



## Stanford Achievement Test 10

*Matched to*

### **SkillsTutor and SkillsBank Science I Intermediate 2**

#### **Life**

Demonstrate an understanding of characteristics of organisms, life cycles of organisms and their environment, health, resources, and technological challenges.

#### **Identify characteristics common to major groups of organisms.**

Life Science: Lesson 7 – Classification

Life Science: Lesson 8 – Animal Life

Life Science: Lesson 9 – Plant Life

#### **Identify the role of given organisms in an ecosystem.**

Life Science: Lesson 8 – Animal Life

Life Science: Lesson 9 – Plant Life

#### **Interpret a simple food web.**

Life Science: Lesson 8 – Animal Life

#### **Predict the effects on a population under given conditions.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Identify the effects on a population from a given environmental change.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Determine characteristics of an organism, given part of its life cycle.**

Life Science: Lesson 8 – Animal Life

#### **Identify a basic function of a human system.**

Life Science: Lesson 8 – Animal Life

#### **Identify habitats suitable for the adaptations of common animals.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Infer methods of seed dispersal based on the form of a given fruit.**

Life Science: Lesson 9 – Plant Life

## Physical

Demonstrate an understanding of properties of objects and materials, position and motion of objects, light, heat, electricity, magnetism, and uses of physical concepts in technological designs.

### **Identify a basic unit of chemical elements.**

Physical Science: Lesson 2 – Matter

### **Identify basic characteristics of materials involved in electrical currents.**

Physical Science: Lesson 2 – Matter

### **Make an inference based on an understanding of changes in properties of matter.**

Physical Science: Lesson 2 – Matter

Physical Science: Lesson 4 – States of Matter

Physical Science: Lesson 5 – Chemical Reactions

### **Use a model to determine motion.**

Physical Science: Lesson 7 – Force and Motion

### **Apply an understanding of properties of matter.**

Physical Science: Lesson 2 – Matter

### **Determine characteristics of water at different temperatures.**

Physical Science: Lesson 4 – States of Matter

### **Draw a conclusion about motion based on given data.**

Physical Science: Lesson 7 – Force and Motion

### **Predict the effects of forces on an object.**

Physical Science: Lesson 7 – Force and Motion

### **Apply an understanding of characteristics of different types of matter.**

Physical Science: Lesson 2 – Matter

Physical Science: Lesson 3 – The Periodic Table

### **Identify a characteristic of matter required for a given use.**

Physical Science: Lesson 2 – Matter

Physical Science: Lesson 3 – The Periodic Table

### **Infer the conditions required for the production of given sounds.**

Physical Science: Lesson 8 – Sound

## Earth

Demonstrate an understanding of properties and sources of Earth materials, objects in the sky, changes in Earth and sky, resources, and impacts of technology.

### **Apply an understanding of a model of Earth's motion.**

Earth Science: Lesson 3 – Earth and Space

### **Apply an understanding of Earth's motion using a model.**

Earth Science: Lesson 3 – Earth and Space

**Apply an understanding of soil composition.**

Earth Science: Lesson 7 – Water  
Earth Science: Lesson 9 – Rocks and Minerals

**Use a model to infer the effects of the sun on Earth.**

Earth Science: Lesson 3 – Earth and Space

**Apply an understanding of the conditions required for precipitation.**

Earth Science: Lesson 4 – The Atmosphere  
Earth Science: Lesson 5 – Weather and Climate  
Earth Science: Lesson 7 – Water

**Identify changes caused by motions of Earth.**

Earth Science: Lesson 3 – Earth and Space  
Earth Science: Lesson 8 – Dynamic Earth

**Make a prediction based on given characteristics of Earth's crust.**

Earth Science: Lesson 8 – Dynamic Earth

**Apply an understanding of the cause of common landforms.**

Earth Science: Lesson 8 – Dynamic Earth

**Identify an effect of the force of gravity on Earth.**

Earth Science: Lesson 3 – Earth and Space

**Nature of Science**

Demonstrate an understanding of the processes used in scientific investigations, including the use of basic measurement tools, making observations, analyzing data, evaluating scientific experiments, and recognizing the limits and advantages of science in society.

**Interpret data of properties of matter.**

Physical Science: Lesson 2 – Matter

**Analyze data of sounds.**

Physical Science: Lesson 8 – Sound

**Use observation skills to make inferences about objects in the solar system.**

Earth Science: Lesson 2 – The Solar System  
Earth Science: Lesson 3 – Earth and Space

## **Process**

### **Models**

Use and analyze evidence, science experiments, and models of the processes in the natural and technological worlds, including historical evidence and historically significant models.

