

# Common Core State and Next Generation Science Standard Alignment

## Chapter 1: Weights & Measures

### *Food Explorations Lab I: Mastering Measurements*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of science and technical texts.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex science/technical texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations:**

- MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

- **Disciplinary Core Ideas:**

- PS1.A** Structure and Properties of Matter: Each substance has characteristic physical and chemical properties that can be used to identify it.

- **Science and Engineering Practices:**

- Analyzing and Interpreting Data:** Analyze and interpret data to determine similarities and differences in the findings.

### *Food Explorations Lab II: Label Logic*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

- R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
- R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.
- R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).
- R-10** Read and comprehend complex science/technical texts independently and proficiently.
- W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- W-9** Draw evidence from informational texts to support analysis, reflection, and research.
- SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.
- L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations:**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Ideas:**

**LS1.C** Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices:**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

***Investigating Your Health: Everyday Weighing and Measuring***

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

- R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.
- R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).
- R-10** Read and comprehend complex science/technical texts independently and proficiently.
- W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations:**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Ideas:**

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices:**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

### **Chapter 2: Food Safety**

#### **Food Explorations Lab I: Changing States**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS-4.** Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations.
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter.

▪ **Science and Engineering Practices:**

- Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.
- Developing and Using Models: Develop a model to predict and/or describe phenomena.

**Food Explorations Lab II: Invisible Creatures**

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations**

**MS-LS2-2** Construct an explanation that predicts patterns and interactions among organisms across multiple ecosystems.

▪ **Science and Engineering Practices**

Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.

▪ **Crosscutting Concepts**

Patterns can be used to identify cause and effect relationships.

### ***Food Explorations Lab III: Multiplying Microorganisms***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

##### **▪ Performance Expectations**

**MS-LS2-1.** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

##### **▪ Disciplinary Core Ideas:**

**LS1.C** Organization for Matter and Energy Flow in Organisms:

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with non-living factors.
- Growth of organisms and population increases are limited by access to resources.

##### **▪ Science and Engineering Practices:**

Analyze and interpret data to provide evidence for phenomena.

##### **▪ Crosscutting Concepts:**

Cause and effect relationships may be used to predict phenomena in natural or designed systems.

### ***Investigating Your Health: Fearless Food Safety***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

#### **Next Generation Science Standards:**

- **Performance Expectations**

- MS-LS2-1.** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

- **Disciplinary Core Ideas:**

- LS1.C** Organization for Matter and Energy Flow in Organisms:

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with non-living factors.

- **Science and Engineering Practices:**

- Analyze and interpret data to provide evidence for phenomena.

- **Crosscutting Concepts:**

- Cause and effect relationships may be used to predict phenomena in natural or designed systems.

### **Chapter 3: Vegetables**

#### **Food Explorations Lab I: Exploring Acids & Bases**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards**

- **Performance Expectations:**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

- **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

- **Science and Engineering Practices:**

Analyzing and Interpreting Data

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

- **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

### **Food Explorations Lab II: Cooking with Acids & Bases**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards**

- **Performance Expectations:**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

- **Disciplinary Core Ideas:**

### **PS1.A Structure and Properties of Matter:**

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.
- **Science and Engineering Practices:**  
Analyzing and Interpreting Data:
  - Analyze and interpret data to determine similarities and differences in the findings.
  - Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- **Crosscutting Concepts:**  
Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
- **Performance Expectations:**  
**MS-LS1-2.** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
- **Disciplinary Core Ideas:**  
**LS1.A** Structure and Properties of Matter: Within cells, special structures are responsible for particular functions, and the cell forms the boundary that controls what enters and leaves the cell.
- **Science and Engineering Practices:** Develop and use a model to describe phenomena.

### ***Investigating Your Health: Fabulous Phytochemicals***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

#### **Next Generation Science Standards:**

- **Performance Expectation**  
**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.
- **Disciplinary Core Idea**  
**LS1.C** Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## Chapter 4: Fruits

### *Food Explorations Lab I: Enzymatic Reactions*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

- **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it; and
- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

- **Science and Engineering Practices:**

Analyzing and Interpreting Data:

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

- **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

### *Food Explorations Lab II: Hidden Antioxidants*

## **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### **Next Generation Science Standards:**

#### ▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

#### ▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

**LS1.A** Structure and Function

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

#### ▪ **Science and Engineering Practices:**

Analyzing and Interpreting Data:

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- Develop a model to describe an unobservable mechanism.

