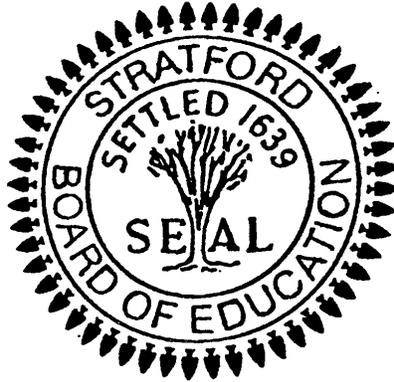


**STRATFORD PUBLIC SCHOOLS**  
Stratford, Connecticut



*"Tantum eruditi sunt liberi"*  
Only The Educated Are Free

# Bioversity

**GRADES 11-12**

September 2008

Edited by

**Peter Bowe / Donald Mascola**

Science Department Heads

Bunnell High School      Stratford High School

**Irene Cornish**  
Superintendent of Schools

**Jeanne D'Angelo**  
Assistant Superintendent of Schools

### **DISTRICT MISSION**

The mission of the Stratford Public Schools is to develop a community of learners in which students acquire the knowledge, skills and confidence to meet the challenges of a changing and increasingly diverse 21st century society.

### **DISTRICT CORE VALUES**

Students will acquire content knowledge, strengthen higher-order thinking, and develop character in order to address 21st century challenges.

### **BUNNELL HIGH SCHOOL BELIEFS**

We believe teachers must work collaboratively in support of student learning and to model collaboration as a social skill with students. We believe that a rigorous curriculum for all students, an acceptance of diversity, and a culture that actively welcomes all learners will contribute to a more knowledgeable community and society. We believe in the value of a strong education as a means of preparing students for work and life in the remainder of the 21st century.

### **STRATFORD HIGH SCHOOL BELIEFS**

- a safe, positive school climate that embraces diversity is essential to ensure respect and opportunity for each individual
- students should understand the world beyond their community in order to contribute to a global society
- parents and students must share responsibility and work in partnership with the school in order to improve academic performance and to develop lifelong learners
- students should use technology effectively to acquire, process, and deliver information

### **BUNNELL HIGH SCHOOL and STRATFORD HIGH SCHOOL**

### **LEARNING EXPECTATIONS**

All students will...

- use real-world digital and other research tools to access, evaluate and effectively apply

information appropriate for authentic tasks. (Academic)

- work independently and collaboratively to solve problems and accomplish goals. (Civic-Social)
- communicate information clearly and effectively using a variety of tools/media in varied contexts for a variety of purposes. (Academic)
- demonstrate innovation, flexibility and adaptability in thinking patterns, work habits and working/learning conditions. (Academic)
- effectively apply the analysis, synthesis and evaluation processes that enable productive problem solving. (Academic)
- value and demonstrate personal responsibility, character, cultural understanding and ethical behavior. (Civic-Social)
- show competence in all core academic subjects and other fields of interest, including the ability to clearly and effectively communicate content information in multiple formats. (Academic)

### **Stratford Information Literacy and Technology Standards**

#### **Standard 1: Information Strategies**

Students determine their need for information and apply strategies to select, locate, and access information resources.

*Essential Understanding:*

Intelligent decision-making is based on recognizing the need and applying appropriate strategies for accessing information.

#### **Standard 2: Information Use**

Students evaluate, analyze, and synthesize information and data to solve problems, conduct research, and pursue personal interests.

*Essential Understanding:*

All information is not equal.

#### **Standard 3: Information and Technology Application**

Students use appropriate technologies to create written, visual, oral and multimedia products that communicate ideas and information.

*Essential Understanding:*

The effective communication of ideas and information is influenced by the use of appropriate formats.

#### **Standard 4: Literacy and Literary Appreciation**

Students extract meaning from fiction and non-fiction resources in a variety of formats. They demonstrate an enjoyment of reading, including an appreciation of literature and other creative expressions.

*Essential Understanding:*

Reading provides a variety of benefits and advantages.

### **Standard 5: Personal Management**

Students display evidence of ethical, legal, and social responsibility in regard to information resources and project and self-management.

*Essential Understanding:*

Successful learning requires self-evaluation and discipline

### **21<sup>st</sup> Century Skills**

1. Use real-world digital and other research tools to access, evaluate, and effectively apply information appropriate for authentic tasks.
2. Work independently and collaboratively to solve problems and accomplish goals.
3. Communicate information clearly and effectively using a variety of tools/media in varied contexts for a variety of purposes.
4. Demonstrate innovation, flexibility, and adaptability in thinking patterns, work habits, and working/learning conditions.
5. Effectively apply the analysis, synthesis, and evaluative processes that enable productive problem solving.
6. Value and demonstrate personal responsibility, character, cultural understanding, and ethical behavior.

