

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.A.1

Strand: Science Connections

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Connections	Ask and answer questions that will help decide the general area being addressed.

Performance Indicators		
Using topics such as plants, animals, insects, rocks, minerals, air atmosphere and matter students will: <ol style="list-style-type: none"> 1. Pose and solve problems. 2. Collect and organize 3. Interpret data. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.A.2

Strand: Science Connections

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Connections	Decide what evidence, models, or explanations previously studied can be used to better understand what is happening when investigating science-related problems.

Performance Indicator		
Using topics such as plants, animals, insects, rocks, minerals, air atmosphere, and matter students will: <ol style="list-style-type: none"> 1. Explain changes over time in rock cycle, matter, insects, plants and animals. 2. Reading and studying scripture, understand that we incorporate God’s way of caring for our environment. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.B.1

Strand: Nature of Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Nature of Science	Use encyclopedias, source books, texts, computers, teachers, parents, other adults and various other sources to help answer science related questions and plan investigations.

Performance Indicator
<ol style="list-style-type: none"> 1. Understand and demonstrate knowledge of a variety of resources that are available to help answer science related questions and plan investigations. 2. Define and use scientific vocabulary.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.B.2

Strand: Nature of Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Nature of Science	Acquire information about people who have contributed to the development of major ideas in the sciences and learn about the cultures in which these people lived and worked.

Performance Indicator		
<ol style="list-style-type: none"> 1. Understand and demonstrate that many individuals have contributed to the traditions of science. 2. Understand and demonstrate that science has been practiced by individuals in different cultures. 		
Suggested Activities	Assessment	Resources

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Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.B.3

Strand: Nature of Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Nature of Science	Show how the major developments of scientific knowledge in the earth and space, life and environmental and physical sciences have changed over time.

Performance Indicator		
1. Compare and contrast scientific classification systems.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.C.1

Strand: Science Inquiry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Inquiry	Use the vocabulary of the unifying themes to ask questions about objects, organisms and events being studied.

Performance Indicator		
1. Question the reliability of sources for scientific information.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.C.2

Strand: Science Inquiry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Inquiry	Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.

Performance Indicator
<ol style="list-style-type: none"> 1. Conduct a valid experiment. 2. Critique explanations of scientific events.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.C.6

Strand: Science Inquiry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Inquiry	Communicate the results of their investigations in ways an audience will understand by using charts, graphs, drawings, written descriptions, and various other menus to display answers.

Performance Indicator		
1. Demonstrate that scientists make the results of their investigations public, communicating in ways that enable others to repeat the investigation.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.C.7

Strand: Science Inquiry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Inquiry	Support conclusions with logical arguments.

Performance Indicator
<ol style="list-style-type: none"> 1. Cite evidence to support conclusions. 2. Demonstrate that good explanations are based on evidence from systematic scientific investigations.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.C.8

Strand: Science Inquiry

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Inquiry	Ask questions that might help focus or further investigations

Performance Indicator
1. Be aware that scientists review and ask questions about the results of other scientist’s work.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.D.2

Strand: Physical Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Physical Science	Group and/or classify objects and substances based on the properties of earth materials.

Performance Indicator
1. Observe, describe, and classify diversity and patterns in earth materials based on properties of matter.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.D.3

Strand: Physical Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Physical Science	Understand that substances can exist in different states: solid, liquid, gas.

Performance Indicator		
<ol style="list-style-type: none"> 1. Describe how rocks, minerals, and matter elements exist in different states. 2. Observe and describe changes in rocks and air. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.D.4

Strand: Physical Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Physical Science	Observe and describe changes in form, temperature, color, speed and direction of objects and construct explanations for the changes.

Performance Indicator		
1. Describe changes in rocks and weather elements due to forces.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.D.5

Strand: Physical Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Physical Science	Construct simple models of what is happening to materials and substance undergoing change, using simple instruments or tools to aid observations and collect data.

Performance Indicator		
1. Construct models that demonstrate knowledge about rocks and weather.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.1

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Investigate that earth materials are composed of rocks and soils and correctly use the vocabulary for rocks, minerals, and soils during their investigations.

Performance Indicator		
1. Use scientific terms for knowledge of rocks.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.2

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Show that earth materials have different physical and chemical properties, including the properties of soils found in Missouri.

Performance Indicator		
1. Describe chemical properties of earth's atmosphere and its effect on earth.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.3

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Develop descriptions of the land and water masses of the earth and of Missouri's rocks and minerals, using the common vocabulary of earth and space science.