- Life Science: Lesson 1 – The Cell I
- Life Science: Lesson 2 – The Cell II
- Life Science: Lesson 3 – Life Processes I
- Life Science: Lesson 4 – Life Processes II
- Life Science: Lesson 5 – Genetics
- Physical Science: Lesson 4 – States of Matter
- Physical Science: Lesson 5 – Chemical Reactions
- Physical Science: Lesson 6 – Energy
- Physical Science: Lesson 7 – Force and Motion
- Earth Science: Lesson 2 – The Solar System
- Earth Science: Lesson 3 – Earth and Space

### **Constancy**

Use observations, data, and basic understanding to recognize and analyze patterns in the natural and technological worlds.

- Life Science: Lesson 5 – Genetics
- Life Science: Lesson 6 – Mechanisms of Change
- Life Science: Lesson 8 – Animal Life
- Earth Science: Lesson 2 – The Solar System
- Earth Science: Lesson 3 – Earth and Space
- Earth Science: Lesson 5 – Weather and Climate
- Earth Science: Lesson 7 – Water

## Intermediate 3

### Life

Demonstrate an understanding of characteristics of organisms, life cycles of organisms and their environment, health, resources, and technological challenges.

#### **Identify examples of populations.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Identify the basic units of a food web.**

Life Science: Lesson 8 – Animal Life

#### **Identify examples of inherited traits.**

Life Science: Lesson 5 – Genetics

#### **Evaluate evidence for a conclusion about adaptations of organisms.**

Life Science: Lesson 6 – Mechanisms of Change

Life Science: Lesson 7 – Classification

#### **Identify the function of types of organisms in ecosystems.**

Life Science: Lesson 8 – Animal Life

Life Science: Lesson 9 – Plant Life

#### **Apply an understanding of the advantages required for natural selection.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Identify the basic units of organisms.**

Life Science: Lesson 1 – The Cell I

Life Science: Lesson 3 – Life Processes I

#### **Identify the structure of an organism required for a given function.**

Life Science: Lesson 2 – The Cell II

Life Science: Lesson 3 – Life Processes I

Life Science: Lesson 4 – Life Processes II

#### **Identify the levels of complexity in organisms.**

Life Science: Lesson 2 – The Cell II

Life Science: Lesson 3 – Life Processes I

Life Science: Lesson 4 – Life Processes II

### Physical

Demonstrate an understanding of properties of objects and materials, position and motion of objects, light, heat, electricity, magnetism, and uses of physical concepts in technological designs.

#### **Identify examples of kinetic energy.**

Physical Science: Lesson 6 – Energy

#### **Apply an understanding of heat transfer.**

Physical Science: Lesson 6 – Energy

**Interpret a model of a state of matter.**

Physical Science: Lesson 4 – States of Matter

**Predict the effects of forces on an object.**

Physical Science: Lesson 7 – Force and Motion

**Compare differences in light and sound.**

Physical Science: Lesson 8 – Sound

Physical Science: Lesson 9 – Light and Illumination

**Make an inference based on an understanding of changes in properties of matter.**

Physical Science: Lesson 4 – States of Matter

Physical Science: Lesson 5 – Chemical Reactions

**Make an inference based on an understanding of waves.**

Physical Science: Lesson 8 – Sound

Physical Science: Lesson 9 – Light and Illumination

**Identify changes in energy forms in a given system.**

Physical Science: Lesson 6 – Energy

Physical Science: Lesson 7 – Force and Motion

**Identify a characteristic of a substance in water.**

Physical Science: Lesson 2 – Matter

**Earth**

Demonstrate an understanding of properties and sources of Earth materials, objects in the sky, changes in Earth and sky, resources, and impacts of technology.

