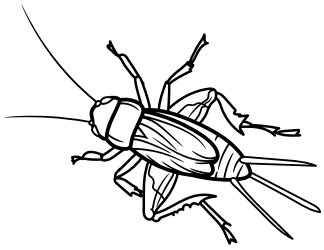
BUTTERFLY PAVILION

Outreach Programs

Class Descriptions and Curriculum Standards

Bug Bites



3rd Grade - Adult

Discover the world of bug-eating, where culinary traditions meet sustainable practices which can reshape the future—plus, get the chance to try a bug yourself!

Learning Objectives:

- Awareness: Learners will develop awareness of cultural practices around the world which will broaden students' understanding of diverse food traditions.
- Compassion/Empathy: Promotes an open-minded approach and respect diverse culinary practices.
- Empowerment: Learners will feel empowered to become advocates for sustainable food choices by understanding and communicating the potential benefits of incorporating insect-based foods into their diets.

Addressing Misconceptions: One common misconception we will address is that bugs are gross and not edible.

Curriculum Standards Supported

Colorado Science Standards

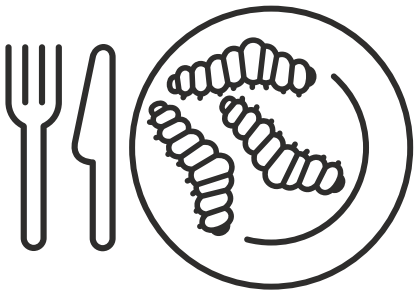
- SC.3.2.2: 6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment. GLE: 2. Being part of a group helps animals obtain food, defend themselves and cope with changes
- SC.3.2.5: 8. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how natural selection drives biological evolution accounting for the unity and diversity of organisms. GLE: 5. Sometimes differences in characteristics between individuals of the same species provide advantages in survival and reproduction
- SC.4.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. Organisms have both internal and external structures that serve various functions
- SC.5.2.2: 6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment. GLE: 2. Matter cycles between air and soil and among plants, animals and microbes as these organisms live and die
- SC.MS.2.3: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 3. Sustaining life requires substantial energy and matter inputs

Colorado Science Standards (continued)

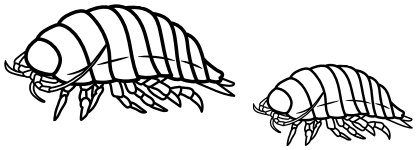
- SC.HS.2.13: 8. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how natural selection drives biological evolution accounting for the unity and diversity of organisms. GLE: 13. Humans have complex interactions with ecosystems and have the ability to influence biodiversity on the planet
- SC.HS.3.9: 11. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how human activities and the Earth's surface processes interact. GLE: 9. Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits
- SC.HS.3.11: 11. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how human activities and the Earth's surface processes interact. GLE: 11. Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies

Next Generation Science Standards

- 3-LS2-1 Construct and argument that some animals form groups that help members survive
- 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction
- 5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environments
- 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
- MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity an ecosystem services
- HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interaction in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem



Bug Safari



PreK - Adult

Take a journey through the diverse world of invertebrates, showcasing unique species with amazing adaptations and their vital roles in ecosystems.

Learning Objectives:

- Awareness: Learners will become aware of the incredible diversity of invertebrates and their unique characteristics.
- Compassion/Empathy: Learners will cultivate a sense of responsibility towards the well-being of invertebrates and their ecosystem.
- Empowerment: Learners will be empowered to make informed decisions for environmental conservation.

Addressing Misconceptions: One common misconception we will address is that all bugs are insects. Learners will learn about the diverse types of bugs, their unique roles, and how each contributes to the environment in different ways.

