page – Science and Health Curriculum

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ACKNOWLEDGEMENT

In June of 2004, a committee of teachers and administrators was formed to develop a Science and Health Curriculum with a K-12 continuum. The committee members combined their unique competencies and interests in a joint effort to develop this curriculum, which is the result of the interactions and idea exchanges among the committee members, from teachers and administrators within the school system.

This curriculum should assist teachers in determining the expected concept and performance level at the various grades. It is not designed to restrict or limit the creativity or imagination of the teachers. The guide serves as a springboard for the development of additional concepts and masters of skills, depending on the ability and interests of each student.

This project was successfully completed because of the dedication and consistent efforts of the committee members who participated in this project.

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We are grateful to these committee members, and support and compliment their fine efforts.

FREEDOM TO TEACH, TO LEARN, AND TO EXPRESS IDEAS IN THE PUBLIC SCHOOLS

The freedom to teach, to learn, and to express ideas without fear of censorship are fundamental rights held by public school teachers and students as well as all other citizens. These freedoms, expressed and guaranteed in the First Amendment to the U.S. Constitution, must be preserved in the teaching/learning process in a society of diverse beliefs and viewpoints and shared freedoms. Public schools must promote an atmosphere of free inquiry and a view of subject matter reflecting a broad range of ideas so that students are prepared for responsible citizenship. However, criticism of educational resources and teaching methods and the advocacy of additional educational resources are also essential First Amendment rights of students, faculty, parents, and other members of the community.

Public school personnel should:

1. Select curriculum, teaching methods, resources, and materials appropriate to the education objectives and the maturity and skill levels of the students based on their professional competence as educators and according to established school board policies and procedures. However, teachers should not be allowed to indoctrinate students with their own personal views.
2. Provide students with access to a broad range of ideas and viewpoints.
3. Encourage students to become decision makers, to exercise freedom of thought, and to make independent judgments through the examination and evaluation of relevant information, evidence, facts, and differing viewpoints.
4. Support students' rights to present their ideas even if some people might find the ideas objectionable.
5. Discuss issues, including those viewed by some as controversial, since such discussion is essential to students' development of critical thinking and other skills which prepare them for full participation as citizens in a democratic society.

Individuals or groups outside the public schools should not be allowed to:

1. Use the public schools to indoctrinate students with particular viewpoints or beliefs.
2. Determine which viewpoints will be presented or avoided in public schools.
3. Require the disciplining of professional staff for including issues or resources considered controversial in their classes if the reasons for including them are educationally sound.

Date of Adoption: August 13, 1986

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FORWARD

The purpose of this guide is to assist teachers in the organization and instruction of Science classes in the Van Buren Community School District.

This guide provides direction for teachers of grades kindergarten through sixth, and is adaptable for individual and class needs. It is, however, important that teachers follow the suggested Standards and Benchmarks of lesson content to ensure systematic and comprehensive instruction concepts and skills.

Committee members established basic agreement on the philosophy and goals of Science in our school system.

This guide, prepared by classroom teachers, for use by classroom teachers, provides Standards and Benchmarks for instruction which reflects a sense of wonder and appreciation for the gifts within and around us.

**DIVISION V
EDUCATION PROGRAM**

281-12.5(256) Education program. The following education program standards shall be met by schools and school districts for accreditation with the start of the 1989-1990 school year.

12.5(2) Kindergarten program, grades 1-6. The kindergarten program shall include experiences designed to develop healthy emotional and social habits and growth in the language arts and communication skills, as well as a capacity for the completion of individual tasks, and protect and increase physical well-being with attention given to experiences relating to the development of life skills and human growth and development. A kindergarten teacher shall be license/certificated to teach in kindergarten. An accredited nonpublic school must meet the requirements of this subsection only if the nonpublic school offers a kindergarten program.

12.5(3) Elementary program, grades 1-6. The following areas shall be taught in grades one through six: English-language arts, social studies, mathematics, science, health, human growth and development, physical education, traffic safety, music, and visual art.

In implementing the elementary program standards, the elementary program standards, the following general curriculum definitions shall be used.

d. Science. Science instruction shall include life, earth, and physical science and shall incorporate hands-on process skills; scientific knowledge; application of the skills and knowledge to students and society; conservation of natural resources; and environmental awareness.

EDUCATIONAL PHILOSOPHY

The Board of Directors of the Van Buren Community School District is committed to the operation of schools whose purpose is to serve by assisting each learner to develop into a mature individual and contributing member of society. The goals of education and the goals of democracy are fundamentally the same. The board believes the nature of learning is a continuous experience throughout the life of each individual. This experience is influenced by a variety of factors including the environment surrounding the learner. The Board also believes, and recognizes, the stages of development associated with growth. It is believed all have the capability of learning given appropriate opportunity.

The Board of Directors recognizes the guardianship of public education is a trust and an obligation. Consequently, the Board believes that a desirable learning atmosphere must be provided which includes the following: (1) Appropriate facilities; (2) Competent staff; (3) Appropriate educational and instructional materials; (4) Assurance of safety; (5) Recognition of individual dignity and worth; (6) A scope of educational experiences to challenge each student; and (7) Periodic review, revision, and evaluation.

The Board further believes the scope of educational experience should meet the needs of varied learners and include experience should meet the needs of varied learners and include experiences that encompass the intellect and associated basic and developmental skills, as well as aesthetic, physical, civic, social, vocational, multicultural, and technological awareness.

EDUCATIONAL EQUITY POLICY

1. It is the policy of Van Buren Community School District to provide equal educational and employment opportunities and not to illegally discriminate on the basis of gender, race, national race, creed, age, marital status or disability in its educational programs, activities or its employment and personnel policies.
2. This district shall provide program activities, a curriculum and instructional resources which will reflect the racial and cultural diversity present in the United States and the variety of careers, roles and life styles open to both men and women in our society. One of the objectives of the district's programs, curriculum, services and teaching strategies is to reduce stereotyping and to eliminate bias on the basis of gender, race, ethnicity, religion, age, marital status and disability. The curriculum, programs and services shall foster respect and appreciation for the cultural diversity found in our country and an awareness of the rights, duties and responsibilities of each individual as a member of a pluralistic society.
3. It is the policy of this district to affirmatively recruit women and men, members of diverse racial/ethnic groups and persons with disabilities for job categories where they are underrepresented. A fair and supportive environment will be provided for all students and employees regardless of their gender, race, national origin, creed, age, marital status or disability. Harassment of sexual nature or with demeaning intent related to race, national origin, gender, disability, age or religion, made from one employee to another, from an employee to a student or vice versa, and from one student to another is a violation of this policy.
4. Inquiries regarding compliance of equity policies may be directed to the following:
Title IX – High School Principal; Title VI and Section 504 – Associate Superintendent, Van Buren Jr/Sr. High School, 503 Henry Street, Keosauqua, Iowa 52565, 319-293-3334, to the Director of the Iowa Civil Rights Commission, Des Moines, Iowa, or to the Director of the Region VII Office of Civil Rights, Department of Education, Kansas City, Missouri.
5. The Affirmative Action Coordinator for the district shall be the Superintendent. The Educational Equity Coordinator for the district will be the Associate Superintendent. Inquiries concerning a grievance procedure should be addressed to either coordinator.

Federal and state regulations require that the non-discrimination policy, the identity of the designated local coordinator and notification about the existence of the grievance procedure be disseminated to employees, students and parents on an annual or ongoing basis. This notification must be included in major annual or general publications such as:

<i>Student Handbooks</i>	<i>School Newsletters</i>	<i>Teacher Handbooks</i>
<i>Local Newspapers</i>	<i>Employee (Staff) Handbooks</i>	<i>Employment Application Forms</i>
<i>Registration Handbook</i>	<i>Program Brochures & Publications</i>	

Agreement forms with labor organizations and businesses which hold professional agreements with the school or agency.

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A PHILOSOPHY OF SCIENCE

Science education is the link between science and society. Its ultimate goal is to **DEVELOP SCIENTIFICALLY LITERATE CITIZENS** who understand the impact, and uses the knowledge and processes of science to solve problems and improve life within the limits of the total environment. Science education is any set of activities that develop scientific literacy.

A new generation of scientifically literate citizens is needed to cope with our scientific and technological society and to deal with a complex set of technical and ethical questions. It is recommended that all students receive an appropriate education in science to develop the intellectual skills that are basic to critical observation, problem resolution, decision-making, and valuing.

The study of science offers a **KNOWLEDGE OF NATURAL PHENOMENA** that uniquely rests upon the notion that humans can test and understand the orderly nature of the universe. Fundamental to **SCIENCE AS A PART OF THEIR BASIC LEARNING**, these processes are best developed through a well-articulated science program that includes experimentation and manipulation of materials.

Science activities built upon each individual's natural curiosity allows for self-motivation. This involvement can result in personal gain for students who discover and develop a confidence in their own ability to make the decisions that can form a basis for **COMPREHENDING THE IMPACT** of science and technology on the individual, cultural and society.

In addition to the development of logical thought and personal growth, research indicates that involvement with activities in science facilitates growth in the other curricular areas. The Science curriculum should further reading readiness, the motivation to learn, and the ability to acquire oral and written communication skills.

RATIONALE

Science education is essential in the total education process. We live in a scientific and technological society; therefore science must occupy a place of prominence in the total curriculum.

Science education is the study of processes of investigation, the knowledge such investigations provide, and the impact and use of such knowledge upon the individual society. The science curriculum reflects a balance of these three components.

EDUCATIONAL OBJECTIVES

I. OUR FRAME OF REFERENCE

We believe that the school as a public institution should provide insofar as possible:

1. A well-qualified and efficient corps of teachers.
2. A physical plant and equipment adequate to meet the needs of every learner.
3. Experiences for effective learning.
4. An educational leadership which leads to continuous improvement of the school.

We believe there is a common set of skills, knowledge, and attitudes essential to the total development of all Van Buren students. These learning's have intrinsic value, independent of a student's background, for the fulfillment of future aspirations. We further believe that these skills, knowledge and attitudes constitute a set of expectations that all students can achieve regardless of diverse learning rates and styles. Such achievement will help students create and attain meaningful goals and engage in life long learning.

The skills and competencies, later listed, establish a vision of what a Van Buren High School graduate should know and be able to do within the identified areas. Recognizing that students begin their schooling at different levels of readiness, and some have developmental handicaps, the listed skills and competencies are not meant to define minimum competencies but set a standard for an educated citizen that is essential to becoming a productive and contributing member of society.

II. SKILLS AND COMPETENCIES Reading

As a result of education in grades K-12, each student should be able to:

- * identify and comprehend the main and subordinate ideas, details and facts in written work and summarize the ideas in his/her own words;
- * identify, comprehend and infer comparisons, contrasts, sequences and conclusions in written work;
- * recognize different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning inferentially as well as literally;
- * set purposes, ask questions and make predictions prior to and during reading and draw conclusions from reading;
- * make critical judgments about written work including separating fact from opinion, recognizing propaganda, stereotypes and statements of bias, recognizing inconsistency and judging the validity of evidence and sufficiency of support;
- * vary his/her reading speed and method based on the type of material and the purpose for reading;
- * use the feature of books and other reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix and bibliography.

Writing

As a result of education in grades K-12, each student should be able to

- * write standard English sentences with correct sentence structure, verb forms,

- punctuation, capitalization, possessives, plural forms, word choice and spelling;
- * select, organize and relate ideas and develop them in coherent paragraphs;
- * organize sentences and paragraphs into a variety of forms and produce writing of an appropriate length using a variety of composition types;
- * use varying language, information, style and format appropriate to the purpose and the selected audience;
- * conceive ideas and select and use detailed examples, illustrations, evidence and logic to develop the topic;
- * gather information from primary and secondary sources; write a report using that information; quote, paraphrase and summarize accurately, and cite sources properly;
- * improve his or her own writing by restructuring, correcting errors and rewriting.

Speaking and Listening

As a result of education in grades K- 12, each student should be able to

- * engage critically and constructively in an oral exchange of ideas;
- * ask and answer questions correctly and concisely;
- * understand spoken instructions and give spoken instructions to others;
- * distinguish relevant from irrelevant information and the intent from the details of an oral message;
- * identify and comprehend the main and subordinate ideas in speeches, discussions, audio and video presentations, and report accurately what has been presented;
- * comprehend verbal and nonverbal presentations at the literal, inferential and evaluative levels;
- * deliver oral presentations using a coherent sequence of thought, clarity of presentation, suitable vocabulary and length, and nonverbal communication appropriate for the purpose and audience.

Mathematics

As a result of education in gradesK-12, each student should be able to

- * add, subtract, multiply and divide using whole numbers, decimals, fractions and integers;
- * make and use measurements in both traditional and metric units to measure lengths, areas, volumes, weights, temperatures and times;
- * use ratios, proportions and percents, powers and roots;
- * understand spatial relationships and the basic concepts of geometry;
- * make estimates and approximations, and judge the reasonableness of results;
- * understand the basic concepts of probability and statistics;
- * organize data into tables, charts and graphs, and read and interpret data presented in these forms;
- * formulate and solve problems in mathematical terms.

Reasoning

As a result of education in grades K-12, each student should be able to:

- * recognize and use inductive and deductive reasoning, recognize fallacies and examine arguments from various points of view;
- * draw reasonable conclusions from information found in various sources, and defend his/her conclusions rationally;
- * formulate and test predictions and hypotheses based on appropriate data;

- * comprehend, develop and use concepts and generalizations;
- * identify cause and effect relationships;
- * identify and formulate problems;
- * gather, analyze, synthesize and evaluate information pertinent to the problem;
- * develop alternative solutions to problems, weight relative risks and benefits, make logical decisions and verify results;
- * use critical and creative thinking skills to respond to unanticipated situations and recurring problems.

Studying

As a result of education in grades K-12, each student should be able to

- * set learning goals and priorities consistent with stated objectives and progress made, and allocate the time necessary to achieve them.
- * determine what is needed to accomplish a task and establish habits conducive to learning independently or with others;
- * follow a schedule that accounts for both short- and long-term project accomplishment;
- * locate and use a variety of sources of information including print and nonprint materials, computers and other technologies, interview and direct observations;
- * reader listens to specific information and takes effective and efficient notes.

Technological Literacy

As a result of education in grades K-12, each student should be able to:

- * identify and design techniques for recognizing and solving problems in science, including the development of hypotheses and the design of experiments to test them - the gathering of data, presenting them in appropriate formats, and drawing inferences based upon the results;
- * use observation and analysis of similarities and differences in the study of natural phenomena;
- * demonstrate the ability to work with laboratory measuring, manipulating and sensing devices;
- * understand the implications of existing and emerging technologies on our society and our quality of life; including personal, academic and work environments;
- * recognize the potential and the limitations of science and technology in solving societal problems.

III. ATTRIBUTES AND ATTITUDES

A positive self-image and self-esteem are crucial to learning. These attributes determine goals, behaviors and responses to others. Furthermore, people depend on and influence one another. Therefore, it is important that students take responsibility for their lives and set appropriate goals for themselves. In doing so, they develop lifelong attitudes.

The family and societal forces other than schools play major roles in fostering student growth, and schools can provide a supportive climate for that growth. While it is inappropriate for schools to accept the sole or even primary responsibility for developing these attributes and attitudes, it is also inappropriate to deny the critical importance of these factors as preconditions to learning, as consequences of the teaching of all disciplines, and as desired outcomes for all students.

Positive Self-Concept

As a result of education in grades K-12, each student should be able to:

- * appreciate his/her worth as a unique and capable individual and exhibit self esteem;
- * develop a sense of personal effectiveness and a belief in his/her ability to shape his/her future;
- * develop an understanding of his/her strengths and weaknesses and the ability to maximize strengths and rectify or compensate for weaknesses.

Motivation and Persistence

As a result of education in grades K-12, each student should be able to:

- * experience the pride of accomplishment that results from hard work and persistence;
- * act through a desire to succeed rather than a fear of failure, while recognizing that failure is part of everyone's experience
- * strive toward and take the risks necessary for accomplishing tasks and fulfilling personal ambitions.

Responsibility and Self-Reliance

As a result of education in grades K-12, each student should be able to:

- * assume the primary responsibility for identifying his/her needs and setting reasonable goals;
- * initiate actions and assume responsibility for the consequences of those actions;
- * demonstrate dependability;
- * demonstrate self-control.

Intellectual Curiosity

As a result of education in grades K-12, each student should be able to:

- * demonstrate a questioning attitude, open-mindedness and curiosity;
- * demonstrate independence of thought necessary for leadership and creativity;
- * pursue lifelong learning.

Interpersonal Relations

As a result of education in grades K-12, each student should be able to:

- * develop productive and satisfying relationships with others based upon mutual respect;
- * develop a sensitivity to and an understanding of the needs, opinions, concerns and customs of others;
- * participate actively in reaching group decisions;
- * appreciate the roles and responsibilities of parents, children and families.

Sense of Community

As a result of education in grades K-12, each student should be able to:

- * develop a sense of belonging to a group larger than friends, family and coworkers;

- * develop an understanding of the importance of each individual to the improvement of the quality of life for all in the community;
- * examine and assess the values, standards and traditions of the community;
- * understand and appreciate his/her own historical and ethnic heritage as well as that of others represented within the larger community.

Moral and Ethical Values

As a result of education in grades K-1 2, each student should be able to:

- * recognize the necessity for moral and ethical conduct in a society;
- * recognize that values affect choices and conflicts;
- * develop personal criteria for making informed moral judgments and ethical decisions.

Date of Adoption: March 13, 1991

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Science Standards and Benchmarks

Standard 1:

SCIENTIFIC INQUIRY- The student knows that scientific knowledge is gained through experiments, research and use of technology

Benchmarks

- A. **Processes and Skills** – {Nature of scientific knowledge- experiments (equipment, tools, methods, inquiry, makes inferences based on data, infer unstated relationships, define problem)}
- B. **Analysis and Interpretation-** Scientific enterprise, technology, distinguish among hypotheses, judge relevance, reliability of sources, science answers questions.

Standard 2:

LIFE SCIENCES- The students know about the diversity and unity that characterizes life both inside and outside an organism

Benchmarks:

- A. **Structure of living things** (Knows major categories of living organisms, variety of internal and external structures, inherited characteristics, evolution, how species depend on one another and the environment)
- B. **Life Cycles** (Organisms are growing, dying, new ones produced)
- C. **Health and Safety** (nutrition, personal safety, growth and development)

Standard 3:

EARTH AND SPACE SCIENCES – The students understand basic earth features and processes and the earth's position in the galaxy

Benchmarks:

- A. **Earth's composition** (Knows characteristics of water, soil & air as liquid, gas)
- B. **Changes in Earth** (Knows wind, water, ice, waves, soil change constantly)
- C. **The Universe** (Properties of sun, moon and stars)

Standard 4:

PHYSICAL UNIVERSE – The students understand the physical and chemical properties that govern the universe.

Benchmarks

- A. **Mechanics force and motion** (Understands energy types, sources, conversions, motion, sound, electricity, gravity and magnets).
- B. **Characteristics of matter** (Knows the structure, function & properties of matter that can be measured and has different states).

K-6 CURRICULUM OVERVIEW AND EVALUATION

The K-6 science curriculum is comprised of four major areas of science study. There are: Life Science, Earth Science, Physical Science, and Health, Safety, and the Human Body. Within each of these areas are 1 – 3 units of study per grade level.

Materials selected are: Grade K-2 – FOSS (Full Option Science System), 1995.
Grade 3-6 – Silver Burdette Ginn Science Discovery Work, 1996

The materials chosen are based on research that says “If students are to learn science and become scientifically literate, both science content and science experiments must be chosen to match the cognitive capacities of students at different stages of their development.” (FOSS & Discovery Works text) Each unit allows students to investigate experiment, gather data, organize results, and draw conclusions based on their own actions. The information gathered in these hands-on investigations enhances the development of scientific thinking.

Additional resources that may be utilized are “Go Girl Go”, guest speakers, “Heart Healthy”, Farm Safety Day Camp, Fire Prevention Week, various substance abuse resistance programs, AEA safety resources, AAA’s Traffic Safety program, and additional school assemblies and field trips. These resources involve the contributions of community organizations and therefore the learning’s are not teacher evaluated.

All materials are multicultural and nonsexist and meet the career and science/health/safety education standards in accordance with the code of Iowa to the best of our knowledge.

Evaluations of student’s learning’s will accommodate all learning styles and will include performance assessments and checklists, written reviews and test, and portfolios and notebooks.

Scope and Sequence K-6

	K	1	2	3	4	5	6
SCIENTIFIC INQUIRY	X	X	X	X	X	X	X
LIFE SCIENCES							
Animals	X	X		X	X		
Plants	X		X	X		X	
Ecosystems	X			X		X	
Cells and Microbes							X
Health and Safety (Traffic)	X	X	X	X	X	X	X
EARTH AND SPACE							
Land Resources		X	X	X	X	X	X
Solar System and Beyond			X	X		X	
Changing Earth		X		X	X	X	X
Weather			X		X		
Oceanography							X
PHYSICAL UNIVERSE							
Nature of Matter	X	X	X	X	X		X
Electricity and Magnetism					X		
Energy				X		X	
Light and Sound				X		X	
Forces in Motion		X			X	X	

Course Outline – Kindergarten

Life Science

Unit – Trees

A. Fall Trees

1. Looking at Schoolyard Trees
2. Tree Puzzles
3. Tree-Silhouette Cards
4. Tree-Part Cards
5. Tree-Part Booklets
6. Adopt Schoolyard Trees

B. Leaves

1. Leaf Walk
2. Leaf Silhouettes and Outlines

C. Trees through the Seasons

1. Fall-What Comes from a Tree
2. Visiting Adopted Trees in Fall
3. Winter-Evergreen Hunt (adapted)
4. Winter Twigs
5. Visiting Adopted Trees in Winter
6. Spring-Forcing Twigs
7. Visiting Adopted Trees in Spring

Physical Science

Unit – Paper

A. Getting to Know Paper

1. Matching Paper Samples
2. Paper Collage
3. Writing and Drawing on Paper

B. Paper Constructions

1. Folding Paper
2. Paper Envelopes
3. Paper Boxes

C. Paper Interactions

1. Paper and Water
2. Paper Maché
3. Paper Recycling

Physical Science

Unit – Wood

A. Properties of Wood

1. Introduction to Wood Samples
2. Wood Hunt
3. Wood and Water
4. Sink the Pine and Plywood

5. Sinking Investigation

B. Woodworking

1. Sanding Wood
2. Sawdust and Shavings
3. Making Sawdust Wood
4. Making Sandwich Wood
5. Staining
6. Wood Sculptures

Life Science

Unit – Animals Two-By-Two

A. Goldfish and Guppies

1. The Structure of Goldfish
2. Goldfish Behavior
3. Fish Tunnels
4. Comparing Guppies to Goldfish

B. Big and Little Worms

1. The Structure of Earthworms
2. Earthworm Behavior
3. Comparing Redworms to Night Crawlers

C. Pillbugs and Sowbugs

1. Isopod Observations
2. Identifying Isopods
3. Animals Living Together

Health

Unit – Human Body

A. Body Parts You Can See

B. Body Parts You Cannot See

C. Keeping Clean

D. Exercise and Rest

E. Healthful Foods

F. Bus Safety (Traffic)

Subject Area: SCIENCE - Kindergarten

Length of Unit: on-going

Standard 1:

SCIENTIFIC INQUIRY - The student knows that scientific knowledge is gained through experiments, research and use of technology

Benchmarks:

- A. **Processes and Skills** – {Nature of scientific knowledge- experiments (equipment, tools, methods, inquiry, makes inferences based on data, infer unstated relationships, define problem)}
- B. **Analysis and Interpretation-** Scientific enterprise, technology, distinguish among hypotheses, judge relevance, reliability of sources, science answers questions.

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
A	Tree Unit Paper Unit Wood Unit Animals Two by Two	Knowing that learning can come from careful observation. Understands that learning can come from sharing findings from others.	Teacher Observation	HOTS, SPECIAL, MEDIA, TECH, MCGF, GUID, T & G, LS, CS, GS
B	Paper Unit Wood Unit Animals Two by Two	Understands that experiments/investigations help answer questions.	Teacher Observation	HOTS, SPECIAL, MEDIA, TECH, MCGF, GUID, T & G, LS, CS, GS

Higher Order Thinking Skills (HOTS), Special Education (SPECIAL), Media Information Skills (MEDIA), Technology (TECH), Multi-Cultural Gender Fair (MCGF), Guidance (GUID), Talented and Gifted (T & G), Learning Skills (LS), Communication Skills (CS), Global Studies (GS), Human Growth and Development (HGD)

Subject Area: SCIENCE - Kindergarten

Length of Unit: On-going

Standard 2:

LIFE SCIENCES - The students know about the diversity and unity that characterizes life both inside and outside an organism

Benchmarks:

- A. **Structure of living things** (Knows major categories of living organisms, variety of internal and external structures, inherited characteristics, evolution, how species depend on one another and the environment)
- B. **Life Cycles** (Organisms are growing, dying, new ones produced)
- C. **Health and Safety** (nutrition, personal safety, growth and development)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions
A	Tree Unit Animals Two by Two	Knows that plants and animals have external features that help them thrive in different environments. Knows that there is variation amongst individuals. Knows that animals closely resemble their parents. Knows that plants and animals have life cycles.	Teacher Checklist	HOTS, SPECIAL, MEDIA, TECH, MCGF, GUID, T & G, LS, CS, GS
B	Tree Unit Animals Two by Two	Knows that plants and animals have life cycles.	Teacher Checklist	HOTS, SPECIAL, MEDIA, TECH, MCGF, GUID, T & G, LS, CS, GS
C	Supplemental Materials	Classifies food according to food groups. Knows basic personal hygiene habits required to maintain health. Understands importance of exercise and sleep on person's health. Knows names of basic body parts. Knows basic fire and bus safety practices.	Teacher Checklist	HOTS, SPECIAL, MEDIA, TECH, MCGF, GUID, T & G, LS, CS, GS

Higher Order Thinking Skills (HOTS), Special Education (SPECIAL), Media Information Skills (MEDIA), Technology (TECH), Multi-Cultural Gender Fair (MCGF), Guidance (GUID), Talented and Gifted (T & G), Learning Skills (LS), Communication Skills (CS), Global Studies (GS), Human Growth and Development (HGD)

Subject Area: SCIENCE - Kindergarten

Length of Unit: NA

Standard 3:

EARTH AND SPACE SCIENCES – The students understand basic earth features and processes and the earth’s position in the galaxy

Benchmarks:

- A. Earth’s composition (Knows characteristics of water, soil & air as liquid, gas)
- B. Changes in Earth (Knows wind, water, ice, waves, soil change constantly)
- C. The Universe (Properties of sun, moon and stars)

Benchmarks	Section from Text	Critical Objectives	Assessments	Infusions/ Provisions

Higher Order Thinking Skills (HOTS), Special Education (SPECIAL), Media Information Skills (MEDIA), Technology (TECH), Multi-Cultural Gender Fair (MCGF), Guidance (GUID), Talented and Gifted (T & G), Learning Skills (LS), Communication Skills (CS), Global Studies (GS), Human Growth and Development (HGD)