

The Gravatt Garden

K.L.2A. Conceptual Understanding: The environment consists of many types of organisms including plants, animals, and fungi. Organisms depend on the land, water, and air to live and grow. Plants need water and light to make their own food. Fungi and animals cannot make their own food and get energy from other sources. Animals (including humans) use different body parts to obtain food and other resources needed to grow and survive. Organisms live in areas where their needs for air, water, nutrients, and shelter are met.

K.L.2A.1 Obtain information to answer questions about different organisms found in the environment (such as plants, animals, or fungi).

K.L.2A.2 Conduct structured investigations to determine what plants need to live and grow (including water and light).

1.L.5A Conceptual Understanding: Plants have specific structures that help them survive, grow, and produce more plants. Plants have predictable characteristics at different stages of development.

1.L.5A.1 Obtain and communicate information to construct explanations for how different plant structures (including roots, stems, leaves, flowers, fruits, and seeds) help plants survive, grow, and produce more plants.

1.L.5A.2 Construct explanations of the stages of development of a flowering plant as it grows from a seed using observations and measurements.

1.L.5B. Conceptual Understanding: Plants have basic needs that provide energy in order to grow and be healthy. Each plant has a specific environment where it can thrive. There are distinct environments in the world that support different types of plants. These environments can change slowly or quickly. Plants respond to these changes in different ways

1.L.5B.1 Conduct structured investigations to answer questions about what plants need to live and grow (including air, water, sunlight, minerals, and space).

1.L.5B.3 Analyze and interpret data from observations to describe how changes in the environment cause plants to respond in different ways (such as turning leaves toward the Sun, leaves changing color, leaves wilting, or trees shedding leaves).

2.L.5A. Conceptual Understanding: There are many different groups of animals. One way to group animals is by using their physical characteristics. Animals have basic needs that provide for energy, growth, reproduction, and protection. Animals have predictable characteristics at different stages of development.

2.L.5A.1 Obtain and communicate information to classify animals (such as mammals, birds, amphibians, reptiles, fish, or insects) based on their physical characteristics.

3.E.4A. Conceptual Understanding: Earth is made of materials (including rocks, minerals, soil, and water) that have distinct properties. These materials provide resources for human activities.

3.E.4A.1 Analyze and interpret data from observations and measurements to describe and compare different Earth materials (including rocks, minerals, and soil) and classify each type of material based on its distinct physical properties.

3.L.5A. Conceptual Understanding: The characteristics of an environment (including physical characteristics, temperature, availability of resources, or the kinds and numbers of organisms present) influence the diversity of organisms that live there. Organisms can survive only in environments where their basic needs are met. All organisms need energy to live and grow. This energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy.

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.

6.L.5B. Conceptual Understanding: The Plant Kingdom consists of organisms that primarily make their own food (autotrophs) and are commonly classified based on internal structures that function in the transport of food and water. Plants have structural and behavioral adaptations that increase the chances of reproduction and survival in changing environments

6.L.5B.2 Analyze and interpret data to explain how the processes of photosynthesis, respiration, and transpiration work together to meet the needs of plants.

6.L.5B.3 Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

6.L.5B.4 Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant.

6.L.5B.5 Analyze and interpret data to describe how plants respond to external stimuli (including temperature, light, touch, water, and gravity).

7.EC.5A. Conceptual Understanding: In all ecosystems, organisms and populations of organisms depend on their environmental interactions with other living things (biotic factors) and with physical (abiotic) factors (such as light, temperature, water, or soil quality). Disruptions to any component of an ecosystem can lead to shifts in its diversity and abundance of populations.

7.EC.5A.2 Construct explanations of how soil quality (including composition, texture, particle size, permeability, and pH) affects the characteristics of an ecosystem using evidence from soil profiles.

Conservation and Natural Resources

1.E.4: The student will demonstrate an understanding of the properties and uses of Earth's natural resources.

1.E.4B. Conceptual Understanding: Natural resources are things that people use that come from Earth (such as land, water, air, and trees). Natural resources can be conserved.

1.E.4B.1 Obtain and communicate information to summarize how natural resources are used in different ways (such as soil and water to grow plants; rocks to make roads, walls, or buildings; or sand to make glass).

1.E.4B.2 Obtain and communicate information to explain ways natural resources can be conserved (such as reducing trash through reuse, recycling, or replanting trees).

3.E.4A. Conceptual Understanding: Earth is made of materials (including rocks, minerals, soil, and water) that have distinct properties. These materials provide resources for human activities.

3.E.4A.3 Obtain and communicate information to exemplify how humans obtain, use, and protect renewable and nonrenewable Earth resources.