**Identify a model of a solar event.**

Earth Science: Lesson 2 – The Solar System

Earth Science: Lesson 3 – Earth and Space

**Use a model to predict the effects of aquifers.**

**Use a model to apply an understanding of rock cycle.**

Earth Science: Lesson 9 – Rocks and Minerals

**Evaluate evidence for a conclusion about Earth's form.**

Earth Science: Lesson 8 – Dynamic Earth

Earth Science: Lesson 9 – Rocks and Minerals

**Apply an understanding of sequencing of rock layers.**

Earth Science: Lesson 8 – Dynamic Earth

Earth Science: Lesson 9 – Rocks and Minerals

**Use a model to infer the effects of Earth's motions.**

Earth Science: Lesson 3 – Earth and Space

Earth Science: Lesson 8 – Dynamic Earth

**Use a model to apply an understanding about Earth's crust.**

Earth Science: Lesson 8 – Dynamic Earth

**Use information to infer weather conditions.**

Earth Science: Lesson 4 – The Atmosphere  
Earth Science: Lesson 5 – Weather and Climate  
Earth Science: Lesson 7 – Water

**Infer the type of precipitation in a given situation.**

Earth Science: Lesson 5 – Weather and Climate

**Identify the major source off an atmospheric gas.**

Earth Science: Lesson 4 – The Atmosphere

**Nature of Science**

Demonstrate an understanding of the processes used in scientific investigations, including the use of basic measurement tools, making observations, analyzing data, evaluating scientific experiments, and recognizing the limits and advantages of science in society.

**Apply an understanding of the type of questions that can be answered by experimentation.**

Life Science: Lesson 5 – Genetics  
Physical Science: Lesson 4 – States of Matter  
Physical Science: Lesson 5 – Chemical Reactions  
Physical Science: Lesson 6 – Energy  
Physical Science: Lesson 7 – Force and Motion  
Physical Science: Lesson 8 – Sound  
Physical Science: Lesson 9 – Light and Illumination  
Earth Science: Lesson 7 – Water

**Recognize statements of hypotheses.**

Life Science: Lesson 6 – Mechanisms of Change

**Use observation skills to infer sequences of events.**

Earth Science: Lesson 2 – The Solar System  
Earth Science: Lesson 3 – Earth and Space  
Earth Science: Lesson 5 – Weather and Climate  
Earth Science: Lesson 7 – Water

**Identify appropriate units of measure for length.**

Physical Science: Lesson 1 – Measurements

**Process**

**Models**

Use and analyze evidence, science experiments, and models of the processes in the natural and technological worlds, including historical evidence and historically significant models.

Life Science: Lesson 1 – The Cell I  
Life Science: Lesson 2 – The Cell II  
Life Science: Lesson 3 – Life Processes I  
Life Science: Lesson 4 – Life Processes II  
Life Science: Lesson 5 – Genetics  
Physical Science: Lesson 4 – States of Matter  
Physical Science: Lesson 5 – Chemical Reactions  
Physical Science: Lesson 6 – Energy  
Physical Science: Lesson 7 – Force and Motion  
Earth Science: Lesson 2 – The Solar System  
Earth Science: Lesson 3 – Earth and Space

## **Constancy**

Use observations, data, and basic understanding to recognize and analyze patterns in the natural and technological worlds.

- Life Science: Lesson 5 – Genetics
- Life Science: Lesson 6 – Mechanisms of Change
- Life Science: Lesson 8 – Animal Life
- Earth Science: Lesson 2 – The Solar System
- Earth Science: Lesson 3 – Earth and Space
- Earth Science: Lesson 5 – Weather and Climate
- Earth Science: Lesson 7 – Water

# Advanced 1

## Life

Demonstrate an understanding of characteristics of organisms, life cycles of organisms and their environment, health, resources, and technological challenges.

**Analyze a model to determine parts of a cycle in the environment.**

Life Science: Lesson 4 – Life Processes II  
Life Science: Lesson 8 – Animal Life

**Analyze a model to predict the effects of a change in an ecosystem.**

**Interpret a model of changes in a cell.**

Life Science: Lesson 4 – Life Processes II

**Use a model to identify a characteristic of a body system.**

Life Science: Lesson 7 – Classification  
Life Science: Lesson 8 – Animal Life

**Use models and keys to scientifically identify organisms.**

Life Science: Lesson 7 – Classification  
Life Science: Lesson 8 – Animal Life  
Life Science: Lesson 9 – Plant Life

**Evaluate given adaptations for their functions in organisms.**

Life Science: Lesson 6 – Mechanisms of Change  
Life Science: Lesson 7 – Classification  
Life Science: Lesson 8 – Animal Life  
Life Science: Lesson 9 – Plant Life

**Identify possible changes caused by introduced species.**

Life Science: Lesson 6 – Mechanisms of Change

**Apply an understanding of the importance of structural adaptations.**

Life Science: Lesson 6 – Mechanisms of Change

**Identify an interrelationship between organisms in an ecosystem.**

Life Science: Lesson 7 – Classification  
Life Science: Lesson 8 – Animal Life  
Life Science: Lesson 9 – Plant Life

**Identify a relationship between abiotic and biotic parts of ecosystems.**

Life Science: Lesson 7 – Classification  
Life Science: Lesson 8 – Animal Life  
Life Science: Lesson 9 – Plant Life

## **Physical**

Demonstrate an understanding of properties of objects and materials, position and motion of objects, light, heat, electricity, magnetism, and uses of physical concepts in technological designs.

