



# Alabama Content Standards at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Alabama Content Standards.

Alabama Content Standards	MODULE: Forces and Motion	MODULE: Electricity and Magnetism
1	•	
2	•	
3		•
4		•



# **Correlations by Module**

MODULE: Forces and Motion

**DCI** Motion and Stability: Forces and Interactions

# Changes in Motion



Conduct investigations to explain the effects of balanced and unbalanced forces exerted on an object, varying the size, number, and direction of the forces.

Examples: balanced forces pushing from both sides of an object, such as a box, producing no motion; unbalanced force on one side of an object, such as a ball, producing motion

24-26, 27, 29, 30-31, 36-37, 43-44

**SEP** Science and Engineering Practices

### **Planning and Carrying Out Investigations**

Designing and conducting investigations with controlled variables; providing evidence to support explanations or design solutions.

**CCC** Crosscutting Concepts

#### Cause and Effect: Mechanism and Prediction

# **DCI** Motion and Stability: Forces and Interactions

## **Changes in Motion**

Observe and measure an object's motion to provide evidence that 8-9, 13-14, 16-17, 24-26 a pattern of motion can be used to predict future motion.

Examples: a child swinging on a swing, a ball rolling back and forth in a bowl, two children going up and down on a seesaw, a model vehicle rolling down ramps of varying heights, a swinging pendulum

**SEP** Science and Engineering Practices

## **Planning and Carrying Out Investigations**

Designing and conducting investigations with controlled variables; providing evidence to support explanations or design solutions.

**CCC** Crosscutting Concepts

#### **Patterns**

Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena and designed products. Patterns of change can be used to make predictions. Patterns can be used as evidence to support an explanation.

Other Correlations		
Alabama Course of Study: English Language Arts Connections		
<b>1</b> 0–12		
16	10–12, 32	
Open Court Reading Connections		
Alabama Inspire Science, Grade 3, Unit 1, Module 1, Lesson 1	Open Court Reading, Grade 3, Unit 6, Lesson 3	
Alabama Inspire Science, Grade 3, Unit 1, Module 1, Lesson 2	Open Court Reading, Grade 3, Unit 6, Lesson 2	





# MODULE: Electricity and Magnetism

**DCI** Motion and Stability: Forces and Interactions

### **Non-Contact Forces**



Conduct investigations to determine cause and effect relationships between objects not in contact with one another, including magnetic and electrostatic forces.

Examples: the force on hair from an electrically charged balloon, the attraction of the plastic wrap to your hand after you remove it from a package, force between two permanent magnets at a distance, force between two magnets and steel paper clips

52-53, 56-57, 60, 62, 63

# **SEP** Science and Engineering Practices

#### Asking Questions and Defining Problems

Specifying qualitative relationships.



**CCC** Crosscutting Concepts

#### Cause and Effect: Mechanism and Prediction

Cause and effect relationships are routinely identified, tested, and used to explain change. Events that occur together with regularity might or might not be a cause and effect relationship.

## **Motion and Stability: Forces and Interactions**

### **Non-Contact Forces**



Apply scientific ideas about magnetic interactions to solve a problem using the engineering design process.

Examples: constructing maglev systems, constructing a latch to keep a door shut

70-71, 74-75, 76-77, 85-90

# **SEP** Science and Engineering Practices

#### Asking Questions and Defining Problems

Specifying qualitative relationships.



**CCC** Crosscutting Concepts

#### Systems and System Models

A system is a group of related parts that make up a whole and can carry out functions its individual parts cannot. A system can be described in terms of its components and their interactions.

Other Correlations  Alabama Course of Study: English Language Arts Connections		
<b>1</b> 6	56–57, 58 –59, 72–73, 76	
Open Court Reading Connections		
Alabama Inspire Science, Grade 3, Unit 1, Module 2, Lesson 1	Open Court Reading, Grade 3, Unit 6, Lesson 4	
Alabama Inspire Science, Grade 3, Unit 1, Module 2, Lesson 2	Open Court Reading, Grade 3, Unit 4, Lesson 6	



# Alabama Content Standards at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Alabama Content Standards.

Alabama Content Standards	MODULE: Plants	MODULE: Animals
5	•	•
6	•	•
7	•	•
9	•	
11		•



# **Correlations by Module**

DCI From Molecules to Organisms: Structures and Processes

MODULE:	Plants

# **Growth and Development**

Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death. Examples: flowering plants, frogs, butterflies

7, 8, 10-11, 13-14, 17, 40-41

**SEP** Science and Engineering Practices

# **Developing and Using Models**

Building and revising simple models; using models to represent events and design solutions.