3.E.4B. Conceptual Understanding: Earth's surface has changed over time by natural processes and by human activities. Humans can take steps to reduce the impact of these changes.

3.E.4B.3 Obtain and communicate information to explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming, mining, or building) impact the environment.

3.E.4B.4 Define problems caused by a natural event or human activity and design devices or solutions to reduce the impact on the environment.

5.E.3: The student will demonstrate an understanding of how natural processes and human activities affect the features of Earth's landforms and oceans.

8.E.5: The student will demonstrate an understanding of the processes that alter the structure of Earth and provide resources for life on the planet.

H.E.3B. Conceptual Understanding: The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. Human transformation of the natural environment can contribute to the frequency and intensity of some natural hazards.

H.E.5A. Conceptual Understanding: Weather is the condition of the atmosphere at a particular location at a particular time. Weather is primarily determined by the angle and amount (time) of sunlight. Climate is the general weather conditions over a long period of time and is influenced by many factors.

H.E.5A.8 Analyze scientific arguments regarding the nature of the relationship between human activities and climate change.

Recycling and Composting

1.E.4B. Conceptual Understanding: Natural resources are things that people use that come from Earth (such as land, water, air, and trees). Natural resources can be conserved.

1.E.4B.2 Obtain and communicate information to explain ways natural resources can be conserved (such as reducing trash through reuse, recycling, or replanting trees).

2.L.5B. Conceptual Understanding: Animals (including humans) require air, water, food, and shelter to survive in environments where these needs can be met. There are distinct environments in the world that support different types of animals. Environments can change slowly or quickly. Animals respond to these changes in different ways.

3.E.4A. Conceptual Understanding: Earth is made of materials (including rocks, minerals, soil, and water) that have distinct properties. These materials provide resources for human activities.

3.E.4A.3 Obtain and communicate information to exemplify how humans obtain, use, and protect renewable and nonrenewable Earth resources.

5.E.3: The student will demonstrate an understanding of how natural processes and human activities affect the features of Earth's landforms and oceans.

8.E.5: The student will demonstrate an understanding of the processes that alter the structure of Earth and provide resources for life on the planet.

8.E.5C. Conceptual Understanding: Humans depend upon many Earth resources – some renewable over human lifetimes and some nonrenewable or irreplaceable. Resources are distributed unevenly around the planet as a result of past geological processes.

8.E.5C.1 Obtain and communicate information regarding the physical and chemical properties of minerals, ores, and fossil fuels to describe their importance as Earth resources.

H.E.3: The student will demonstrate an understanding of the internal and external dynamics of Earth's geosphere.

H.E.5: The student will demonstrate an understanding of the dynamics of Earth's atmosphere.

H.E.5A. Conceptual Understanding: Weather is the condition of the atmosphere at a particular location at a particular time. Weather is primarily determined by the angle and amount (time) of sunlight. Climate is the general weather conditions over a long period of time and is influenced by many factors.

H.E.5A.8 Analyze scientific arguments regarding the nature of the relationship between human activities and climate change.

Animal Classification and Organisms

K.L.2: The student will demonstrate an understanding of organisms found in the environment and how these organisms depend on the environment to meet those needs.

K.L.2A. Conceptual Understanding: The environment consists of many types of organisms including plants, animals, and fungi. Organisms depend on the land, water, and air to live and grow. Plants need water and light to make their own food. Fungi and animals cannot make their own food and get energy from other sources. Animals (including humans) use different body parts to obtain food and other resources needed to grow and survive. Organisms live in areas where their needs for air, water, nutrients, and shelter are met.

K.L.2A.2 Conduct structured investigations to determine what plants need to live and grow (including water and light).

K.L.2A.3 Develop and use models to exemplify how animals use their body parts to (1) obtain food and other resources, (2) protect themselves, and (3) move from place to place.

K.L.2A.5 Construct explanations from observations of what animals need to survive and grow (including air, water, nutrients, and shelter).

2.L.5: The student will demonstrate an understanding of how the structures of animals help them survive and grow in their environments.

2.L.5A. Conceptual Understanding: There are many different groups of animals. One way to group animals is by using their physical characteristics. Animals have basic needs that provide for energy, growth, reproduction, and protection. Animals have predictable characteristics at different stages of development.

2.L.5A.1 Obtain and communicate information to classify animals (such as mammals, birds, amphibians, reptiles, fish, or insects) based on their physical characteristics.

2.L.5A.2 Construct explanations for how structures (including structures for seeing, hearing, grasping, protection, locomotion, and obtaining and using resources) of different animals help them survive.