### **The Diversity of Life**

The Diversity of Life is an elective science course open to all students, with a focus on living organisms in the biosphere. The course is a one semester course designed to provide a hands on classroom, lab and field study experience. The two main areas of study will include a unit exploring plants and a unit exploring the animal kingdom with a focus on vertebrate biology. Students will perform a variety of inquiry based experiments including interdisciplinary school to career activities linked to fine art, technology education, and math. It is aligned with components of the Connecticut science frameworks for enrichment in biology and covers all of the grade 9-10 content standards for Scientific Inquiry, Literacy and Numeracy.

Note: This course is a one semester elective course and does not replace a full unit (year) of science. Students have the option to take an additional one semester course to complete one full unit in science. The offering of this course is contingent upon sufficient enrollment and funding.

## **Stratford Information Literacy and Technology Standards**

### **Standard 1: Information Strategies**

Students determine their need for information and apply strategies to select, locate, and access information resources.

### **Standard 2: Information Use**

Students evaluate, analyze, and synthesize information and data to solve problems, conduct research, and pursue personal interests.

### Standard 3: Information and Technology Application

Students use appropriate technologies to create written, visual, oral and multimedia products that communicate ideas and information.

### Standard 4: Literacy and Literary Appreciation

Students extract meaning from fiction and non-fiction resources in a variety of formats. They demonstrate an enjoyment of reading, including an appreciation of literature and other creative expressions.

### Standard 5: Personal Management

Students display evidence of ethical, legal, and social responsibility in regard to information resources and project and self-management.

## Diversity Pacing Guide

Topics	Number of Weeks
<b>Unit I : Scientific Inquiry, Literacy and Numeracy:</b> <b>Organization of Life</b> Scientific Method Classification: Six Kingdoms Overview Creating a dichotomous Key	 1.5 2 .5
<b>UNIT II : Plant Kingdom</b> <u>Energy transformations in plants</u> <u>Evolution In Plants</u> <ul style="list-style-type: none"> <li>• Processes of genetic mutation and natural selection</li> <li>• Behavioral adaptations and chances for organisms to survive in their environments.</li> <li>• Current theory of evolution</li> <li>• The fossil records of ancient life forms as they relate to the plant kingdom?</li> </ul> <b>Indigenous and non indigenous plants of Stratford.</b> <b>Reproduction in vascular and non vascular plants.</b> <b>Reproduction in flowering and non flowering plants.</b> <b>The benefits of plants to humans.</b> <b>How advances in science and technology affect the quality of our lives</b>	<b>Total 8 weeks</b>  1  .5 .5  1 1  1 1 1 .5 .5

<b>UNIT III : Animal Kingdom</b>	<b>Total 8 weeks</b>
<b><u>Energy transformations in animals</u></b>	<b>1</b>
<b><u>Evolution In Animals</u></b>	
<b>Processes of genetic mutation and natural selection</b>	<b>.5</b>
<b>Behavioral adaptations and chances for organisms to survive in their environments.</b>	<b>.5</b>
<b>Current theory of evolution</b>	<b>1</b>
<b>The fossil records of ancient life forms as they relate to the animal kingdom?</b>	<b>1</b>
<b>Indigenous and non indigenous animals of Stratford.</b>	<b>1</b>
<b>Vertebrate and invertebrate animals. Similarities and differences between the five classes of vertebrates.</b>	<b>1</b>
<b>Similarities and differences in reproduction among vertebrates and invertebrates.</b>	<b>1</b>
<b>Benefits of animals to humans.</b>	<b>.5</b>
<b>How science and technology affect the quality of our lives as they relate to the animal kingdom.</b>	<b>.5</b>

### **Safety In The Science Laboratory**

Students and teachers must be aware of the potential for safety problems in the science classrooms and laboratories. Schools should review available safety resources and develop safety training for their teachers and students as well as safety rules for the classroom.

Teachers must choose safe labs that cover important concepts. Thought must be given to the chemicals purchased by schools. Which chemicals are the safest for the proposed labs, how much is needed, where will the chemicals be stored and in what arrangement? Are the storage areas locked and well ventilated?