#### ▪ **Crosscutting Concepts:**

- Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

## **Investigating Your Health: Amazing Antioxidants**

## **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

### **Next Generation Science Standards:**

- **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Idea**

**LS1.C** Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## **Chapter 5: Milk & Cheese**

### **Food Explorations Lab I: Explicit Enzymes**

## **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations**

**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

○ Each substance has characteristic physical and chemical properties that can be used to identify it; and

**PS1.B** Chemical Reactions:

○ Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

**LS1.C** Organization for Matter and Energy Flow in Organisms:

○ Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices:**

Analyzing and Interpreting Data:

○ Analyze and interpret data to determine similarities and differences in the findings.

○ Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

▪ **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

**Food Explorations Lab II: Magnificent Microbes**

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations:**

**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

**MS-LS2-2** Construct an explanation that predicts patterns and interactions among organisms across multiple ecosystems.

▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.

**PS1.B** Chemical Reactions:

- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

**LS1.C** Organization for Matter and Energy Flow in Organisms:

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

**LS2.A** Interdependent Relationships in Ecosystems:

- Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environment, both living and non-living, are shared.

▪ **Science and Engineering Practices:**

Analyzing and Interpreting Data:

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.

▪ **Crosscutting Concepts:**

- Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
- Patterns can be used to identify cause and effect relationships.

**Investigating Your Health: Magnificent Milk**

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**Next Generation Science Standards:**

▪ **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Idea**

**LS1.C** Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

**Food Explorations Lab III: Maintaining Mass**

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS1-5.** Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.

▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.

**PS1.B** Chemical Reactions:

- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.
- The total number of each type of atom is conserved and thus the mass does not change.

▪ **Science and Engineering Practices:**

- Analyze and interpret data to determine similarities and differences in the findings.
- Develop a model to describe unobservable mechanisms.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- Laws are regularities or mathematical descriptions of natural phenomena.

▪ **Crosscutting Concepts:**

- Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
- Matter is conserved because atoms are conserved in physical and chemical processes.

***Investigating Your Health: Charming Cheese***

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**Next Generation Science Standards:**

▪ **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Idea**

**LS1.C** Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.
- **Science and Engineering Practices**  
Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## Chapter 6: Meat, Fish, Poultry & Eggs

### *Food Explorations Lab I: The Building Blocks*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-LS1-3** Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Ideas:**

**LS1.A** Structure and Function

- In multicellular organisms the body is a system of multiple interacting sub-systems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.

**LS1.C** Organization of Matter and Energy Flow in an Organism

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices:**

## Developing and Using Models

- Develop a model to describe unobservable mechanisms.

## **Food Explorations Lab II: Synthesizing Muscles**

### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### **Next Generation Science Standards:**

#### ▪ **Performance Expectations:**

**MS-LS1-3** Use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

#### ▪ **Disciplinary Core Ideas:**

##### **LS1.A** Structure and Function

- In multicellular organisms the body is a system of multiple interacting sub-systems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.

##### **LS1.C** Organization of Matter and Energy Flow in an Organism

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

#### ▪ **Science and Engineering Practices:**

## Developing and Using Models

- Develop a model to describe unobservable mechanisms.

### **Food Explorations Lab III: Foam Formulations**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of science and technical texts.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex science/technical texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

##### ▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

##### ▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter: Each substance has characteristic physical and chemical properties that can be used to identify it.

##### ▪ **Science and Engineering Practices:**

**Analyzing and Interpreting Data:** Analyze and interpret data to determine similarities and differences in the findings.

### **Investigating Your Health: Healthy Proteins**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**Next Generation Science Standards:**

▪ **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Idea**

**LS1.C** Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

***Investigating Your Health: Extraordinary Eggs***

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**Next Generation Science Standards:**

▪ **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Idea:**

**LS1.C** Organization for Matter and Energy Flow in Organisms

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## **Chapter 7: Grains**

### **Food Explorations Lab I: Great Grains**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Idea**

**LS1.C Organization for Matter and Energy Flow in Organisms**

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

### **Food Explorations Lab II: Globes of Gluten**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

- **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it

- **Science and Engineering Practices:**

Analyzing and Interpreting Data:

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

- **Crosscutting Concepts:**

- Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

#### **Food Explorations Lab III: Amylase in Action**

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Next Generation Science Standards:**

▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-7.** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.

**PS1.B** Chemical Reactions

- Substances react chemically in a characteristic way. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

**LS1.C** Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices:**

Analyzing and Interpreting Data:

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

▪ **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

**Investigating Your Health: Gratifying Grains**

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

### **Next Generation Science Standards:**

- **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Idea**

**LS1.C Organization for Matter and Energy Flow in Organisms**

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

### **Chapter 8: Sugar**

#### ***Food Explorations Lab I: Sweet Saccharide***

### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-7.** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.