2.L.5A.3 Construct explanations using observations and measurements of an animal as it grows and changes to describe the stages of development of the animal.

3.L.5: The student will demonstrate an understanding of how the characteristics and changes in environments and habitats affect the diversity of organisms.

3.L.5A Conceptual Understanding: The characteristics of an environment (including physical characteristics, temperature, availability of resources, or the kinds and numbers of organisms present) influence the diversity of organisms that live there. Organisms can survive only in environments where their basic needs are met. All organisms need energy to live and grow. This energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy.

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.

3.L.5A.2 Develop and use a food chain model to classify organisms as producers, consumers, and decomposers and to describe how organisms obtain energy.

3.L.5B. Conceptual Understanding: When the environment or habitat changes, some plants and animals survive and reproduce, some move to new locations, and some die. Fossils can be used to infer characteristics of environments from long ago.

3.L.5B.2 Develop and use models to explain how changes in a habitat cause plants and animals to respond in different ways (such as hibernating, migrating, responding to light, death, or extinction).

4.L.5: The student will demonstrate an understanding of how the structural characteristics and traits of plants and animals allow them to survive, grow, and reproduce.

4.L.5A. Conceptual Understanding: Scientists have identified and classified many types of plants and animals. Each plant or animal has a unique pattern of growth and development called a life cycle. Some characteristics (traits) that organisms have are inherited and some result from interactions with the environment.

4.L.5A.3 Develop and use models to compare the stages of growth and development in various animals.

5.L.4B. Conceptual Understanding: All organisms need energy to live and grow. Energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy. Energy is transferred within an ecosystem as organisms produce, consume, or decompose food. A healthy ecosystem is one in which a diversity of life forms are able to meet their needs in a relatively stable web of life.

5.L.4B.1 Analyze and interpret data to explain how organisms obtain their energy and classify an organisms as producers, consumers (including herbivore, carnivore, and omnivore), or decomposers (such as fungi and bacteria).

5.L.4B.3 Construct explanations for how organisms interact with each other in an ecosystem (including predators and prey, and parasites and hosts).

5.L.4B.4 Construct scientific arguments to explain how limiting factors (including food, water, space, and shelter) or a newly introduced organism can affect an ecosystem.

6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive.

6.L.4A. Conceptual Understanding: Life is the quality that differentiates living things (organisms) from nonliving objects or those that were once living. All organisms are made up of cells, need food and water, a way to dispose of waste, and an environment in which they can live. Because of the diversity of life on Earth, scientists have developed a way to organize groups of organisms according to their characteristic traits, making it easier to identify and study them.

6.L.4A.1 Obtain and communicate information to support claims that living organisms (1) obtain and use resources for energy, (2) respond to stimuli, (3) reproduce, and (4) grow and develop.

6.L.4A.2 Develop and use models to classify organisms based on the current hierarchical taxonomic structure (including the kingdoms of protists, plants, fungi, and animals).

6.L.4B Conceptual Understanding: The Animal Kingdom includes a diversity of organisms that have many characteristics in common. Classification of animals is based on structures that function in growth, reproduction, and survival. Animals have both structural and behavioral adaptations that increase the chances of reproduction and survival in changing environments.

6.L.4B.1 Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics.

6.L.4B.2 Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.

6.L.4B.4 Obtain and communicate information to compare and classify innate and learned behaviors in animals.

6.L.4B.5 Analyze and interpret data to compare how endothermic and ectothermic animals respond to changes in environmental temperature.

7.EC.5: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments.

7.EC.5A. Conceptual Understanding: In all ecosystems, organisms and populations of organisms depend on their environmental interactions with other living things (biotic factors) and with physical (abiotic) factors (such as light, temperature, water, or soil quality). Disruptions to any component of an ecosystem can lead to shifts in its diversity and abundance of populations.

7.EC.5A.1 Develop and use models to describe the characteristics of the levels of organization within ecosystems (including species, populations, communities, ecosystems, and biomes).

7.EC.5A.2 Construct explanations of how soil quality (including composition, texture, particle size, permeability, and pH) affects the characteristics of an ecosystem using evidence from soil profiles.

7.EC.5B. Conceptual Understanding: Organisms in all ecosystems interact with and depend upon each other. Organisms with similar needs compete for limited resources. Food webs and energy

pyramids are models that demonstrate how energy is transferred within an ecosystem. **7.EC.5B.1** Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

7.EC.5B.2 Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.

7.EC.5B.3 Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.

7.EC.5B.4 Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.

Wildlife Habitats

K.L.2: The student will demonstrate an understanding of organisms found in the environment and how these organisms depend on the environment to meet those needs.

K.L.2A. Conceptual Understanding: The environment consists of many types of organisms including plants, animals, and fungi. Organisms depend on the land, water, and air to live and grow. Plants need water and light to make their own food. Fungi and animals cannot make their own food and get energy from other sources. Animals (including humans) use different body parts to obtain food and other resources needed to grow and survive. Organisms live in areas where their needs for air, water, nutrients, and shelter are met.

K.L.2A.5 Construct explanations from observations of what animals need to survive and grow (including air, water, nutrients, and shelter).

K.L.2A.6 Obtain and communicate information about the needs of organisms to explain why they live in particular areas.

2.L.5: The student will demonstrate an understanding of how the structures of animals help them survive and grow in their environments

2.L.5B. Conceptual Understanding: Animals (including humans) require air, water, food, and shelter to survive in environments where these needs can be met. There are distinct environments in the world that support different types of animals. Environments can change slowly or quickly. Animals respond to these changes in different ways.

2.L.5B.1 Obtain and communicate information to describe and compare how animals interact with other animals and plants in the environment.

2.L.5B.2 Develop and use models to exemplify characteristics of animals that help them survive in distinct environments (such as salt and freshwater, deserts, forests, wetlands, or polar lands).

2.L.5B.3 Analyze and interpret data from observations to describe how animals respond to changes in their environment (such as changes in food availability, water, or air).

3.L.5: The student will demonstrate an understanding of how the characteristics and changes in environments and habitats affect the diversity of organisms.

3.L.5A. Conceptual Understanding: The characteristics of an environment (including physical characteristics, temperature, availability of resources, or the kinds and numbers of organisms present) influence the diversity of organisms that live there. Organisms can survive only in environments where their basic needs are met. All organisms need energy to live and grow. This energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy.

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.

3.L.5A.2 Develop and use a food chain model to classify organisms as producers, consumers, and decomposers and to describe how organisms obtain energy.

3.L.5B. Conceptual Understanding: When the environment or habitat changes, some plants and animals survive and reproduce, some move to new locations, and some die. Fossils can be used to infer characteristics of environments from long ago.

3.L.5B.2 Develop and use models to explain how changes in a habitat cause plants and animals to respond in different ways (such as hibernating, migrating, responding to light, death, or extinction).

3.E.4A.3 Obtain and communicate information to exemplify how humans obtain, use and protect renewable and nonrenewable Earth resources.

3.E.4B Earth's surface has changed over time by natural processes and by human activities. Humans can take steps to reduce the impact of these changes.

5.L.4.(A) Ecosystems are complex, interactive systems that include both the living components (biotic factors) and physical components (abiotic systems) of the environment. Ecosystems can be classified as either terrestrial (such as forests, wetlands, and grasslands) or aquatic (such as oceans, estuaries, lakes, and ponds).

5.L.4B.2 Develop and use models of food chains and food webs to describe the flow of energy in an ecosystem.

Ecosystems

SC Ecology, Water Ecology, & Forest Ecology

1.L.5A Plants have specific structures that help them survive, grow, and produce more plants. Plants have predictable characteristics at different stages of development.

2.L.5B.1 Obtain and communicate information to describe and compare how animals interact with other animals and plants in the environment.

3.E.4A.2 Develop and use models to describe and classify the pattern distribution of land and water features on Earth.

3.E.4B Earth's surface has changed over time by natural processes and by human activities. Humans can take steps to reduce the impact of these changes.

3.L.5A The characteristics of an environment (including physical characteristics, temperature, availability of resources, or the kinds and numbers of organisms present) influence the diversity of organisms that live there. Organisms can survive only in environments where their basic needs are met. All organisms need energy to live and grow. This energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy.

5.L.4A.1 Analyze and interpret data to summarize the abiotic factors (including quantity of light and water, range of temperature, salinity, and soil composition) of different terrestrial ecosystems and aquatic ecosystems.

5.L.4A.2 Obtain and communicate information to describe and compare the biotic factors (including individual organisms, populations, and communities) of different terrestrial and aquatic ecosystems.

5.L.4B.2 Develop and use models of food chains and food webs to describe the flow of energy in an ecosystem.

5.L.4B.3 Construct explanations for how organisms interact with each other in an ecosystem (including predators and prey, and parasites and hosts).

5.L.4B.4 Construct scientific arguments to explain how limiting factors (including food, water, space, and shelter) or a newly introduced organism can affect an ecosystem.

7.EC.5: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments.

7.EC.5A.1 Develop and use models to describe the characteristics of the levels of organization within ecosystems (including species, populations, communities, ecosystems, and biomes).