### **General Lab Safety Recommendations**

1. Always perform an experiment or demonstration prior to allowing students to replicate the activity. Look for possible hazards. Alert students to potential dangers.
2. Safety instructions should be given orally and be posted each time an experiment is begun.
3. Constant surveillance and supervision of student activities are essential.
4. Never eat or drink in the laboratory or from laboratory equipment. Keep personal items off the lab tables.
5. Never use mouth suction in filling pipettes with chemical reagents. Use a suction bulb.

### **General Science Safety Checklist**

The following is a suggested checklist of safety concerns in K-12 science laboratories.

1. Appropriate protective equipment for the science laboratory
2. Enforcement of safety procedures

3. All students and teachers know the location of all protective equipment
4. All students read and sign a lab safety contract.
5. Sufficient, accessible lab stations per number of students in each laboratory
6. All students must wear proper safety goggles whenever chemicals, glassware, or heat are used

No food products should be consumed by staff or students  
as part of a lesson, unit or related course work.

**Stratford Public Schools Unit Design  
Secondary Science Curriculum  
Grades 11- 12  
The Diversity of Life**

<b>Unit Name:</b> <b>Unit I : Scientific Inquiry, Literacy and Numeracy: Organization of Life</b> <b>Est. # of Weeks: 4 weeks</b>	
<b>Synopsis:</b> This unit will serve as a review of the scientific method of experimentation through inquiry, literacy and numeracy. Skills such as measurements, research, calculations, classification , observations and conclusions will be practiced throughout the year as well as in this unit. Classification will include an overview of the six kingdoms.	
STUDENT LEARNING GOALS	
<b>Content-Specific Powered Standards</b>	<b>Interdisciplinary Standards (as appropriate)</b>
<b>D INQ.1</b> <b>Identify</b> questions that can be answered through scientific investigation.	
<b>D INQ.2</b> <b>Read</b> , interpret and examine the credibility and validity of scientific claims in different sources of information.	<b>Key Vocabulary</b>
<b>D INQ.3</b> <b>Formulate</b> a testable hypothesis and demonstrate logical connections between the scientific concepts guiding the hypothesis and the design of the experiment.	Inquiry, hypothesis, observations, conclusions, independent (manipulated) variables, dependent (responding) variables, constants, controls, validity, metric system Classification Dichotomous key Taxonomy Binomial nomenclature
<b>D INQ.4</b> <b>Design</b> and conduct appropriate types of scientific investigations to answer different questions.	

<p><b>D INQ.5</b> Identify independent and dependent variables, including those that are kept constant and those used as controls.</p> <p><b>D INQ.6</b> Use appropriate tools and techniques to <b>make observations</b> and gather data.</p> <p><b>D INQ.7</b> Assess the reliability of the data that was generated in the investigation.</p> <p><b>D INQ.8</b> Use mathematical operations <b>to analyze and interpret</b> data, and present relationships between variables in appropriate forms.</p> <p><b>D INQ.9</b> <b>Articulate</b> conclusions and explanations based on research data, and assess results based on the design of the investigation.</p> <p><b>D INQ.10</b> <b>Communicate</b> about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.</p> <p><b>Describe the similarities and differences</b> between:</p> <ul style="list-style-type: none"> <li>• Bacteria and Viruses</li> <li>• Fungi and Protists</li> </ul>	<p>Kingdom Phylum Class Order Family Genus Species Phylogeny</p> <p>Archaeobacteria Eubacteria Protists Fungi Plants Animals Invertebrates Vertebrates</p>
<p><b>Enduring Understandings</b></p> <p><b>SCIENTIFIC INQUIRY</b></p> <ul style="list-style-type: none"> <li>◆ Scientific inquiry is a thoughtful and coordinated attempt to search out, describe, explain and predict natural phenomena.</li> <li>◆ Scientific inquiry progresses through a continuous process of questioning, data collection, analysis and interpretation.</li> <li>◆ Scientific inquiry requires the sharing of findings and ideas for critical review by colleagues and other scientists.</li> </ul> <p><b>SCIENTIFIC LITERACY</b></p> <ul style="list-style-type: none"> <li>◆ Scientific literacy includes the ability to read, write, discuss and present coherent ideas about science.</li> <li>◆ Scientific literacy also includes the ability to search for and assess the relevance and credibility of scientific information found in various print and electronic media.</li> </ul> <p><b>SCIENTIFIC NUMERACY</b></p> <p>Scientific numeracy includes the ability to use mathematical operations and procedures to calculate, analyze and present scientific data and ideas.</p> <p><b>CS 10.3 - Science Technology and Society</b> Similarities in the chemical and structural properties of DNA in all living organisms allow the transfer of genes from one organism to another.</p>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>➤ How is inquiry used to solve problems or gather data to better understand a situation?</li> <li>➤ How do scientists gather observations to find answers to questions?</li> <li>➤ How do scientists communicate their findings in science?</li> <li>➤ What are the characteristics of a controlled experiment?</li> <li>➤ Science and Technology in Society – How do science and technology affect the quality of our lives?</li> </ul>
<p><b>Learning objectives/ Grade level expectations</b></p>	

- **Identify** questions that can be answered through scientific investigation.
- **Read, interpret and examine** the credibility and validity of scientific claims in different sources of information.
- **Formulate** a testable hypothesis and **demonstrate logical connections** between the scientific concepts guiding the hypothesis and the design of the experiment.
- **Design and conduct** appropriate types of scientific investigations to answer different questions.
- **Identify** independent and dependent variables, including those that are kept constant and those used as controls.
- Use appropriate tools and techniques to make observations and gather data.
- **Assess** the reliability of the data that was generated in the investigation.
- Use mathematical operations to **analyze and interpret data**, and present relationships between variables in appropriate forms.
- **Articulate conclusions and explanations** based on research data, and **assess results** based on the design of the investigation.
- **Communicate** about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.
- **Identify and implement** the safety measures to be taken in laboratory and field investigations.
- **Collect and record data**, using a variety of metric measures.
- **Analyze** direct and indirect evidence in order to **propose** reasonable **explanations**.
- **Write** lab reports about his or her laboratory and field investigations, using a standard format: Problem, Hypothesis, Materials, Procedure, Results, Conclusion, and Validity.
- **Describe the similarities and differences** between bacteria ,viruses, protists, and fungi

### Assessment Plan

<b>Summative Assessment(s)</b> <ul style="list-style-type: none"> <li>• <b>Organism classification (lab 20-1)</b></li> <li>• <b>Dichotomous key classification</b></li> <li>• <b>Taxonomy packet</b></li> <li>• <b>Structure / Function (Paramecium, fungi, protists)</b></li> <li>• <b>Diversity of Life Animal Kingdom Test</b></li> </ul>	<b>Formative and Diagnostic Assessment(s)</b> <b>In Progress</b>
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### LEARNING PLAN COMPONENTS

Core Textbook : Biology – The Dynamics of Life , Glencoe ISBN0-02-825431-7  
 Supplemental resources – Field guides  
 Core processes  
 Core pedagogies – approach to problem solving using scientific method

**Stratford Public Schools Unit Design  
Secondary Science Curriculum  
Grades 11- 12  
The Diversity of Life**

<b>Unit Name: UNIT II : Plant Kingdom</b>		<b>Est. # of Weeks: 8 weeks</b>
<b>Synopsis:</b> The plant kingdom unit will incorporate plant origin, evolution, classification, adaptation, genetics, and reproduction.		
<b>STUDENT LEARNING GOALS</b>		
<p><b>Content-Specific Powered Standards</b></p> <p>D 3 <b>Describe</b> energy transformations in plants</p> <p>D 40 <b>Explain</b> how the processes of genetic mutation and natural selection are related to the evolution of species.</p> <p>D 41 <b>Explain</b> how the current theory of evolution provides a scientific explanation for fossil records of ancient life forms.</p> <p>D 42 <b>Describe</b> how structural and behavioral adaptations increase the chances for organisms to survive in their environments.</p> <p><b>Identify</b> and evaluate indigenous and non indigenous plants of Stratford.</p> <p><b>Compare and contrast</b> reproduction in vascular and non vascular plants.</p> <p><b>Compare and contrast</b> reproduction in flowering and non flowering plants.</p> <p><b>Discuss</b> the benefits of plants to humans.</p>	<p><b>Interdisciplinary Standards (as appropriate)</b></p> <hr style="border-top: 1px dashed black;"/> <p><b>Key Vocabulary</b></p> <p>Cuticle Stomata Leaf Root Rhizoid Stem Vascular plant Nonvascular plant Vegetative reproduction Angiosperm Gymnosperm Flower Gametophyte Sporophyte</p>	