#### **LS1.C Organization for Matter and Energy Flow in Organisms**

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

#### ▪ **Science and Engineering Practices:**

- Analyze and interpret data to determine similarities and differences in the findings.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- Develop a model to explain unobservable phenomenon.

#### ▪ **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

### ***Food Explorations Lab II: Super Solutions***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

##### ▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS1-4.** Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

**MS-LS1-7.** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

##### ▪ **Disciplinary Core Ideas:**

**PS1.A Structure and Properties of Matter:**

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations.
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter.

**LS1.C Organization for Matter and Energy Flow in Organisms:**

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices:**

- Analyze and interpret data to determine similarities and differences in the findings.
- Develop a model to predict and/or describe phenomena.
- Scientific knowledge is based on logical and conceptual connections between evidence and explanation.

▪ **Crosscutting Concepts:**

Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

***Investigating Your Health: Surprising Sugar***

**ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

**Next Generation Science Standards:**

▪ **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

▪ **Disciplinary Core Idea**

**LS1.C** Organization for Matter and Energy Flow in Organisms

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

▪ **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## Chapter 9: Fats & Oils

### *Food Explorations Lab I: Lipid Language*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

##### ▪ **Performance Expectations**

**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS1-4** Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

##### ▪ **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations.
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter.

**LS1.C** Organization for Matter and Energy Flow in Organisms:

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices:**
  - Analyze and interpret data to determine similarities and differences in the findings.
  - Develop a model to predict and/or describe phenomena.
  - Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- **Crosscutting Concepts:**
  - Macroscopic patterns are related to the nature of microscopic and atomic-level structure.

### ***Food Explorations Lab II: Examining Emulsions***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

- **Performance Expectations**

**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Ideas:**

**PS1.A** Structure and Properties of Matter:

- Each substance has characteristic physical and chemical properties that can be used to identify it.

**LS1.A** Structure and Function:

- Within cells, special structures are responsible for particular functions, and the cell membrane forms a boundary that controls what enters and leaves the cell.

### **LS1.C Organization for Matter and Energy Flow in Organisms:**

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.
- **Science and Engineering Practices:**
  - Analyze and interpret data to determine similarities and differences in the findings.
  - Develop and use a model to describe phenomena.
  - Scientific knowledge is based on logical and conceptual connections between evidence and explanation.
- **Crosscutting Concepts:**
  - Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
  - Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts; therefore, complex natural and designed structures/systems can be analyzed to determine how they function.

### ***Investigating Your Health: Fascinating Fats***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

#### **Next Generation Science Standards:**

##### ▪ **Performance Expectation:**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

##### ▪ **Disciplinary Core Idea:**

###### **LS1.C Organization for Matter and Energy Flow in Organisms**

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

##### ▪ **Science and Engineering Practices**

Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in the findings.

## Chapter 10: Energy Balance

### *Food Explorations Lab: Energy Balance Equation*

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-speaking and listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph or table).

**R-10** Read and comprehend complex literary and informational texts independently and proficiently.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**SL-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade (6-8) topics, texts, and issues, building on others' ideas and expressing their own clearly.

**L-1** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### **Next Generation Science Standards:**

##### ▪ **Performance Expectations**

**MS-PS1-2.** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS1-6** Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.

**MS-LS1-7.** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

##### ▪ **Disciplinary Core Ideas:**

###### **PS1.B** Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.
- Some chemical reactions release energy; others absorb energy.

###### **ETS1.B** Developing Possible Solutions

- A solution needs to be tested and then modified on the basis of the test results in order to improve it.

###### **LS1.C** Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

##### ▪ **Crosscutting Concepts:**

- Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
- The transfer of energy can be tracked as energy flows through a designed or natural system.

### ***Investigating Your Health: Managing Your Meals***

#### **ELA Common Core Standards for Literacy in Science and Technical Subjects (R-reading, W-writing, SL-Speaking and Listening, L-language) Grades 6-8**

**R-1** Cite specific textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**R-4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical content relevant to grade (6-8) text and topics.

**R-10** Read and comprehend science/technical texts in the grades 6-8 text.

**W-2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

**W-7** Conduct short research projects to answer a question (including a self-generated question) drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

**W-9** Draw evidence from informational texts to support analysis, reflection, and research.

#### **Next Generation Science Standards:**

- **Performance Expectation**

**MS-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

- **Disciplinary Core Idea**

**LS1.C** Organization for Matter and Energy Flow in Organisms

Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, support growth, or release energy.

- **Science and Engineering Practices**

**Analyzing and Interpreting Data:** Analyze and interpret data to determine similarities and differences in the findings.