**CCC** Crosscutting Concepts

### Stability and Change

Change is measured in terms of differences over time and may occur at different rates. Some systems appear stable, but over long periods of time will eventually change.

# DCI Heredity: Inheritance and Variation of Traits

# **Inherited Traits and Environmental Impact**

Use data to provide evidence that plants and animals have observable traits inherited from parents and that variations of these traits exist in groups of similar organisms.

Examples: dogs and their offspring have fur and four legs, pine trees and their offspring have needles

24, 25, 28-29, 33

# **SEP Science and Engineering Practices**

#### Analyzing and Interpreting Data

Introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations, using digital tools whenever possible.

# **CCC** Crosscutting Concepts

#### **Patterns**

Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena and designed products. Patterns of change can be used to make predictions. Patterns can be used as evidence to support an explanation.

# DCI Heredity: Inheritance and Variation of Traits

#### **Inherited Traits and Environmental Impact**



Use evidence to support a claim that traits can be influenced by the environment.

Examples: insufficient nutrients leads to stunted growth in plants and animals; acid in the soil determines the color of the hydrangea blooms; a flamingo's diet determines the color of its feathers

8-9, 11-12, 30, 32-34

# **SEP Science and Engineering Practices**

## **Constructing Explanations and Designing Solutions**

Using evidence in constructing explanations that specify variables; describing and predicting phenomena; and designing multiple solutions to design problems.

# **CCC** Crosscutting Concepts

# Cause and Effect: Mechanism and Prediction

# **DCI** Unity and Diversity

## **Biodiversity**



Construct an explanation from evidence of how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Examples: plants having larger thorns being less likely to be eaten by predators, animals having better camouflage coloration being more likely to survive and bear offspring

28-29, 32

**SEP** Science and Engineering Practices

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Using evidence in constructing explanations that specify variables; describing and predicting phenomena; and designing multiple solutions to design problems.

**CCC** Crosscutting Concepts

### Systems and System Models

A system is a group of related parts that make up a whole and can carry out functions its individual parts cannot. A system can be described in terms of its components and their interactions.

Other Correlations	
Alabama Course of Study: English Language Arts Conr	nections
<b>A</b> 6	Teacher's Edition Only: 14
34	29



# **Correlations by Module**

# MODULE: Animals

**DCI** From Molecules to Organisms: Structures and Processes

### **Growth and Development**



Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death.

50-51, 52-55, 57, 59, 61

**SEP** Science and Engineering Practices

#### **Developing and Using Models**

Building and revising simple models; using models to represent events and design solutions.

Examples: flowering plants, frogs, butterflies

**CCC** Crosscutting Concepts

#### Stability and Change

Change is measured in terms of differences over time and may occur at different rates. Some systems appear stable, but over long periods of time will eventually change.

# **DCI** Heredity: Inheritance and Variation of Traits

## **Inherited Traits and Environmental Impact**



Use data to provide evidence that plants and animals have observable traits inherited from parents and that variations of these traits exist in groups of similar organisms.

Examples: dogs and their offspring have fur and four legs, pine trees and their offspring have needles

65, 66-67, 69, 72-73, 74, 75

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# DCI Heredity: Inheritance and Variation of Traits

## **Inherited Traits and Environmental Impact**

Use evidence to support a claim that traits can be influenced by the environment.

Examples: insufficient nutrients leads to stunted growth in plants and animals; acid in the soil determines the color of the hydrangea blooms; a flamingo's diet determines the color of its feathers

45-46, 70-71, 72-73, 75

**SEP** Science and Engineering Practices

#### **Constructing Explanations and Designing Solutions**

Using evidence in constructing explanations that specify variables; describing and predicting phenomena; and designing multiple solutions to design problems.