<p><b>Articulate</b> how advances in science and technology affect the quality of our lives as they relate to the plant kingdom.</p>	
<p><b>Enduring Understandings</b>  <u><b>Plant : origin, evolution, classification, adaptation, genetics, and reproduction</b></u></p> <p><b>CS 10.4. - In sexually reproducing organisms, each offspring contains a mix of characteristics inherited from both parents.</b></p> <ul style="list-style-type: none"> <li>◆ Genetic information is stored in genes that are located on chromosomes inside the cell nucleus.</li> <li>◆ Most organisms have two genes for each trait, one on each of the homologous chromosomes in the cell nucleus.</li> </ul> <p><b>CS 10.5 - Evolution and biodiversity are the result of genetic changes that occur over time in constantly changing environments.</b></p> <ul style="list-style-type: none"> <li>◆ Mutations and recombination of genes create genetic variability in populations.</li> <li>◆ Changes in the environment may result in the selection of organisms that are better able to survive and reproduce.</li> </ul> <p><b>CS 10.6 - Living organisms have the capability of producing populations of unlimited size, but the environment can support only a limited number of individuals from each species.</b></p> <ul style="list-style-type: none"> <li>◆ Human populations grow due to advances in agriculture, medicine, construction and the use of energy.</li> <li>◆ Humans modify ecosystems as a result of rapid population growth, use of technology and consumption of resources.</li> </ul>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>• What processes are responsible for life’s unity and diversity?</li> <li>• What are the characteristics of the plant kingdom?</li> <li>• What are the benefits of plants to humans?</li> <li>• What do scientists propose to be the origin of plants?</li> <li>• When did plants first appear, and what did they look like?</li> <li>• How did plants make the transition from an aquatic environment to a terrestrial environment?</li> <li>• What are the similarities and differences between vascular and nonvascular with regard to reproduction?</li> <li>• What are the similarities and differences in reproduction between flowering and non flowering plants?</li> <li>• How do advances in science and technology affect the quality of our lives as they relate to the plant kingdom?</li> </ul>
<p><b>Learning Objectives / Grade Level Expectations</b>  <i>Students will:</i></p> <ul style="list-style-type: none"> <li>• D 3 <b>Describe</b> energy transformations in plants</li> <li>• D 40 <b>Explain</b> how the processes of genetic mutation and natural selection are related to the evolution of species.</li> <li>• D 41 <b>Explain</b> how the current theory of evolution provides a scientific explanation for fossil records of ancient life forms.</li> <li>• D 42 <b>Describe</b> how structural and behavioral adaptations increase the chances for organisms to survive in their environments.</li> <li>• <b>Identify and evaluate</b> indigenous and non indigenous plants of Stratford.</li> <li>• <b>Compare and contrast</b> reproduction in vascular and non vascular plants.</li> <li>• <b>Compare and contrast</b> reproduction in flowering and non flowering plants.</li> <li>• <b>Discuss</b> the benefits of plants to humans.</li> </ul>	

- **Articulate** how advances in science and technology affect the quality of our lives as they relate to the plant kingdom?

**ASSESSMENT PLAN**

**Summative Assessment(s)**

- What is a plant study guide
- Importance of plants to humans
- Evolution of plants
- Plant reproduction Comparison of flowering and non flowering plants
- Graphic analysis for growth rates of ferns and gymnosperms
- Diversity of life Plant Kingdom Test

**Formative and Diagnostic Assessment(s)**

In progress

**LEARNING PLAN COMPONENTS**

Core Textbook : Biology – The Dynamics of Life , Glencoe ISBN0-02-825431-7  
 Supplemental resources – Field guides  
 Core processes  
 Core pedagogies – approach to problem solving using scientific method

**Stratford Public Schools Unit Design  
 Secondary Science Curriculum  
 Grades 11- 12  
 The Diversity of Life**

**Unit Name: UNIT III : Animal Kingdom**

**Est. # of Weeks: 8 weeks**

**Synopsis:** The animal kingdom unit will incorporate animal origin, evolution, classification, adaptation, genetics, and reproduction.

