

Aquatic Adventures

Correlated Standards by Grade

NGSS=Next Generation Science Standards, ACOS=Alabama Course of Study, GPS=Georgia Performance Standards, GSE=Georgia Standards of Excellence, MSF=Mississippi Science Framework, TASS=Tennessee Academic Standards for Science



Grade 2

NGSS

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

ACOS

SC.2.7. Obtain information from literature and other media to illustrate that there are many different kinds of living things and that they exist in different places on land and in water.

SC.2.9. Create models to identify physical features of Earth.

MSF

2.LS.3. Develop and demonstrate an understanding of the characteristics, structures, cycles, and environments of organisms.

2.I.1. Develop abilities necessary to conduct scientific investigations.

TASS

2.LS2.2. Predict what happens to animals when the environment changes.

2.ESS2.3. Compare simple maps of different land areas to observe the shapes and kinds of land and water.

2.ETS1.1. Define a simple problem that can be solved through the development of a new or improved object or tool by asking questions, making observations, and gather accurate information about a situation people want to change.

GPS

S2CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S2CS4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

S2CS5. Students will communicate scientific ideas and activities clearly.

S2CS6. Students will be familiar with the character of scientific knowledge and how it is achieved.

S2CS7. Students will understand the important features of the process of scientific inquiry.

Grade 3

NGSS

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common, birth, growth, reproduction, and death.

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

ACOS

SC.3.6. Create representations to explain the unique and diverse life cycles of organisms other than humans, including commonalities such as birth, growth, reproduction, and death.

SC.3.8. Engage in argument from evidence to justify that traits can be influenced by the environment.

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MSF

3.LS.3. Describe the characteristics, structures, life cycles, and environments of organisms. A, Research and explain diverse life forms live in different environments and the structures that serve different functions in their survival.

3.I.1. Apply concepts involved in a scientific investigation.

TASS

3.LS1.1. Analyze the internal and external structures that aquatic land animals and plants have to support survival, growth, behavior, and reproduction.

3.ESS2.1. Explain the cycle of water on Earth.

GSE

S3L2. Obtain, evaluate, and communicate information about the effects of pollution and humans on the environment.

S3L1. Obtain, evaluate, and communicate information about the similarities and differences between plants, animals, and habitats found within geographic regions.

GPS

S3L1. Students will investigate the habitats of different organisms and the dependence of organisms on their habitat.

S3L2. Students will recognize the effects of pollution and humans on the environment.

S3CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S3CS4. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.

S3CS5. Students will communicate scientific ideas and activities clearly.

S3CS6. Students will question scientific claims and arguments effectively.

S3CS7. Students will be familiar with the character of scientific knowledge and how it is achieved.

S3CS8. Students will understand the important features of the process of scientific inquiry.

Grade 4

NGSS

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

ACOS

SC.4.9. Examine evidence to support an argument that the internal and external structures of plants and animals function to support survival, growth, behavior, and reproduction.

MSF

4.LS.3.C. Compare characteristics of organisms, including growth and development, reproduction, acquisition and use of energy, and response to environment.

4.I.1. Explain and use skills necessary to conduct scientific inquiry.

TASS

4.LS2.1. Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis.

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4.LS2.4. Develop and use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.

4.ETS2.2. Determine the effectiveness of multiple solutions to a design problem given the criteria and the constraints.

GSE

S4E3. Obtain, evaluate, and communicate information to demonstrate the water cycle.

GPS

S4E3. Students will differentiate between the states of water and how they relate to the water cycle.

S4L1. Students will describe the roles of organisms and the flow of energy within an ecosystem.

S4CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S4CS4. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.

S4CS5. Students will communicate scientific ideas and activities clearly.

S4CS6. Students will question scientific claims and arguments effectively.

S4CS7. Students will be familiar with the character of scientific knowledge and how it is achieved.

S4CS8. Students will understand the important features of the process of scientific inquiry.

Grade 5

NGSS

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

ACOS

SC.5.15. Use a model to represent how any two systems, specifically the atmosphere, biosphere, geosphere, and/or hydrosphere, interact and support life.

MFS

5.LS.3.B. Research and classify the organization of living things.

5.ES.4.D. Describe changes caused by humans on the environment and natural resources and cite evidence from research of ways to conserve natural resources in the United States, including Mississippi.

5.I.1. Develop and demonstrate an understanding of scientific inquiry using process skills.

TASS

GSE

S5L1. Obtain, evaluate, and communicate information to group organisms using scientific classification procedures.

S5L2. Obtain, evaluate, and communicate information showing that some characteristics of organisms are inherited and other characteristics are acquired.

GPS

S5L1. Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.

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S5CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S5CS4. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.

S5CS5. Students will communicate scientific ideas and activities clearly.

S5CS6. Students will question scientific claims and arguments effectively.

S5CS7. Students will be familiar with the character of scientific knowledge and how it is achieved.

S5CS8. Students will understand the important features of the process of scientific inquiry.

Middle School

NGSS

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-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

ACOS

SC.7.10. Use evidence and scientific reasoning to explain how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of both animals and plants.

SC.7.5. Examine the cycling of matter between abiotic and biotic parts of ecosystems to explain the flow of energy and the conservation of matter.

MFS

6.LS.3.D. Describe and summarize how an egg and sperm unite in the reproduction of angiosperms and gymnosperms. 6.LS.3.A. Describe and predict interactions (among and within populations) and the effects of these interactions on population growth that include the effects on available resources.

8.LS.3.E. Explain energy flow in a specified system.

8.ESS.4.C. Examine weather forecasting and describe how meteorologists use atmospheric features and technology to predict the weather.

6.I.1. Conduct a scientific investigation utilizing appropriate process skills.

TASS

7.LS1.6. Develop an argument based on empirical evidence and scientific reasoning to explain how behavioral and structural adaptations in animals and plants affect the probability of survival and reproductive success.

6.LS2.3. Draw conclusions about the transfer of energy through a food web and energy pyramid in an ecosystem.

GSE

GPS

S6E3. Students will recognize the significant role of water in earth processes.

S6-8CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

S6-8CS5. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.

S6-8CS6. Students will communicate scientific ideas and activities clearly.

S6-8CS7. Students will question scientific claims and arguments effectively.

S6-8CS8. Students will be familiar with the character of scientific knowledge and how it is achieved.

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S6-8CS9. Students will understand the important features of the process of scientific inquiry.

High School

MSF

HS.I.1. Apply inquiry-based and problem-solving processes and skills to scientific investigations.

GPS

SCSh1. Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science.

SCSh3. Students will identify and investigate problems scientifically.