**CCC** Crosscutting Concepts

#### **Cause and Effect: Mechanism and Prediction**

Cause and effect relationships are routinely identified, tested, and used to explain change. Events that occur together with regularity might or might not be a cause and effect relationship.

# DCI Unity and Diversity

## **Biodiversity**



Construct explanations of how forming groups helps some

Example: quail form coveys to provide protection for their young

82-84, 85, 86, 88, 90-91, 93

**SEP** Science and Engineering Practices

#### **Constructing Explanations and Designing Solutions**

Using evidence in constructing explanations that specify variables; describing and predicting phenomena; and designing multiple solutions to design problems.

**CCC** Crosscutting Concepts

#### **Cause and Effect: Mechanism and Prediction**

Other Correlations		
Alabama Course of Study: English Language Arts Connections		
2	74	
<b>A</b> 3	74	
<b>5</b>	74	
<b>A</b> 6	59	
19, 19a.	70	
<b>A</b> 35	95	
Open Court Reading Connections	·	
Alabama Inspire Science, Grade 3, Unit 2, Module 2, Lesson 1	Open Court Reading, Grade 3, Unit 4: Lesson 1	
Alabama Inspire Science, Grade 3, Unit 2, Module 2, Lesson 2	Open Court Reading, Grade 3, Unit 4: Lesson 1, Lesson 3, Lesson 4, Lesson 5; Unit 6: Lesson 5	
Alabama Inspire Science, Grade 3, Unit 2, Module 2, Lesson 3	Open Court Reading, Grade 3, Unit 4: Lesson 2, Lesson 5, Lesson 6	



# Alabama Content Standards at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Alabama Content Standards.

Alabama Content Standards	MODULE: Survive the Environment	MODULE: Change the Environment
8		•
10	•	
12		•



# **Correlations by Module**

	1.1		
MODULE:	tha	<b>H</b> nvironi	mant

**DCI** Unity and Diversity

Biodiversity		
10	Make a claim from evidence that an organism's likelihood of survival depends upon access to sufficient resources in its habitat, including sunlight, air, water, food, and shelter.	11–12, 29

**SEP** Science and Engineering Practices

#### **Engaging in Argument from Evidence**

Critiquing the scientific explanations or solutions proposed by peers, citing relevant evidence about the natural and designed world(s).

**CCC** Crosscutting Concepts

### **Energy and Matter: Flows, Cycles, and Conservation**

Matter is made of particles. Matter flows and cycles can be tracked in terms of the weight of the substances before and after a process occurs. The total weight of the substances does not change. This is what is meant by conservation of matter. Matter is transported into, out of, and within systems. Energy can be transferred in various ways; energy can be transferred between objects.

Other Correlations		
Alabama Course of Study: English Language Arts Connections		
1a	8–9, 38–39, 46	
4	8–9, 38–39, 46	
18	8–9, 38–39, 46	
29	8–9, 38–39, 46	
Open Court Reading Connections		
Alabama Inspire Science, Grade 3, Unit 3, Module 1, Lesson 1	Open Court Reading, Grade 3, Unit 4: Lesson 1, Lesson 2, Lesson 5, Lesson 6	
Alabama Inspire Science, Grade 3, Unit 3, Module 1, Lesson 2	Open Court Reading, Grade 3, Unit 4: Lesson 3, Lesson 4	



# Correlations by Module

# MODULE: Change the Environment

# **DCI** Unity and Diversity

### **Fossil Evidence**



Analyze and interpret data from fossils to provide evidence of the existence of organisms and information about the environments in which they lived. Examples: marine fossils on dry land, tropical plant fossils in arctic areas, fossils of extinct organisms in any environment

54-55, 58, 59, 60, 61, 63, 64-65, 67, 85-90

# **SEP** Science and Engineering Practices

### **Analyzing and Interpreting Data**

Introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations, using digital tools whenever possible.

# **CCC** Crosscutting Concepts

### Scale, Proportion, and Quantity

Natural objects and/or observable phenomena exist from the very small to the immensely large or from very short to very long time periods. Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.

