



# Ozobots

The trunk contains several different lessons for reading, social studies, math and science that use a small robot called an Ozobot. Your students will be able to create a story map and time lines. They will be able to calculate measurements. They will also be able explore life cycles and water cycles. Lessons are written for first through sixth grade.

An introduction to Ozobot and Ozoblockly are included in this unit as resources for teachers to read before teaching the lessons. Its purpose is to provide a better understanding of the Ozobots.

The cost for this trunk is **FREE** for a week. This includes the lesson plans and all the materials you will need for each lesson.

The Ozobot Education Trunk is sponsored by:

**SM Energy**



## OZOBOT TRUNK MASTER TEKS ALLIGNMENT:

### Science, 1<sup>st</sup> Grade

- (4) Organisms and Environments  
(1.10.D) Observe and record life cycles of animals such as a chicken, frog, or fish.

### Science, 2<sup>nd</sup> Grade

- (3) Earth and Space  
(2.8.C) Explore the processes in the water cycle, including evaporation, condensation, and precipitation, as connected to weather conditions.
- (4) Organisms and Environments  
(2.10.C) Investigate and record some of the unique stages that insects undergo during their life cycle.

### Science, 3<sup>rd</sup> Grade

- (3) Earth and Space  
(3.8.D) Identify the planets in earth's solar system and their position in relation to the sun.  
(3.8.B) Describe and illustrate the sun as a star composed of gases that provides light and heat energy for the water cycle.  
(3.8.C) Construct models that demonstrate the relationship of the sun, earth, and moon, including orbits and positions.
- (4) Organisms and Environments  
(3.10.C) Investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs.

### Science, 4<sup>th</sup> Grade

- (3) Earth and Space  
(4.7.C) Identify and classify earth's renewable resources, including air, plants, water and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.  
(4.8.C) Collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the moon over time.  
(4.10.C) Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the sun as a major source of energy in this process.
- (4) Organisms and Environments  
(4.10.C) Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.

### Science, 5<sup>th</sup> Grade

- (3) Earth and Space  
(4.7.C) Identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.  
(4.8.B) Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the sun as a major source of energy in the process.  
(5.8.C) Demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky.  
(5.8.D.) Identify and compare the physical characteristics of the Sun, Earth, and Moon.  
(3.8.D) Identify the planets in Earth's solar system and their position in relation to the sun.
- (4) Organisms and Environments

(3.10.C) Investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs.

### Science, 6<sup>th</sup> Grade

- (3) Earth and Space
  - (6.11.A) Describe the physical properties, locations, and movements of the Sun, planets, Galilean moons, meteors, asteroids, and comets.
  - (6.11.B) Understand that gravity is the force that governs the motion of our solar system.

### Math, 1<sup>st</sup> Grade

- (1.7) Geometry and Measurement
  - (1.7B) Describe a length to the nearest whole unit using a number and a unit.

### Math, 2<sup>nd</sup> Grade

- (2.9) Geometry and Measurement
  - (2.9E) Determine a solution to a problem involving length, including estimating lengths.

### Reading/ELA, 2<sup>nd</sup> Grade

- (2) Understanding/Analysis of Literary Texts
  - (2.9B) Describe main characters in work of fiction, including their traits, motivations, and feelings.
  - (fig. 19E) Retell important events in stories.
- (3) Understanding/Analysis of Informational Texts
  - (2.14B) Locate the facts that are clearly stated in a text.
  - (2.14 C) Describe the order of events or ideas in a text.

### Reading/ELA, 3<sup>rd</sup> Grade

- (2) Understanding/Analysis of Literary Texts
  - (3.8A) Sequence and summarize the plot's main events and explain their influence on future events.
  - (3.8B) Describe the interaction of characters including their relationship and the changes they undergo
  - (Fig. 19.D) Make inferences about text and use textual evidence to support understanding
  - (Fig. 19E) Summarize information in text, maintaining meaning and logical order.
- (3) Understanding/Analysis of Informational Texts
  - (3.13.A) Identify the details or facts that support the main idea.
  - (3.13/B) Draw conclusions from the facts presented in text and support those assertions with textual evidence.
  - (3.13.C) Identify explicit cause and effect relationships among ideas in texts.
  - (Fig. 19.D) Make inferences about text and use textual evidence to support understanding.
  - (Fig. 19.E) Summarize information in text, maintaining meaning and logical order.

### Reading/ELA, 4<sup>th</sup> Grade

- (2) Understanding/Analysis of Informational Texts
  - (4.6. A) Sequence and summarize the plot's main events and explain their influence on future events.
  - (4.6. B) Describe the interaction of characters including their relationships and the changes they undergo.
  - (Fig. 19D) Make inferences about text and use textual evidence to support understanding (Fiction)
  - (Fig. 19E) Summarize information in text, maintaining meaning and logical order (Fiction)
- (3) Understanding Analysis of Informational Texts
  - (4.10) Analyze, make inferences and draw conclusions about the author's purpose in cultural, historical, and contemporary contexts and provide evidence from the text to support their understanding.
  - (4.11.A) Summarize the main idea and supporting details in text in ways that maintain meaning.
  - (4.11.C) Describe explicit and implicit relationships among ideas in texts organized by cause-and-effect, sequence, or comparison
  - (Fig. 19.D) Make inferences about text and use textual evidence to support understanding.
  - (Fig. 19.E) Summarize information in text, maintaining meaning and logical order.