### **Use information to compare characteristics of substances.**

Physical Science: Lesson 3 – The Periodic Table  
Physical Science: Lesson 5 – Chemical Reactions

### **Apply an understanding of chemical formulas.**

Physical Science: Lesson 5 – Chemical Reactions

### **Identify causes of changes of pitch in sounds.**

Physical Science: Lesson 8 – Sound

### **Identify sources of heat.**

Physical Science: Lesson 5 – Chemical Reactions  
Physical Science: Lesson 6 – Energy  
Physical Science: Lesson 7 – Force and Motion

### **Apply an understanding of the results of motion of an object.**

Physical Science: Lesson 7 – Force and Motion

### **Apply an understanding of kinetic energy of motion.**

Physical Science: Lesson 6 – Energy  
Physical Science: Lesson 7 – Force and Motion

### **Identify a unit of measure associated with motion.**

Physical Science: Lesson 1 – Measurements  
Physical Science: Lesson 7 – Force and Motion

### **Use information to predict the results of a behavior of light.**

Physical Science: Lesson 9 – Light and Illumination

### **Recognize chemical changes in substances.**

Physical Science: Lesson 5 – Chemical Reactions

### **Identify methods of separating substances in mixtures.**

Physical Science: Lesson 5 – Chemical Reactions

### **Identify devices used to convert energy from one form to another.**

Physical Science: Lesson 6 – Energy

## **Earth**

Demonstrate an understanding of properties and sources of Earth materials, objects in the sky, changes in Earth and sky, resources, and impacts of technology.

### **Apply an understanding of the causes of a given landform.**

Earth Science: Lesson 8 – Dynamic Earth

### **Use a model to predict the relative age of rock layers.**

Earth Science: Lesson 9 – Rocks and Minerals

**Interpret a model of a rock cycle.**

Earth Science: Lesson 9 – Rocks and Minerals

**Analyze a model of changes in Earth's surface.**

Earth Science: Lesson 8 – Dynamic Earth

**Use a model to identify the cause of differences in Earth's temperatures.**

Earth Science: Lesson 4 – The Atmosphere

Earth Science: Lesson 5 – Weather and Climate

**Use models to apply an understanding of weather phenomena.**

Earth Science: Lesson 5 – Weather and Climate

**Use information to predict soil characteristics.**

Earth Science: Lesson 9 – Rocks and Minerals

**Recognize the results of the position of a planet on the seasons.**

Earth Science: Lesson 2 – The Solar System

Earth Science: Lesson 3 – Earth and Space

**Identify the causes of changes on Earth.**

Earth Science: Lesson 8 – Dynamic Earth

**Nature of Science**

Demonstrate an understanding of the processes used in scientific investigations, including the use of basic measurement tools, making observations, analyzing data, evaluating scientific experiments, and recognizing the limits and advantages of science in society.

**Interpret information about uses of chemical substances.**

Physical Science: Lesson 3 – The Periodic Table

Physical Science: Lesson 5 – Chemical Reactions

**Process**

**Models**

Use and analyze evidence, science experiments, and models of the processes in the natural and technological worlds, including historical evidence and historically significant models.

Life Science: Lesson 1 – The Cell I

Life Science: Lesson 2 – The Cell II

Life Science: Lesson 3 – Life Processes I

Life Science: Lesson 4 – Life Processes II

Life Science: Lesson 5 – Genetics

Physical Science: Lesson 4 – States of Matter

Physical Science: Lesson 5 – Chemical Reactions

Physical Science: Lesson 6 – Energy

Physical Science: Lesson 7 – Force and Motion

Earth Science: Lesson 2 – The Solar System

Earth Science: Lesson 3 – Earth and Space

## **Constancy**

Use observations, data, and basic understanding to recognize and analyze patterns in the natural and technological worlds.

Life Science: Lesson 5 – Genetics

Life Science: Lesson 6 – Mechanisms of Change

Life Science: Lesson 8 – Animal Life

Earth Science: Lesson 2 – The Solar System

Earth Science: Lesson 3 – Earth and Space

Earth Science: Lesson 5 – Weather and Climate

Earth Science: Lesson 7 – Water

## Advanced 2

### Life

Demonstrate an understanding of characteristics of organisms, life cycles of organisms and their environment, health, resources, and technological challenges.

