Growth, Development, and Reproduction of Organisms

Content Area: **Science**
Course(s): **Science 6**
Time Period: **February**
Length: **5 weeks**
Status: **Published**

Growth, Development, and Reproduction of Organism Overview

Over a 5 week period, Students use data and conceptual models to understand how the environment and genetic factors determine the growth of an individual organism. They connect this idea to the role of animal behaviors in animal reproduction and to the dependence of some plants on animal behaviors for their reproduction. Students provide evidence to support their understanding of the structures and behaviors that increase the likelihood of successful reproduction by organisms.

Growth, Development, and Reproduction of Organisms Priority Standards

SCI.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.
SCI.MS-LS1-5	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Growth, Development, and Reproduction of Organisms Learning Goals

- Students will be able to construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
- Students will be able to use empirical evidence and scientific reasoning to explain how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

Growth, Development, and Reproduction of Organisms Learning Targets

- Students will be able to identify an animal behavior specific to reproduction and/or survival.
- Students will be able to identify plant characteristics specific to reproduction.
- Students will be able to recognize and recall examples of environmental factors that influence the growth of organisms.
- Students will be able to recognize and recall examples of genetic factors that influence the growth of organisms.
- Students will be able to summarize why reproduction is essential in ecosystems.
- Students will recognize or recall specific vocabulary, including: reproduction, germination, pollinator, offspring, trait, mating, courtship behavior.
- Students will recognize or recall specific vocabulary, including: genetics, genes, organism.

Growth, Development, and Reproduction of Organisms Essential Questions

- How do characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants, respectively?
- How do specialized plant structures affect successful reproduction?

21st Century Themes

CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Marzano Elements

- Communicating High Expectations for Each Student to Close the Achievement Gap
- Establishing & Acknowledging Adherence to Rules & Procedures
- Establishing & Maintaining Effective Relationships in a Student Centered Classroom
- Helping Students Engage in Cognitively Complex Tasks
- Helping Students Examine Similarities & Differences
- Helping Students Examine their Reasoning
- Helping Students Practice Strategies, Skills, & Processes
- Helping Students Process New Content
- Helping Students Revise Knowledge
- Identifying Critical Content from the Standards
- Organizing Students to Interact with Contact
- Previewing New Content
- Providing Feedback & Celebrating Success
- Reviewing Content
- Using Engagement Strategies
- Using Formative Assessment to Track Progress
- Using Questions to Help Students Elaborate on Content

Differentiated Instruction

- Have individual students explain content understanding in their own words
- Use a variety of visual aids to help student understanding
- Use different teaching styles to introduce, explain, and reinforce content understanidng
- Use small groups to check for understanding.

Assessments

- Do Now Activities
- MS-LS1-4 Learning Scale
- MS-LS1-5 Learning Scale
- Teacher-created quizzes
- Teacher-created worksheet
- Unit Benchmark Assessment

Learning Plan

Week	Topic	Lesson Activities	Standard/Learning Goal/Target	Materials
Wk 1 - Wk 2	Growth, Development, and Reproduction of Organisms	Do Now Activities (Warm up) Review Power Point slides from online information together. Show videos from You Tube on Growth, Development & Reproduction of Organisms https://www.youtube.com/watch?v=Y3ym8sEL8hI https://www.youtube.com/watch?v=wNqiclBUxdY https://www.youtube.com/watch?v=fVfV5LMXh2s https://www.youtube.com/watch?v=C1Ib0-BlBKU	**Standard:** 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. **Learning Goals:** Students will be able to use empirical evidence and scientific reasoning to explain how characteristic animal behaviors affect the probability of successful animal reproduction. Students will be able to use empirical evidence and scientific reasoning to	Power Point slides Chrome book Videos Worksheets

		Assign student worksheets.	explain how specialized plant structures affect the probability of successful plant reproduction. **Learning Targets:** Students will be able to use empirical evidence such as nest building to protect young from cold, herding of animals to protect young from predators, and animal vocalization and plumage to attract mates to explain how characteristic animal behaviors affect the probability of successful animal reproduction. Students will be able to use empirical evidence such as bright flowers attracting butterflies that transfer pollen, flower nectar and odors that attract insects that transfer pollen to explain how specialized plant structures affect the probability of successful plant reproduction.	
Wk 3 - WK 4	Growth, Development, and Reproduction of Organisms	Do Now Activities (Warm up) Review Power Point slides from online information together.	**Standard:** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	Power Point slides Chrome book

		Show video from You Tube on Growth, Development, Reproduction of Organisms: www.youtube.com/watch?v=5eTCZ9L834s Students will work collaboratively to construct an explanation on the influence of environmental factors affecting growth of organisms. Assign student worksheets.	**Learning Goals:** Students will be able to construct a scientific explanation based on evidence for how environmental factors influence the growth of organisms. Students will be able to construct a scientific explanation based on evidence for how environmental factors influence the growth of organisms. **Learning Target:** Students will be able to use evidence such as availability of food, light, space, and water to construct a scientific explanation for how environmental factors influence the growth of organisms. Students will be able to use evidence such as large breed cattle and species of grass affecting growth to construct a scientific explanation for how genetic factors influence the growth of organisms.	Videos Worksheets
Wk 5	Growth, Development, and Reproduction of Organisms	Do Now Activities (Warm up) Complete a list of review topics in preparation for unit assessment.	**Standard:** Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on	Power Point slides Chrome

Complete an open-note quiz.

Complete a standards review worksheet.

Complete a Unit learning scale on.

Complete a standards-based assessment.

the masses of interacting objects.

Learning Goal:

Students will be able to construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objetcs

Learning Target:

Students will be able to utilize an informational chart on gravitational interactions to construct and present arguments to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects

book

Open-note quiz

Standards-based assessment

List of Review Topics

Learning Scales:

MS-LS1-4

MS-LS1-5