## Reading/ELA, 5<sup>th</sup> Grade

- (2) Understanding/Analysis of Informational Texts  
(5.6.A) Describe incidents that advance the story or novel, explaining how each incident gives rise to or foreshadows future events.  
(5.6.B) Explain the roles and functions of characters in various plots, including their relationships and conflicts.  
(5.8.A) Evaluate the impact of sensory details, imagery, and figurative language in literary text.  
(Fig. 19.D.) Make inferences about text and use textual evidence to support understanding.  
(Fig. 19.E) Summarize and paraphrase texts in ways that maintain meaning and logical order within a text.
- (3) Understanding/Analysis of Informational Texts  
(5.11.A.) Summarize the main ideas and supporting details in a text in ways that maintain meaning and logical order,  
(5.11.C) Analyze how the organizational pattern of a text (e.g., cause and effect, compare and contrast, sequential order, logical order, classification schemes) influences the relationship among the ideas.  
(Fig. 19.D) Make inferences about text and use textual evidence to support understanding.  
(Fig. 19.E) Summarize and paraphrase texts in ways that maintain meaning and logical order within a text and across texts.

## Social Studies, 2<sup>nd</sup> Grade

- (1) History  
(2.1.A) Describe the order of events by using designations of time periods such as historical and present times.  
(2.4.C) Explain how people and events have influenced local and community history
- (2) Geography and Culture  
(2.7.A) Describe how weather patterns and seasonal patterns affect activities and settlement patterns.  
(2.7.C) Explain how people depend on the physical environment and natural resources to meet basic needs.  
(2.7.D) Identify the characteristics of different communities, including urban, suburban, and rural, and how they affect activities and settlement patterns.
- (3) Government and Citizenship  
(2.11.B) Identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

## Social Studies, 3<sup>rd</sup> Grade

- (1) History  
(3.1.A) Describe how individuals, events, and ideas have changed communities, past and present.  
(3.2.A) Identify reasons people have formed communities, including a need for security, religious freedom, law, and material well-being.  
(3.3.B) Create and interpret timelines
- (2) Geography and Culture  
(3.4.B) Identify and compare how people in different communities adapt to or modify the physical environment in which they live such as deserts, mountains, Wetlands, and plains.  
(3.4.D) Describe the effects of human processes such as building new homes, conservation, and pollution in shaping the landscape.

## Texas History, 4<sup>th</sup> Grade

- (1) History  
(4.2.B) Identify the accomplishments and explain the economic motivations and impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and Rene Robert Cavelier, Sieur de la Salle, on the settlement of Texas.  
(4.2.E) Identify the accomplishments and explain the economic motivations and impact of significant empresarios, including Stephen F. Austin and Martin de Leon, on the settlement of Texas.  
(4.3.A) Analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto.  
(4.3.E) Explain the events that led to the annexation of Texas to the United States, including the impact of the U.S. – Mexican War.  
(4.4.A) Describe the impact of the Civil War and Reconstruction on Texas.  
(4.4.B) Explain the growth, development, and impact of the cattle industry, including contributions made by Charles Goodnight, Richard King, and Lizzie Johnson.  
(4.5.A) Identify the impact of various issues and events on life in Texas such as urbanization, increased use of oil and gas, the Great Depression, the Dust Bowl, and World War II.

(4.5.B) Explain the development and impact of the oil and gas industry upon industrialization and urbanization in Texas, including important places and people such as Spindletop and Pattillo Higgins.

(2) Geography and Culture

(4.8.A) Identify and explain clusters and patterns of settlement in Texas at different time periods such as prior to the Texas Revolution, after the building of the railroads, and following World War II.

(4.9.B) Identify reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

### American History, 5<sup>th</sup> Grade

(1) History

(5.1.A) Explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

(5.2.A) Identify and analyze the causes and effects of events prior to and during the American Revolution, including the French and Indian War and the Boston Tea Party.

(5.2.C) Summarize the results of the American Revolution, including the establishment of the United States and the development of the U.S. military.

(5.4.D) Identify significant events and concepts associated with U.S. territorial expansion, including the Louisiana Purchase, the expedition of Lewis and Clark, and Manifest Destiny.

(5.5.A) Analyze various issues and events in the 20<sup>th</sup> century such as industrialization, urbanization, increased use of oil and gas, the Great Depression, the world wars, the civil rights movement, and military actions.

(2) Geography and Culture

(5.7.A) Describe a variety of regions in the United States such as political, population, and economic regions that result for patterns of human activity.

(5.8.A) Identify and describe the types of settlement and patterns of land use in the United States.

(5.8.C) Analyze the reasons for the location of cities in the United States, including capital cities, and explain their distribution, past and present.

(5.9.A) Describe how and why people have adapted to and modified their environment in the United States, past and present, such as the use of human resources to meet basic needs.

### Social Studies, 6<sup>th</sup> Grade

(1) History

(6.1.A) Trace characteristic of various contemporary societies in regions that resulted from historical events or factors such as invasion, conquests, colonization, immigration, and trade.

(2) Geography

(6.3.A) Pose and answer geographic questions, including: Where is it located? Why is it there? What is significant about its location? How is its location related to the location of other people, places, and environments.

(6.3.C) Compare various world regions and countries using data from geographic tools, including maps, graphs, charts, databases, and models.

(6.4.B) Identify and explain the geographic factors responsible for patterns of population in places and regions.

(6.4.C) Explain ways in which human migration influences the character of places and regions.

(6.4.D) Identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

(6.5.B) Identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's ability to control territory.