7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

7.EC.5B.2 Develop and use models (food webs and energy pyramids) to exemplify how the

transfer of energy in an ecosystem supports the concept that energy is conserved.

H.B.6A.1 Analyze and interpret data that depict changes in the abiotic and biotic components of an ecosystem over time or space (such as percent change, average change, correlation and proportionality) and propose hypotheses about possible relationships between the changes in the abiotic components and the biotic components of the environment.

H.B.6A.2 Use mathematical and computational thinking to support claims that limiting factors affect the number of individuals that an ecosystem can support

H.E.6A.4 Analyze and interpret data of a local drainage basin to predict how changes caused by human activity and other factors influence the hydrology of the basin and amount of water available for use in the ecosystem.

H.B.6B.1 Develop and use models of the carbon cycle, which include the interactions between photosynthesis, cellular respiration and other processes that release carbon dioxide, to evaluate the effects of increasing atmospheric carbon dioxide on natural and agricultural ecosystems

H.B.6B.2 Analyze and interpret quantitative data to construct an explanation for the effects of greenhouse gases (such as carbon dioxide and methane) on the carbon cycle and global climate.

H.B.6C.1 Construct scientific arguments to support claims that the changes in the biotic and abiotic components of various ecosystems over time affect the ability of an ecosystem to maintain homeostasis.

Atlantic White Cedars

1.L.5 The student will demonstrate an understanding of how the structures of plants help them survive and grow in their environments.

3.E.4B Earth's surface has changed over time by natural processes and by human activities. Humans can take steps to reduce the impact of these changes.

5.L.4A Ecosystems are complex, interactive systems that include both the living components (biotic factors) and physical components (abiotic factors) of the environment. Ecosystems can be classified as either terrestrial (such as forests, wetlands, and grasslands) or aquatic (such as oceans, estuaries, lakes, and ponds).

Prescribed Fire/Controlled Burns

2.L.5B Animals (including humans) require air, water, food, and shelter to survive in environments where these needs can be met. There are distinct environments in the world that support different types of animals. Environments can change slowly or quickly. Animals respond to these changes in different ways.

3.E.4B.3 Obtain and communicate information to explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming,

mining, or building) impact the environment.

Longleaf Pine Trees & Forests

1.L.5B.2 Develop and use models to compare how the different characteristics of plants help them survive in distinct environments (including deserts, forests, and grasslands).

3.E.4B.3 Obtain and communicate information to explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming, mining, or building) impact the environment.

5.L.4A Ecosystems are complex, interactive systems that include both the living components (biotic factors) and physical components (abiotic factors) of the environment. Ecosystems can be classified as either terrestrial (such as forests, wetlands, and grasslands) or aquatic (such as oceans, estuaries, lakes, and ponds).

Chickens

1.L.5A.(1) Obtain and communicate information to construct explanations for how different plant structures (including roots, stems, leaves, flowers, fruits, and seeds) help plants survive, grow, and produce more plants.

1.L.5A.2 Construct explanations of the stages of development of a flowering plant as it grows from a seed using observations and measurements.

2.L.5A.1 Obtain and communicate information to classify animals (such as mammals, birds, amphibians, reptiles, fish, or insects) based on their physical characteristics.

2.L.5A.3 Construct explanations using observations and measurements of an animal as it grows and changes to describe the stages of development of the animal.

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.

4.L.5A.3 Develop and use models to compare the stages of growth and development in various animals.

6.L.5B.3 Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

6.L.5B.4 Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant.

7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

7.EC.5B.2 Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.

7.EC.5B.3 Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.

7.EC.5B.4 Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.

Nigerian Dwarf Goats

1.L.5A.(1) Obtain and communicate information to construct explanations for how different plant structures (including roots, stems, leaves, flowers, fruits, and seeds) help plants survive, grow, and produce more plants.

1.L.5A.2 Construct explanations of the stages of development of a flowering plant as it grows from a seed using observations and measurements.

2.L.5A.1 Obtain and communicate information to classify animals (such as mammals, birds, amphibians, reptiles, fish, or insects) based on their physical characteristics.

2.L.5A.3 Construct explanations using observations and measurements of an animal as it grows and changes to describe the stages of development of the animal.

3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.

4.L.5A.3 Develop and use models to compare the stages of growth and development in various animals.

6.L.5B.3 Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

6.L.5B.4 Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant.

7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

7.EC.5B.2 Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.

7.EC.5B.3 Analyze and interpret data to predict how changes in the number of organisms of one

species affects the balance of an ecosystem.

7.EC.5B.4 Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.