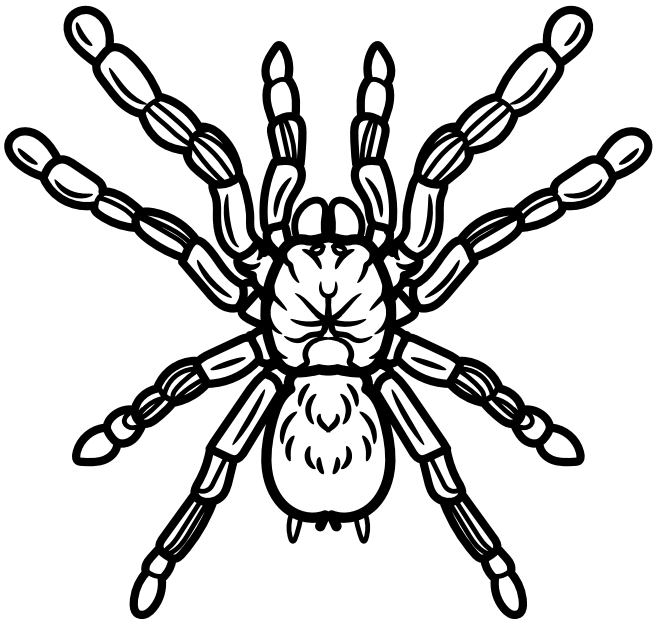
Curriculum Standards Supported

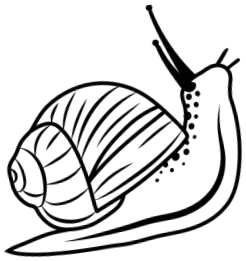
Colorado Science Standards

- SC20-GR.MS-S.2-GLE.5 A Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving
- SC20-GR.4-S.2-GLE.1 Organisms have both internal and external structures that serve various functions
- SC20-GR.3-S.2-GLE.4 Some living organisms resemble organisms that once lived on Earth
- SC20-GR.3-S.2-GLE.3 Different organisms vary in how they look and function because they have different inherited information; the environment also affects the traits that an organism develops
- SC20-GR.2-S.2-GLE.2 A range of different organisms lives in different places
- SC20-GR.1-S.2-GLE.1 All organisms have external parts that they use to perform daily functions
- SC20-GR.K-S.2-GLE.1 To live and grow, animals obtain food they need from plants or other animals, and plants need water and light

Next Generation Science Standards

- K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals and the places they live
- 1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and /or animals use their external parts to help them survive, grow and meet their needs
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats
- 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change
- 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction
- 5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services





Creepy Crawly Storytime

PreK - 3rd Grade

By reading beloved stories and encountering live animals, children and families come to appreciate various invertebrates as they take on a whole new dimension as literary characters.

Learning Objectives:

- Awareness: Learners will develop an early appreciation for invertebrates in the natural world.
- Compassion/Empathy: Learners will connect emotionally with the stories and the creatures they encounter.
- Empowerment: Learners will be inspired to see themselves as curious nature explorers.

Addressing Misconceptions: Two common misconception we will address are that invertebrates aren't animals and that all bugs are gross and dangerous. Learners will learn about the diverse types of invertebrates, their unique roles, and how each contributes to the environment in different ways.

Curriculum Standards Supported

Colorado Science Standards

- SC09-GR.K-S.2-GLE.1 Organisms can be described and sorted by their physical characteristics
- SC09-GR.1-S.2-GLE.2 An organism is a living thing that has physical characteristics to help it survive
- SC09-GR.2-S.2-GLE.2 Each plant or animal has different structures or behaviors that serve different functions
- SC09-GR.3-S.2-GLE.1 The duration and timing of life cycle events such as reproduction and longevity vary across organisms and species

Next Generation Science Standards

- K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals and the places they live
- 1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and /or animals use their external parts to help them survive, grow and meet their needs
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats
- 3-LS2-1 Construct an argument that some animals form groups that help members survive

Flutterby

PreK - 1st Grade

Dive into an interactive roll-play experience of a butterfly's life cycle, where students will discover the wonders of nature's transformation firsthand.

Learning Objectives:

- Awareness: Students will be aware of the interconnectedness of living things and their environments.
- Compassion/Empathy: Students will develop compassion for the importance of respecting living organisms in each stage of their life.
- Empowerment: By using real-life examples students will be able to make informed decisions about their surroundings.

Addressing Misconceptions: One common misconception we will address is that all animals grow the same way.

Curriculum Standards Supported

Colorado Science Standards

- SC09-GR.PREK-S.2-GLE.1 Living things have characteristics and basic needs
- SC09-GR.PREK-S.2-GLE.2 Living things develop in predictable patterns
- SC09-GR.K-S.2-GLE.1 Organisms can be described and sorted by their physical characteristics
- SC09-GR.1-S.2-GLE.2 An organism is a living thing that has physical characteristics to help it survive
- SC09-GR.2-S.2-GLE.1 Organisms depend on their habitat’s nonliving parts to satisfy their needs
- SC09-GR.2-S.2-GLE.2 Each plant or animal has different structures or behaviors that serve different functions
- SC09-GR.3-S.2-GLE.1 The duration and timing of life cycle events such as reproduction and longevity vary across organisms and species

Next Generation Science Standards

- K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals and the places they live.
- 1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and /or animals use their external parts to help them survive, grow and meet their needs.
- 1-LS1-2 Read texts and use media to determine patterns in behaviors of patents and offspring that help offspring survive.
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.
- 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

Itsy Bitsy Bugs

Age 3 - 1st Grade

Join us for a fun and interactive class where students can discover the amazing bugs in their own backyards, learn about their importance and bring the adventure to life with music, dramatic play.

Learning Objectives:

- Awareness: Students will learn that gardens are homes (habitat) for many different types of animals.
- Compassion/Empathy: Students will establish a sense of care and feel connected with invertebrates in their gardens.
- Empowerment: Students will be empowered to be stewards and care for invertebrates.

Addressing Misconceptions: One common misconception we will address is that all bugs are scary and bad. Learners will learn about the diverse types of bugs, their unique roles, and how each contributes to the environment in different ways.

