



## **Praxis II Biology Content Knowledge (0231,0233,0232,0235) Learning Path Coverage Map**

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## Introduction

PLATO® content has been matched to the scope of knowledge covered in the Praxis II Biology Content Knowledge (0231,0233,0232,0235) Learning Path. In addition, content experts have organized PLATO content in an instructionally sound way that enhances instructional effectiveness. This document identifies PLATO instructional activities that are aligned to the Praxis II Biology Content Knowledge (0231,0233,0232,0235) Learning Path.

The following PLATO courseware was used to create the Praxis II Biology Content Knowledge (0231,0233,0232,0235) Learning Path:

- Biology Series
  
- Data Skills
  
- Geometry 1
  
- Life Science
  
- Physical Science with Assessments
  
- Science Fundamentals



## Praxis II Biology Content Knowledge (0231,0233,0232,0235)

### I. Basic Principles of Science

#### A. Scientific Methodology

##### 01. Scientific methods

Biology: The Study of Life

Biology: The Study of Life: Tutorial

Biology: The Study of Life: Application

Biology: The Study of Life: Mastery Test

##### 02. History and philosophy

Exploring Biology

Exploring Biology: Tutorial

Exploring Biology: Application

Exploring Biology: Mastery Test

### II. Molecular and Cellular Biology

#### A. Chemical Basis of Life

##### 01. basic chemical structure

Biochemistry: The Chemistry of Life

Biochemistry: The Chemistry of Life: Tutorial

Biochemistry: The Chemistry of Life: Application

Biochemistry: The Chemistry of Life: Mastery Test

##### 08/09/10. photosynthesis, respiration, and enzymes

Cellular Respiration

Cellular Respiration: Tutorial

Cellular Respiration: Application

Cellular Respiration: Mastery Test

Photosynthesis

Photosynthesis: Tutorial

Photosynthesis: Application

Photosynthesis: Mastery Test

Enzymes

Enzymes: Tutorial

Enzymes: Application

Enzymes: Mastery Test

## B. Cell Structure and Function

01. components of prokaryotic and eukaryotic cells

Inside the Cell

Inside the Cell: Tutorial

Inside the Cell: Application

Inside the Cell: Mastery Test

The Plasma Membrane and Cellular Transport

The Plasma Membrane and Cellular Transport: Tutorial

The Plasma Membrane and Cellular Transport: Application

The Plasma Membrane and Cellular Transport: Mastery Test

02/03. mitosis, cytokinesis, and cell cycle

Mitosis

Mitosis: Tutorial

Mitosis: Application

Mitosis: Mastery Test

04. meiosis

Meiosis

Meiosis: Tutorial

Meiosis: Application

Meiosis: Mastery Test

## C. Molecular Genetics

01. structure and function of nucleic acids

Genetics

Genetics: Tutorial

Genetics: Application

Genetics: Mastery Tests

Genetics: Test 1

Genetics: Test 2

02. protein synthesis

From DNA to Protein

From DNA to Protein: Tutorial

From DNA to Protein: Application

From DNA to Protein: Mastery Test

08. viruses

Blood and Immunity

Blood and Immunity: Tutorial

Blood and Immunity: Application

Blood and Immunity: Mastery Test

Viruses and Bacteria (Biology Series)

Viruses and Bacteria (Biology Series): Tutorial

Viruses and Bacteria (Biology Series): Application

Viruses and Bacteria (Biology Series): Mastery Test

09. gene regulation, transposable elements, mutation, and recombinant DNA

Genetic Engineering

Genetic Engineering: Tutorial

Genetic Engineering: Application

Genetic Engineering: Mastery Test

D. Animals

## 01. evolution

### Evolution (Biology Series)

Evolution (Biology Series): Tutorial

Evolution (Biology Series): Application

Evolution (Biology Series): Mastery Test

### Protista

Protista: Tutorial

Protista: Application

Protista: Mastery Test

### Fungi

Fungi: Tutorial

Fungi: Application

Fungi: Mastery Test

### Vertebrates

Vertebrates: Tutorial

Vertebrates: Application

Vertebrates: Mastery Test

### Invertebrates (Biology Series)

Invertebrates (Biology Series): Tutorial

Invertebrates (Biology Series): Application

Invertebrates (Biology Series): Mastery Test

## 02. life functions

### Cnidarians

Cnidarians: Tutorial

Cnidarians: Application

Cnidarians: Mastery Test

### Mollusks

Mollusks: Tutorial

Mollusks: Application

Mollusks: Mastery Test

Arthropods

Arthropods: Tutorial

Arthropods: Application

Arthropods: Mastery Test

Birds (Biology Series)

