

Course: Science
GRADE: 7

Revised 9/11/07

PLANNED COURSE CURRICULUM GUIDE

I. COURSE DESCRIPTION AND INTENT:

The seventh grade curriculum deals specifically with life science. The major goal of the seventh grade life science curriculum is to see the similarities and differences between living things. The course includes units on scientific methods and the characteristics of living things as well as a survey of the six major kingdoms of organisms. Students will actively be involved with projects, reports and lab activities that deal with the concept of life science.



II. INSTRUCTIONAL TIME:

Class Periods: 90

Length of Class Periods (minutes): 70

Length of Course: One year (A/B days)

Unit of Credit: N/A

PLANNED COURSE ADAPTATIONS/MODIFICATIONS

Introduction

The instructional adaptations that follow are provided as suggestions to be implemented with all students, particularly with those in need of special education services including the gifted. This listing is in no way intended to be exhaustive. Rather, it is reflective of some major considerations in the area of curriculum adaptations/modifications.

These instructional adaptations will work with any student, but are especially beneficial to those in need of learning support. Some may argue that these modifications are simply *good teaching*. Indeed, modifications of this type do represent good teaching. These principles of good teaching become instructional modifications whenever: (1) certain students in a particular class require such modifications *above and beyond* what is typically required by *most* students in that class and (2) without these modifications, these same students would not succeed.

Assessment is an integral part of instruction reflecting student progress as well as achievement. Therefore, also included are suggestions for assessment modifications.

- Peer Support
- Cooperative learning among peers
- Modeling
- Development of Information Organizer
- Development of Graphic Organizer
- Development of structured study guides
- Student selection of instructional material (i.e., reading, writing, math)
- Taped lessons
- Copy notes (peer or teacher)
- Student conferencing
- Combine and vary modes of lesson presentation
- Adjust language level to match the developmental and intellectual levels of students
- Let student practice given examples first. Then assign tasks to be completed.
- Provide opportunity for guided and independent practice in a variety of situations
- Limit number and length of directions
- Have students repeat/review directions (i.e., peer to peer, student to teacher)
- Give feedback that is as immediate, specific, and objective as possible
- Clarify error responses so that students do not make the same errors over and over again
- Reinforce progress towards desired outcomes
- Breakdown complex tasks into smaller, more manageable units
- Use verbal prompts to elicit desired results
- Use manual guidance (i.e., hand over hand) to facilitate correct responses
- Computer assisted instruction
- Assessment based upon teacher observation of student performance (i.e., daily work, portfolio, artifacts, projects)
- Extended test time
- Test read to student by teacher or peer
- Oral testing (i.e., student retelling of information)
- Open book/note test
- Alternate testing (any demonstration of a student's understanding of concepts)
- Retesting
- Reduce the number of responses required on tests
- Use of curriculum based assessment
- Vary test format
- Objectively define mastery as related to each task. Tasks should be learned to mastery
- Reduce or remove distracting stimuli
- Use of concrete objects and manipulatives in all stages of instruction and assessment
- Emphasize important information
- Allow extra time to complete assignments/projects
- Limit the number of assigned tasks in the initial stages of learning. As the student's competency increases, expect the student to complete the same number of tasks as the rest of the class
- Use supplemental materials
- Alternate assignments accepted (i.e., modification to homework assignments)
- Flexible grouping/individual assistance
- Seating to accommodate needs
- Teacher proximity
- Use behavioral management techniques (i.e., contracts, time-out, token system, charts)

PREFACE

Users and information seekers should familiarize themselves with the purpose and terminology of this **Planned Course Curriculum Guide (PCCG)**. We suggest that you first read the following:

- **PCCG PURPOSE AND INTENT**
- **PCCG DEFINITIONS**

The PCCG specifies the unit lesson outcome, essential content, standards, activities, resources, and evaluation of student performance. This sector provides the means to initiate the learning activities to attain the program goal as identified in the course description and intent.

The standards and outcomes are minimal expectations; further embellishment of the course is discretionary with the instructor depending upon the capability of the students.

This PCCG is designed as an ACTIVE document capable of technological modification as required.

The instructional delivery of this curriculum is quality controlled through the lesson plan development of the teacher.

PLANNED COURSE CURRICULUM GUIDE (PCCG) PURPOSE AND INTENT

The Planned Course Curriculum Guide (PCCG) is a multi-purpose document:

- All staff, particularly new teachers, can understand instructional expectations through the WRITTEN curriculum
- A continuing district-wide instructional process and scope and sequence of subject matter are enhanced. The WRITTEN curriculum is delivered through the TAUGHT curriculum [instructional content and learning activities] and is evaluated through the TESTED curriculum [expected levels of student achievement - learning outcomes]
- Priority student-centered outcomes are identified and attained through suggested learning activities and content designed to help insure a balanced and comprehensive basic curriculum
- Essential content and course standards provide an efficient basis for selecting appropriate instructional materials and resources
- Staff development areas for curriculum improvement are provided
- The PCCG conforms with current Pennsylvania Department of Education curriculum regulations and serves the dual feature of providing both an administrative document and an instructional guide
- Content and subject format remain flexible and adaptable to modification - an “active” document
- Special Pennsylvania Department of Education [PDE] legislation is identified
- Parents and students are provided with an overview of the instructional program and each course in particular

PLANNED COURSE CURRICULUM GUIDE (PCCG) DEFINITIONS

- **Course Description and Intent:** a brief overview of the course and program goals
- **Instructional Time:** frequency of class meetings and time/appropriate credit at the secondary level
- **Special Notes:** emphatic features or highlights and identification of Department of Education mandates found in the course
- **Unit Lesson Outcome:** describes the knowledge, skills, attitudes, student performance behaviors and areas of study that have been identified as appropriate to help the student attain the rigorous standards of a quality education
- **Teaching-Learning Activities:** suggested activities designed to help all students achieve the learning outcomes and standards
- **Outcomes/Standards:** statements establishing the minimal knowledge, skills, performance behaviors, and essential learning (content) a student must attain
- **Expected Levels of Achievement (Learning Outcomes):** what students will be expected to do as a result of the application of teaching-learning activities and content
- **Evaluation Criteria (Actual Level of Attainment):** student performance level achieved and measured through specified evaluation criteria

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 1

Students will be able to explain the methods, instruments and measurement systems used in the study of Life Science.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input checked="" type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 1</p> <p>What is Life Science?</p> <p>What instruments are used in the study of Life Science?</p> <p>How and why do we use the scientific method?</p> <p>How do scientists conduct experiments?</p> <p>What tools and systems of measurement are used by scientists?</p> <p>How are metric measurements converted to another metric measurement?</p> <p>How are metric measurements converted to standard measurements?</p>	<p>Define Life Science</p> <p>Describe how experiments are conducted</p> <p>Explain the scientific method</p> <p>Identify the tools and systems of measurement used by scientists and evaluate the proper tools and system to use for specific purposes</p> <p>Demonstrate measurement skills</p> <p>Convert metric measurements to both standard and other metric measurements</p> <p>Develop inquiry and data collection skills</p> <p>Analyze and graph data</p>	<p>Lab report</p> <p>Observation</p> <p>Oral report</p> <p>Research paper</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 2

Students will be able to describe the structure and function of cells as the basis of living organisms.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input checked="" type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input checked="" type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 2</p> <p>What are the characteristics that all organisms share?</p> <p>Why do organisms need food, water, air and living space?</p> <p>What compounds are the building blocks of cells?</p> <p>What are the levels of organization from cell to organism?</p> <p>What is the structure of a cell?</p> <p>How do cell structures differ?</p>	<p>Name characteristics of living things</p> <p>Explain why organisms need food, water, air and living space</p> <p>List the five cellular compounds that are the building blocks of cells</p> <p>Explain the organization of life from cells up to individual organisms to an ecosystem</p> <p>Describe the advantages of being multi-cellular</p> <p>Explain the differences between prokaryotic and eukaryotic cells</p> <p>Name the major parts of a eukaryotic cell and explain their function</p>	<p>Diagrams</p> <p>Essay</p> <p>Observation</p> <p>Learning log</p> <p>Oral Questioning</p> <p>Short answers</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 3

Students will be able to explain cellular processes and reproduction.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input checked="" type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input checked="" type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input checked="" type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

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ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 3</p> <p>How do small, medium and large particles enter and exit cells?</p> <p>How is light energy converted into food energy?</p> <p>How do cells reproduce?</p>	<p>Describe the movement of materials in and out of cells</p> <p>List and explain cellular processes</p> <p>Identify the steps in cellular reproduction</p>	<p>Diagrams</p> <p>Lab reports</p> <p>Short answers</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 4

Students will be able to explain how probability influences characteristics in living things and how characteristics are used for classification.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input checked="" type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input checked="" type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input checked="" type="checkbox"/>	4.4	<input checked="" type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 4</p> <p>How does a set of genetic instructions determine inherited traits of organisms?</p> <p>How can an unknown organism be identified?</p> <p>How are organisms grouped and named?</p>	<p>Describe how the gene is the basic unit of inheritance</p> <p>Identify inheritable characteristics</p> <p>List dominant and recessive traits</p> <p>Classify living things</p> <p>Use punnett squares to determine probability of inherited traits</p> <p>Use a dichotomous key to identify unknown organisms</p>	<p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 5

Students will be able to compare and contrast the cellular structure in bacteria, viruses and organisms.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input checked="" type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input checked="" type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input checked="" type="checkbox"/>	4.3	<input checked="" type="checkbox"/>	4.4	<input checked="" type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 5</p> <p>How are prokaryotic cells different from eukaryotic cells?</p> <p>How do bacteria reproduce?</p> <p>Why are all organisms on earth dependent on bacteria?</p> <p>How can bacteria be beneficial and harmful to humans?</p> <p>Why are viruses not considered living things?</p> <p>What are the viral cycles?</p>	<p>List the differences between prokaryotic and eukaryotic cells</p> <p>Explain how bacteria reproduce</p> <p>Evaluate the importance of bacteria on earth</p> <p>Analyze the impact of bacteria on humans</p> <p>Justify why viruses should not be considered as living things</p> <p>Describe the viral cycles</p>	<p>Diagrams</p> <p>Observations</p> <p>Oral reports</p> <p>Visuals</p> <p>Quizzes</p> <p>Tests</p>	<p>Text</p> <p>Holt Science and Technology</p> <p>Title: <u>Life Science</u></p> <p>Copyright: 2001</p> <p>ISBN: 0-03-051952-7</p> <p>Internet research</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 6

Students will be able to characterize the Protist and Fungi Kingdoms.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input checked="" type="checkbox"/>	4.2	<input checked="" type="checkbox"/>	4.3	<input checked="" type="checkbox"/>	4.4	<input checked="" type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input checked="" type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 6</p> <p>What are the characteristics of the three groups of protists?</p> <p>How do protists reproduce?</p> <p>What are the characteristics of the four groups of fungi?</p> <p>How can fungi be helpful and harmful?</p> <p>What is a lichen?</p>	<p>Identify the three protist groups</p> <p>List characteristics of the three protist groups</p> <p>Describe how protists reproduce</p> <p>Identify the four groups of fungi</p> <p>List characteristics of the four groups of fungi</p> <p>Explain how fungi can be helpful and harmful</p> <p>Describe the characteristics of a lichen</p>	<p>Diagrams</p> <p>Observation</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 7

Students will be able to classify types of plants and explain their structure and function.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input checked="" type="checkbox"/>	3.5	<input checked="" type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input checked="" type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input checked="" type="checkbox"/>	4.2	<input checked="" type="checkbox"/>	4.3	<input checked="" type="checkbox"/>	4.4	<input checked="" type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input checked="" type="checkbox"/>	4.7	<input checked="" type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 7</p> <p>What characteristics do all plants have in common?</p> <p>How are types of plants grouped?</p> <p>Why are plants important to humans and the environment?</p> <p>What are the four ways that monocots differ from dicots?</p> <p>What are the main parts of vascular plants?</p> <p>How do the parts of vascular plants work together?</p>	<p>Identify the characteristics of plants</p> <p>Compare vascular and nonvascular plants</p> <p>List the environmental and economic importance of each group of plants</p> <p>Illustrate the structure of roots, stems, leaves and flowers</p> <p>Analyze the function of roots, stems, leaves and flowers</p> <p>Describe how the parts of vascular plants work together</p>	<p>Lab report</p> <p>Plant dissections</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Science

Discipline/Grade Level: 7

UNIT LESSON OUTCOME: 8

Students will be able to characterize and classify organisms in the Animal Kingdom.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input checked="" type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input checked="" type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input checked="" type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input checked="" type="checkbox"/>	4.2	<input checked="" type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input checked="" type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input checked="" type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input checked="" type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 8</p> <p>What are the differences between vertebrates and invertebrates?</p> <p>What are the three possible body plans that all animals have?</p> <p>How are exoskeletons and endoskeletons different?</p> <p>How do simple and complex invertebrates differ?</p>	<p>Compare the characteristics of vertebrates and invertebrates</p> <p>Describe and identify the three possible body plans of animals</p> <p>List characteristics of body plans</p> <p>Contrast exoskeletons and endoskeletons</p> <p>Analyze the differences between simple and complex invertebrates</p>	<p>Diagrams</p> <p>Lab reports</p> <p>Observation</p> <p>Video tape</p> <p>Visuals</p> <p>Dissection</p> <p>Quizzes</p> <p>Tests</p>	<p>Text Holt Science and Technology Title: <u>Life Science</u> Copyright: 2001 ISBN: 0-03-051952-7</p> <p>Dissection CD from IU #19</p> <p>Laser disc</p>