**STUDENT LEARNING GOALS**

**Content-Specific Powered Standards**

- D 3 **Describe** energy transformations in animals
- D 40 **Explain** how the processes of genetic mutation and natural selection are related to the evolution of species.
- D 41 **Explain** how the current theory of evolution provides a scientific explanation for fossil records of ancient life forms.
- D 42 **Describe** how structural and behavioral adaptations increase the chances for organisms to survive in their environments.
- Identify** and evaluate indigenous and non indigenous animals of Stratford.
- Compare and contrast** vertebrate and invertebrate

**Interdisciplinary Standards (as appropriate)**

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- Key Vocabulary**
- Omnivore
  - Carnivore
  - Herbivore
  - Invertebrate
  - Vertebrate
  - Producer
  - Consumer
  - Radial symmetry
  - Bilateral symmetry
  - Sessile
  - Exoskeleton
  - Endoskeleton

<p>animals.</p> <p><b>Describe</b> similarities and differences between the five classes of vertebrates.</p> <p><b>Characterize</b> similarities and differences in reproduction among vertebrates and invertebrates.</p> <p><b>Discuss</b> the benefits of animals to humans.</p> <p><b>Explain</b> how advances in science and technology affect the quality of our lives as they relate to the animal kingdom.</p>	<p>Abiotic Biotic Population Community Ecosystem Habitat Symbiosis Mutualism Commensalism Parasitism</p>
<p><b>Enduring Understandings</b></p> <p><b><u>Animal : origin, evolution, classification, adaptation, genetics, and reproduction</u></b></p> <p><b>10.4. - In sexually reproducing organisms, each offspring contains a mix of characteristics inherited from both parents.</b></p> <ul style="list-style-type: none"> <li>◆ Genetic information is stored in genes that are located on chromosomes inside the cell nucleus.</li> <li>◆ Most organisms have two genes for each trait, one on each of the homologous chromosomes in the cell nucleus.</li> </ul> <p><b>10.5 - Evolution and biodiversity are the result of genetic changes that occur over time in constantly changing environments.</b></p> <ul style="list-style-type: none"> <li>◆ Mutations and recombination of genes create genetic variability in populations.</li> <li>◆ Changes in the environment may result in the selection of organisms that are better able to survive and reproduce.</li> </ul> <p><b>10.6 - Living organisms have the capability of producing populations of unlimited size, but the environment can support only a limited number of individuals from each species.</b></p> <ul style="list-style-type: none"> <li>◆ Human populations grow due to advances in agriculture, medicine, construction and the use of energy.</li> <li>◆ Humans modify ecosystems as a result of rapid population growth, use of technology and consumption of resources.</li> </ul>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>• What processes are responsible for life’s unity and diversity?</li> <li>• What are the characteristics of the animal kingdom?</li> <li>• What are the benefits of animals to humans?</li> <li>• What do scientists propose to be the origin of animals?</li> <li>• When did animals first appear, and what did they look like?</li> </ul> <ul style="list-style-type: none"> <li>• How did animals make the transition from an aquatic environment to a terrestrial environment?</li> <li>• What are the similarities and differences between vertebrate and invertebrate animals.</li> <li>• Describe similarities and differences between the five classes of vertebrates.</li> <li>• Describe similarities and differences in reproduction among vertebrates and invertebrates.</li> <li>• Discuss the benefits of animals to humans.</li> <li>• Explain how advances in science and technology affect the quality of our lives as they relate to the animal kingdom.</li> </ul>
<p><b>Learning Objectives / Grade Level Expectations</b> <i>Students will:</i></p> <p>D 3 <b>Describe</b> energy transformations in animals</p> <p>D 40 <b>Explain</b> how the processes of genetic mutation and natural selection are related to the evolution of species.</p> <p>D 41 <b>Explain</b> how the current theory of evolution provides a scientific explanation for fossil records of ancient life</p>	

forms.

D 42 **Describe** how structural and behavioral adaptations increase the chances for organisms to survive in their environments.

**Identify** and **evaluate** indigenous and non indigenous animals of Stratford.

**Compare and contrast** vertebrate and invertebrate animals.

**Characterize** similarities and differences between the five classes of vertebrates.

**Describe similarities and differences** in reproduction among vertebrates and invertebrates.

**Discuss** the benefits of animals to humans.

**Explain** how advances in science and technology affect the quality of our lives as they relate to the animal kingdom.

#### ASSESSMENT PLAN

##### Summative Assessment(s)

- Comparison of body structure, environment (free living and parasitic )
- Invertebrate Poster
- Food web construction / analysis
- Matter and energy flow in ecosystems
- Similarities and differences among the five classes of vertebrates
- Diversity of life Animal Kingdom Test

##### Formative and Diagnostic Assessment(s) In Progress

#### LEARNING PLAN COMPONENTS

Core Textbook : Biology – The Dynamics of Life , Glencoe ISBN0-02-825431-7  
Supplemental resources – Field guides  
Core processes  
Core pedagogies – approach to problem solving using scientific method