Birds (Biology Series): Tutorial

Birds (Biology Series): Application

Birds (Biology Series): Mastery Test

Annelids

Annelids: Tutorial

Annelids: Application

Annelids: Mastery Test

Levels of Organization

Levels of Organization: Lesson

Levels of Organization: Application

Levels of Organization: Test

Structure and Function of Tissues and Organs

Structure and Function of Tissues and Organs: Lesson

Structure and Function of Tissues and Organs: Application

Structure and Function of Tissues and Organs: Test

Organ Systems

Organ Systems: Lesson

Organ Systems: Application

Organ Systems: Test

Immunity and Preventing Disease

Immunity and Preventing Disease: Lesson

Immunity and Preventing Disease: Application

Immunity and Preventing Disease: Test

Human Reproduction and Development

Human Reproduction and Development: Lesson

Human Reproduction and Development: Application

Human Reproduction and Development: Test

III. Classical Genetics and Evolution

A. Classical Genetics

01/02/04. Mendelian/non-Mendelian inheritance, probability, and genetic disorder

Mendel's Principles of Heredity

Mendel's Principles of Heredity: Tutorial

Mendel's Principles of Heredity: Application

Mendel's Principles of Heredity: Mastery Test

Investigating Heredity

Investigating Heredity: Tutorial

Investigating Heredity: Application

Investigating Heredity: Mastery Test

B. Evolution

03/04/05. population genetics, speciation, and phylogeny

Evolution (Biology Series)

Evolution (Biology Series): Tutorial

Evolution (Biology Series): Application

Evolution (Biology Series): Mastery Test

IV. Diversity of Life, Plants, and Animals

A. Diversity of Life

01/02. Classification schemes and the five-kingdom system

Classification of Living Things

Classification of Living Things: Tutorial

Classification of Living Things: Application

Classification of Living Things: Mastery Test

B. Plants

01/02/04. evolution, anatomy, and reproduction

Non-Flowering Plants

Non-Flowering Plants: Tutorial

Non-Flowering Plants: Application

Non-Flowering Plants: Mastery Test

Flowering Plants

Flowering Plants: Tutorial

Flowering Plants: Application

Flowering Plants: Mastery Test

03. physiology

The Leaf

The Leaf: Tutorial

The Leaf: Application

The Leaf: Mastery Test

Roots and Stems

Roots and Stems: Tutorial

Roots and Stems: Application

Roots and Stems: Mastery Test

V. Ecology

A. Populations

03/04. population growth and dispersion patterns

Population Ecology

Population Ecology: Tutorial

Population Ecology: Application

Population Ecology: Mastery Test

B. Ecosystems

01/02/03/05. terrestrial, aquatic ecosystems, biomes, and biogeochemical cycles

Biomes

Biomes: Tutorial

Biomes: Application

Biomes: Mastery Test

04. energy flow

Flow of Energy and Matter in Nature

Flow of Energy and Matter in Nature: Lesson

Flow of Energy and Matter in Nature: Application

Flow of Energy and Matter in Nature: Test

Food Chains and Webs

Food Chains and Webs: Tutorial

Food Chains and Webs: Application

Food Chains and Webs: Mastery Test

07. human impact

Human Impacts on the Environment

Human Impacts on the Environment: Tutorial

Human Impacts on the Environment: Application

Human Impacts on the Environment: Mastery Test

08. interrelationships among ecosystems

The Biosphere

The Biosphere: Tutorial



The Biosphere: Application

The Biosphere: Mastery Test

## VI. Science, Technology, and Society

### A. Issues and Applications

#### 01. human population growth

Food Chains and Webs

Food Chains and Webs: Tutorial

Food Chains and Webs: Application

Food Chains and Webs: Mastery Test

Population Ecology

Population Ecology: Tutorial

Population Ecology: Application

Population Ecology: Mastery Test

Human Impacts on the Environment

Human Impacts on the Environment: Tutorial

Human Impacts on the Environment: Application

Human Impacts on the Environment: Mastery Test

#### 05. biotic and abiotic resource management

Living with the Environment

Living with the Environment: Lesson

Living with the Environment: Application

Living with the Environment: Test

Energy Production and Use

Properties and Sources of Energy (with Assessments)

Properties and Sources of Energy: Lesson

Properties and Sources of Energy: Application

Properties and Sources of Energy: Practice Test: 1

Properties and Sources of Energy: Practice Test: 2

Properties and Sources of Energy: Practice Test: 3

Properties and Sources of Energy: Practice Test: 4

Properties and Sources of Energy: Practice Test: 5

Properties and Sources of Energy: Practice Test: 6

Properties and Sources of Energy: Practice Test: 7

Properties and Sources of Energy: Practice Test: 8

Properties and Sources of Energy: Mastery Test

Biomagnification

Food Chains and Webs

Food Chains and Webs: Tutorial

Food Chains and Webs: Application

Food Chains and Webs: Mastery Test

B. Ethical Questions in Biology

01. genetic engineering

Genetic Engineering

Genetic Engineering: Tutorial

Genetic Engineering: Application

Genetic Engineering: Mastery Test

VII. Math, Measurement and Data Manipulation

A. Measurement

Metric Measurement

Metric Measurement: Tutorial

Metric Measurement: Application

Metric Measurement: Mastery Tests

Metric Measurement: Mastery Test 1

Metric Measurement: Mastery Test 2



Area, Part 1

Area, Part 1: Tutorial

Area, Part 1: Application

Area, Part 1: Mastery Tests

Area, Part 1: Mastery Test 1

Area, Part 1: Mastery Test 2

Area, Part 2

Area, Part 2: Tutorial

Area, Part 2: Application

Area, Part 2: Mastery Tests

Area, Part 2: Mastery Test 1

Area, Part 2: Mastery Test 2

Area, Part 2: Mastery Test 3

Volume

Volume: Tutorial

Volume: Application

Volume: Mastery Tests

Volume: Mastery Test 1

Volume: Mastery Test 2

Using Measurement

Using Measurement: Tutorial

Using Measurement: Application

Using Measurement: Mastery Tests

Using Measurement: Mastery Test 1

Using Measurement: Mastery Test 2

B. Data Skills

Reading Graphical Data

## Reading Pie Charts

Reading Pie Charts: Tutorial

Reading Pie Charts: Application

Reading Pie Charts: Mastery Tests

Reading Pie Charts: Mastery Test 1

Reading Pie Charts: Mastery Test 2

## Introduction to Line Graphs

Introduction to Line Graphs: Tutorial

Introduction to Line Graphs: Application

Introduction to Line Graphs: Mastery Tests

Introduction to Line Graphs: Mastery Test 1

Introduction to Line Graphs: Mastery Test 2

## Reading Line Graphs

Reading Line Graphs: Tutorial

Reading Line Graphs: Application

Reading Line Graphs: Mastery Test 1

## Introduction to Bar Graphs

Introduction to Bar Graphs: Tutorial

Introduction to Bar Graphs: Application

Introduction to Bar Graphs: Mastery Tests

Introduction to Bar Graphs: Mastery Test 1

Introduction to Bar Graphs: Mastery Test 2

## Reading Bar Graphs

Reading Bar Graphs: Tutorial

Reading Bar Graphs: Application

Reading Bar Graphs: Mastery Test

## Introduction to Data in Tables

Introduction to Data in Tables: Tutorial

Introduction to Data in Tables: Application

Introduction to Data in Tables: Mastery Tests

Introduction to Data in Tables: Mastery Test 1

Introduction to Data in Tables: Mastery Test 2

Reading Data In Tables

Reading Data In Tables: Tutorial

Reading Data In Tables: Application

Reading Data In Tables: Mastery Test

Introduction to Flowcharts

Introduction to Flowcharts: Tutorial

Introduction to Flowcharts: Application

Introduction to Flowcharts: Mastery Tests

Introduction to Flowcharts: Mastery Test 1

Introduction to Flowcharts: Mastery Test 2

Computing Graphical Data

Graphing and Charting

Graphing and Charting: Tutorial

Graphing and Charting: Application

Graphing and Charting: Mastery Test

Tables

Tables: Tutorial

Tables: Application

Tables: Mastery Test

Using Pictographs

Using Pictographs: Tutorial

Using Pictographs: Application

Using Pictographs: Mastery Test

Using Line Graphs

Using Line Graphs: Tutorial

Using Line Graphs: Application

Using Line Graphs: Mastery Test

Using Bar Graphs

Using Bar Graphs: Tutorial

Using Bar Graphs: Application

Using Bar Graphs: Mastery Test

Using Pie Charts

Using Pie Charts: Tutorial

Using Pie Charts: Application

Using Pie Charts: Mastery Test

Using Histograms

Using Histograms: Tutorial

Using Histograms: Application

Using Histograms: Mastery Test

Reading Complex Charts and Graphs

Reading Histograms

Reading Histograms: Tutorial

Reading Histograms: Application

Reading Histograms: Mastery Test

Reading Complex Tables

Reading Complex Tables: Tutorial

Reading Complex Tables: Application

Reading Complex Tables: Mastery Test

Constructing Graphs and Charts



## Constructing Line Graphs

Constructing Line Graphs: Tutorial

Constructing Line Graphs: Application

Constructing Line Graphs: Mastery Test

## Constructing Pie Charts

Constructing Pie Charts: Tutorial

Constructing Pie Charts: Application

Constructing Pie Charts: Mastery Test

## Constructing Bar Graphs

Constructing Bar Graphs: Tutorial

Constructing Bar Graphs: Application

Constructing Bar Graphs: Mastery Test

## Constructing Histograms

Constructing Histograms: Tutorial

Constructing Histograms: Application

Constructing Histograms: Mastery Test

## Selecting Graphs and Charts

Selecting Graphs and Charts: Tutorial

Selecting Graphs and Charts: Application

Selecting Graphs and Charts: Mastery Test

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