Performance Indicator		
<ol style="list-style-type: none"> 1. Identify Missouri's landforms, rocks and minerals. 2. Communicate knowledge of rocks using correct scientific terms. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.5

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Describe the weather in terms of clouds, temperature, humidity, and forms of precipitation, and the changes that occur over time, including seasonal changes.

Performance Indicator		
1. Identify weather patterns emphasized in Missouri.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.6

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Using the science themes, find patterns and cycles in the earth’s daily, yearly and long term changes.

Performance Indicator		
1. Describe rock and weather cycles.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.E.8

Strand: Earth and Space Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Earth and Space Science	Illustrate human resources used in mining, forestry, farming, and manufacturing in Missouri and elsewhere in the world.

Performance Indicator		
1. Describe the importance of people in industry.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.F.1

Strand: Life and Environmental Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Life and Environmental Sciences	Discover how each organism meets its basic needs for water, nutrients, protections and energy in order to survive.

Performance Indicator
<ol style="list-style-type: none"> 1. Describe how plants and animals meet their basic needs in order to survive. 2. Identify differences between animal and plant cells. 3. Identify that the systems of the human body have a variety of structures and functions.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.F.2

Strand: Life and Environmental Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Life and Environmental Sciences	Investigate how organisms, especially plants, respond to both internal cues (the need for water) and external cues (changes in the environment).

Performance Indicator		
1. Discover that groups of cells form tissues, organs, organ systems and organisms.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.F.3

Strand: Life and Environmental Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Life and Environmental Science	Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.

Performance Indicator		
<ol style="list-style-type: none"> 1. Describe life cycles of insects, plants and animals. 2. Observe that characteristics of organisms are inherited or environmentally influenced. 3. Identify that variations within a species may give individuals an important advantage in surviving and reproducing. 4. Investigate that fossils provide evidence of previous life forms. 5. Compare fossils to one another and to living organisms to observe their similarities and differences. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.F.4

Strand: Life and Environmental Science

Diocesan Standard Terra Nova Objective	Benchmark Statement
Life and Environmental Science	Using the science themes, develop explanations for the connections among living and nonliving things in various environments.

Performance Indicator		
1. Explain how plants and animals use living and non-living things to survive.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.G.1

Strand: Science Applications

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Applications	Identify the technology used by someone employed in a job or position and explain how the technology helps.

Performance Indicator		
1. Describe technology used by someone employed in a weather-related career.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.G.2

Strand: Science Applications

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Applications	Discover what changes in technology have occurred in a career chosen by a parent, grandparent, or an adult friend over a long period of time.

Performance Indicator		
1. Relate current technology in weather prediction.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.G.3

Strand: Science Applications

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Applications	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.

Performance Indicator		
1. Identify that scientific discoveries have created new products.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.G.5

Strand: Science Applications

Diocesan Standard Terra Nova Objective	Benchmark Statement
Science Applications	Ask questions to find answers about how devices and machines were invented and produced.

Performance Indicator		
1. Explain scientific contributions of people.		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.H.1

Strand: Social and Personal Perspectives

Diocesan Standard Terra Nova Objective	Benchmark Statement
Social and Personal Perspectives	Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information, quicker and safer transportation and more effective health care.

Performance Indicator
<ol style="list-style-type: none"> 1. Examine how pest control has changed due to science and technology. 2. Examine how the use of tobacco products increases the risk of illness. 3. Recognize that different consequences result from environmental changes occurring at different rates.

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.H.2

Strand: Social and Personal Perspectives

Diocesan Standard Terra Nova Objective	Benchmark Statement
Social and Personal Perspectives	Identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Performance Indicator		
<ol style="list-style-type: none"> 1. Identify those resources used in science and technology. 2. Examine changes in environments that can be natural or influenced by humans. 3. Demonstrate that the size of population can increase or decrease based on many factors. 		
Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.H.3

Strand: Social and Personal Perspectives

Diocesan Standard Terra Nova Objective	Benchmark Statement
Social and Personal Perspectives	Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care.

Performance Indicator	
<ol style="list-style-type: none"> 1. Realize that alcohol, tobacco and other drugs are often abused substances. 2. Be aware that science and technology have greatly affected the quality of life for most people. 	

Suggested Activities	Assessment	Resources

Diocese of Jefferson City Curriculum Guide

Content Area: Science
 Grade Range: Fourth Grade
 Section/Heading: 4.H.4

Strand: Social and Personal Perspectives

Diocesan Standard Terra Nova Objective	Benchmark Statement
Social and Personal Perspectives	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Performance Indicator		
1. Identify those resources that are limited.		
Suggested Activities	Assessment	Resources