# **DCI** Unity and Diversity

## **Human Impact**



Obtain and communicate information regarding the impact of existing solutions on plant and animal populations when environmental changes occur. Examples: creating barriers in coastal areas to protect sea oats from destruction by hurricanes, trapping and relocating beavers whose dam causes flooding, reseeding a forest following wildfires, cutting a fire break or burning underbrush to contain a wildfire

72, 75-76, 77, 81, 85-90

# **SEP** Science and Engineering Practices

### **Engaging in Argument from Evidence**

Critiquing the scientific explanations or solutions proposed by peers, citing relevant evidence about the natural and designed world(s).

# **CCC** Crosscutting Concepts

### Scale, Proportion, and Quantity

Natural objects and/or observable phenomena exist from the very small to the immensely large or from very short to very long time periods. Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.

Other Correlations		
Alabama Course of Study: English Language Arts Connections		
18	59, 79, 81	
23	56–57, 58, 60, 61, 63, 74–76	
24a	56–57, 58, 60, 61, 63, 74–76	
R5	72, 77, 81	
Open Court Reading Connections		
Alabama Inspire Science, Grade 3, Unit 3, Module 2, Lesson 1	Open Court Reading, Grade 3, Unit 6: Lesson 1	
Alabama Inspire Science, Grade 3, Unit 3, Module 2, Lesson 2	Open Court Reading, Grade 3, Unit 2: Lesson 1, Lesson 2, Lesson 3; Unit 4: Lesson 5	





# Alabama Content Standards at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Alabama Content Standards.

Alabama Content Standards	MODULE: Weather Impacts
13	•
14	•
15	•



# **Correlations by Module**

**MODULE: Weather Impacts** 

**DCI** Earth's Systems

### Weather



Represent data in tables or graphical displays to reveal typical weather patterns during a particular season.

Examples: line graphs of precipitation, bar graphs of wind direction, line plots of temperature

8-9, 16-17, 21, 24-25, 26-27, 28, 29-30, 31, 32, 34-35

**SEP** Science and Engineering Practices

#### Analyzing and Interpreting Data

Introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations, using digital tools whenever possible.



**CCC** Crosscutting Concepts

# **Patterns**

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# **DCI** Earth's Systems

#### Climate

Use information from a variety of sources to describe climates in different regions of the world.

21, 24–25, 26, 28, 29–30, 31, 32, 33, 34-35, 37

**SEP** Science and Engineering Practices

#### Obtaining, Evaluating, and Communicating Information

Evaluating the merit and accuracy of ideas and methods.

**CCC** Crosscutting Concepts

#### Systems and System Models

A system is a group of related parts that make up a whole and can carry out functions its individual parts cannot. A system can be described in terms of its components and their interactions.

# **DCI** Earth and Human Activity

#### **Natural Hazard Solutions**



Obtain and communicate information on the effectiveness of existing solutions designed to reduce the impact of weatherrelated hazards.

Examples: flood barriers, wind-resistant roofs, tornado warning sirens, hurricane shutters, tornado shelters, weather alert apps on a phone

41, 42-43, 44-45, 46, 47, 48-49, 53, 55, 58, 61, 62–63, 64–65, 66–67, 68, 70-71, 72, 75-80

**SEP** Science and Engineering Practices

#### **Engaging in Argument from Evidence**

Critiquing the scientific explanations or solutions proposed by peers, citing relevant evidence about the natural and designed world(s).

**CCC** Crosscutting Concepts

#### Cause and Effect: Mechanism and Prediction

Other Correlations		
Alabama Course of Study: English Language Arts Connections		
26	51	
39	51, 68	
Open Court Reading Connections		
Alabama Inspire Science, Grade 3, Unit 4, Module 1, Lesson 1	Open Court Reading, Grade 3, Unit 2, Lesson 1-5	
Alabama Inspire Science, Grade 3, Unit 4, Module 1, Lesson 2	Open Court Reading, Grade 3, Unit 2, Lesson 1, Lesson 2, Lesson 5	
Alabama Inspire Science, Grade 3, Unit 4, Module 1, Lesson 3	Open Court Reading, Grade 3, Unit 2, Lesson 1, Lesson 3, Lesson 6	
Alabama Inspire Science, Grade 3, Unit 4, Module 1, Lesson 4	Open Court Reading, Grade 3, Unit 2, Lesson 1, Lesson 3, Lesson 4, Lesson 6	