#### **Use models and keys to scientifically identify organisms.**

Life Science: Lesson 7 – Classification

Life Science: Lesson 8 – Animal Life

Life Science: Lesson 9 – Plant Life

#### **Use models to identify cell types.**

Life Science: Lesson 2 – The Cell II

#### **Sequence events in cellular events.**

Life Science: Lesson 4 – Life Processes II

#### **Evaluate given adaptations for their functions in organisms.**

Life Science: Lesson 6 – Mechanisms of Change

#### **Identify commonalities among groups of organisms.**

Life Science: Lesson 7 – Classification

Life Science: Lesson 8 – Animal Life

Life Science: Lesson 9 – Plant Life

#### **Make a prediction about a population in a given ecosystem.**

Life Science: Lesson 6 – Mechanisms of Change

### Physical

Demonstrate an understanding of properties of objects and materials, position and motion of objects, light, heat, electricity, magnetism, and uses of physical concepts in technological designs.

#### **Classify substances in groups by common characteristics.**

Physical Science: Lesson 3 – The Periodic Table

#### **Identify basic parts of chemical reactions.**

Physical Science: Lesson 5 – Chemical Reactions

#### **Recognize common compounds.**

Physical Science: Lesson 5 – Chemical Reactions

#### **Apply an understanding of heat flow.**

Physical Science: Lesson 6 – Energy

#### **Compare characteristics of light and sound.**

Physical Science: Lesson 8 – Sound

Physical Science: Lesson 9 – Light and Illumination

#### **Identify the cause in the change of the behavior of light.**

Physical Science: Lesson 9 – Light and Illumination

## **Earth**

Demonstrate an understanding of properties and sources of Earth materials, objects in the sky, changes in Earth and sky, resources, and impacts of technology.

### **Evaluate models of crustal plate movements.**

Earth Science: Lesson 8 – Dynamic Earth

### **Identify parts of weather systems.**

Earth Science: Lesson 5 – Weather and Climate

### **Interpret models of Earth motions.**

Earth Science: Lesson 2 – The Solar System

Earth Science: Lesson 3 – Earth and Space

### **Interpret models showing the relationship between sun and Earth.**

Earth Science: Lesson 3 – Earth and Space

### **Identify fossil evidence.**

Life Science: Lesson 6 – Mechanisms of Change

### **Make a prediction about changes shown in celestial objects.**

Earth Science: Lesson 1 – The Universe

Earth Science: Lesson 2 – The Solar System

### **Compare the characteristics of Earth to other celestial objects.**

Earth Science: Lesson 1 – The Universe

Earth Science: Lesson 2 – The Solar System

### **Identify the relationship between the angle of sunlight and temperature.**

Earth Science: Lesson 3 – Earth and Space

### **Predict the effects of Earth changes on rock structure.**

Earth Science: Lesson 9 – Rocks and Minerals

## **Nature of Science**

Demonstrate an understanding of the processes used in scientific investigations, including the use of basic measurement tools, making observations, analyzing data, evaluating scientific experiments, and recognizing the limits and advantages of science in society.

### **Identify constants in an experiment.**

Physical Science: Lesson 6 – Energy

Physical Science: Lesson 7 – Force and Motion

### **Recognize logical hypotheses.**

Life Science: Lesson 6 – Mechanisms of Change

### **Identify basic properties of matter mathematically.**

Physical Science: Lesson 2 – Matter

Physical Science: Lesson 3 – The Periodic Table

## **Process**

### **Models**

Use and analyze evidence, science experiments, and models of the processes in the natural and technological worlds, including historical evidence and historically significant models.

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- Life Science: Lesson 5 – Genetics
- Physical Science: Lesson 4 – States of Matter
- Physical Science: Lesson 5 – Chemical Reactions
- Physical Science: Lesson 6 – Energy
- Physical Science: Lesson 7 – Force and Motion
- Earth Science: Lesson 2 – The Solar System
- Earth Science: Lesson 3 – Earth and Space

### **Constancy**

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- Life Science: Lesson 6 – Mechanisms of Change
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- Earth Science: Lesson 2 – The Solar System
- Earth Science: Lesson 3 – Earth and Space
- Earth Science: Lesson 5 – Weather and Climate
- Earth Science: Lesson 7 – Water