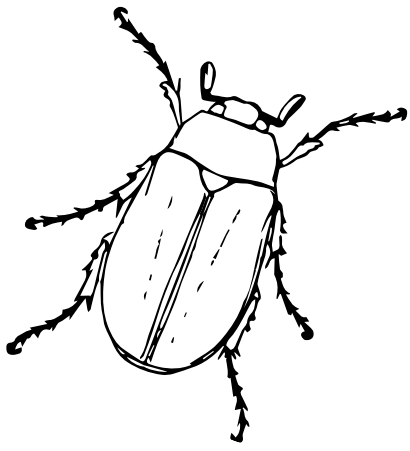
Curriculum Standards Supported

Colorado Science Standards

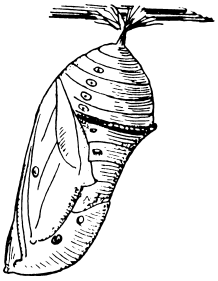
- SC09-GR.PREK-S.2-GLE.P Living things have characteristics and basic needs

Next Generation Science Standards

- K-LS1-1 Use observations to describe patterns of what plants and animals (including
- humans) need to survive.
- K-ESS3-1 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.



Metamorphosis Moves



K - 5th Grade

This outreach program class is hosted by both educators at Butterfly Pavilion as well as Colorado Ballet. Through movement explorations students will explore shapes, size, speed, flow, energy, and levels. At the end of class students will get to perform dances that they created based on the information they learned that day.

Curriculum Standards Supported

Colorado Science Standards

Science

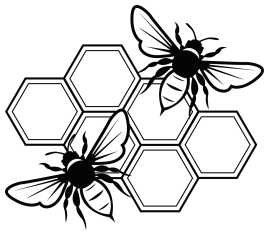
- SC.K.2.1 To live and grow, animals obtain food they need from plants or other animals, and plants need water and light
- SC.1.2.1 All organisms have external parts that they use to perform daily functions
- SC.3.2.1 Organisms have unique and diverse life cycles
- SC.4.2.1 Organisms have both internal and external structures that serve various functions

Dance

- 1.2.1 Explore movement based on a variety of inspirations
- 1.2.2 Create and demonstrate simple movements based on play and improvisation
- 1.4.2/2.4.2 Connect dance to the world around the student
- 2.1.1 Perform simple dances with specific intention
- 3.2.2 Create simple movements that can be organized a movement phrase
- DA 3.4.2 Discover connections between dance and other academic content

Next Generation Science Standards

- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats
- K-2-ets1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem



Powerful Pollinators

1st - 5th Grade

Look beyond honeybees to investigate the diverse array of invertebrate pollinators and their importance.

Learning Objectives:

- Awareness: Learners will develop awareness that pollinators contribute to the health of our planet.
- Compassion/Empathy: Learners will develop compassion for the less beautiful pollinators of the world.
- Empowerment: Learners will be empowered to protect pollinators.

Addressing Misconceptions: One common misconception we will address is that bees and butterflies are the only pollinators. Learners will learn about the diverse types of pollinators, their unique roles, and how each contributes to the environment in different ways.

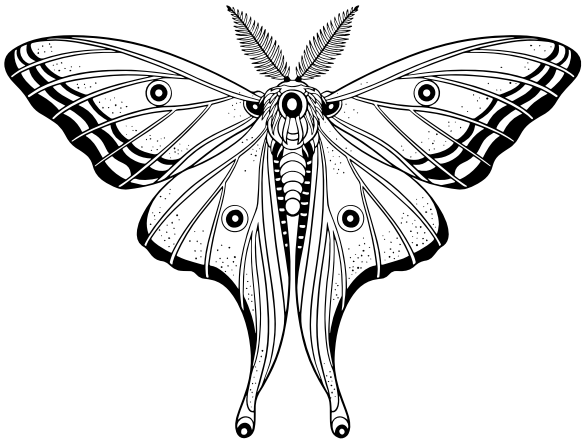
Curriculum Standards Supported

Colorado Science Standards

- SC.P.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. Recognize that living things have unique characteristics and basic needs that can be observed and studied
- SC.P.2.2: 6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment. GLE: 2. Recognize that living things develop in predictable patterns
- SC.K.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. To live and grow, animals obtain food they need from plants or other animals, and plants need water and light
- SC.1.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. All organisms have external parts that they use to perform daily functions

Colorado Science Standards Continued

- SC.2.2.1: 6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment. GLE: 1. Plants depend on water and light to grow and on animals for pollination or to move their seeds around
- SC.3.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. Organisms have unique and diverse life cycles
- SC.3.2.2: 6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment. GLE: 2. Being part of a group helps animals obtain food, defend themselves and cope with changes
- SC.4.2.1: 5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction. GLE: 1. Organisms have both internal and external structures that serve various functions
- Next Generation Science Standards
- K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.
- 3-LS2-1 Construct an argument that some animals form groups that help members survive.
- 3-LS4-3 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.



Next Generation Science Standards

- K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive
- K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live
- 2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats
- 3-LS2-1: Construct an argument that some animals form groups that help members survive
- 3-LS4-3: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all
- 3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment
- 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing
- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction
- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems
- MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively
- MS-LS4-4. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment