

A Correlation of
Population Connection Materials

from

Teaching Population:
Hands-on Activities

to

Minnesota Academic Standards

Organized by:

1. Subject

2. Grade

3. Standard

4. Population Connection Activity

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History and Social Studies

Kindergarten to Grade 3

I. U.S. History

A. Family Life Today and In The Past:

The student will understand how families live today and in earlier times, recognizing that some aspects change over time while others stay the same.

1. Students will compare family life in his or her community from earlier times and today.

Energy Imagery

3. Students will compare technologies from earlier times and today, and identify the impact of invention on historical change.

Energy Imagery

The Stork and the Grim Reaper

Who Polluted the Potomac?

Who Polluted the River?

C. Many Peoples and Cultures Meet in the Making of North America:

The student will demonstrate knowledge of the people who settled in North America.

2. Students will demonstrate knowledge of European exploration and settlement of the North American continent and the resulting interaction with American Indian nations.

Who Polluted the Potomac?

Who Polluted the River?

III. World History

A. Family Life Today and in the Past:

The student will understand how families live today and in earlier times, recognizing that some aspects change over time while others stay the same.

1. Students will compare family life in their own communities from earlier times and today.

Energy Imagery

3. Students will compare technologies from earlier times and today, and identify the impact of invention on historical change.

Energy Imagery

The Stork and the Grim Reaper

Who Polluted the Potomac?

Who Polluted the River?

IV. Historical Skills

A. Concepts of Time:

The student will demonstrate chronological thinking.

1. Students will define and use terms for concepts of historical time.

Energy Imagery

Population Circle

Who Polluted the Potomac?

Who Polluted the River?

2. Students will place events in chronological order and construct timelines.

Population Circle

V. Geography

A. Concepts of Location:

The student will use directional and positional words to locate and describe people, places and things.

2. Students will use maps and globes to locate places referenced in stories and real life situations.

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

VI. Economics

A. Economic Choices:

The student will understand that economic choices are necessary in life.

1. Students will identify the difference between basic needs (food, clothing, and shelter) and wants (things people would like to have).

How Do People Use the Earth's Resources?

3. Students will understand and explain that the concept of scarcity means that one cannot have all the goods and services that one wants.

Cougar Hunt

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Go Fish!

Mining for Chocolate

More or Less

Timber!

When the Chips Are Down

How Do People Use the Earth's Resources?

How Many Is Enough?

Sharing a Small World

What Are People's Basic Needs?

4. Students will give examples of tradeoffs (opportunity costs).

Creatures in Motion

Earth: The Apple of Our Eye (Elementary)

Energy Imagery

Go Fish!

More or Less

Why Do People Need Space?

B. Producers and Consumers:

The student will understand the relationship between producers and consumers in regard to goods and services.

1. Students will distinguish between producers and consumers and between goods and services.

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Mining for Chocolate

Timber!

2. Students will recognize and explain that natural resources, human resources, and human-made resources are used in the production of goods and services.

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Mining for Chocolate

Timber!

VII. Government And Citizenship

A. Civic Values, Skills, Rights and Responsibilities:

The student will understand the importance of participation in civic life and demonstrate effective civic skills.

1. Students will explain the importance of participation and cooperation in a classroom and community and explain how people can make a difference in others' lives.

Creatures in Motion

Crowding Can Be Seedy

Go Fish!

Web of Life

How Do People Use the Earth's Resources?

How Many Is Enough?

Sharing a Small World

B. Beliefs and Principles of United States Democracy:

The student will understand the role of government, rules, and law and why we have them.

1. Students will give examples of rules in the classroom/school and community, provide reasons for the specific rules, and know the characteristics of good rules.

Go Fish!

2. Students will explain that rules and laws apply to everyone and describe consequences for breaking the rules or laws.

Go Fish!

Grade 4 to Grade 8

I. U.S. History

C. Colonization and Conflict, 1607-1780s:

The student will demonstrate knowledge of the colonies and the factors that shaped colonial North America.

1. Students will explain and understand the political, religious, social, and economic events and conditions that led to the colonization of America.

People on the Move

E. Growth and Westward Expansion, 1801-1861:

The student will demonstrate knowledge of western expansion, conflict, and reform in America.

2. Students will analyze the impact of inventions and technologies on life in America, including the cotton gin, the steamboat, and the telegraph.

The Stork and the Grim Reaper

Who Polluted the Potomac?

People Count: Facing the Population Challenge

You're One in Six Billion!

G. Reshaping the Nation and the Emergence of Modern America, 1877-1916:

The student will analyze the transformation of the American economy and the changing social and political conditions in response to the Industrial Revolution.

1. Students will identify and understand the reasons for the increase in immigration, growth of cities, new inventions, and political challenges to American government arising from the industrial revolution, and analyze their impact.

People on the Move

People Count: Facing the Population Challenge

You're One in Six Billion!

III. World History

A. Beginnings of Human Society:

The student will demonstrate knowledge of selected attributes and historical developments of various ancient societies in Africa, the Americas, Asia, and Europe.

2. Students will describe the development of agriculture and its effect on human communities.

Who Polluted the Potomac?

You're One in Six Billion!

F. World Civilizations, Toward a Global Culture, 1500 - 1770 AD:

The student will examine changing forms of cross-cultural contact, conflict and cooperation that resulted from the interconnections between Eurasia, Africa and the Americas.

5. Students will identify the causes and consequences of global migrations of Europeans, Africans, and Asians.

People on the Move

Who Polluted the Potomac?

V. Geography

B. Maps and Globes:

The student will use maps and globes to demonstrate specific and increasingly complex geographic knowledge.

1. Students will use political and thematic maps to locate major physical and cultural regions of the world and ancient civilizations studied.

Earth: The Apple of Our Eye (Elementary)

Earth: The Apple of Our Eye (Intermediate/Secondary)

Food for Thought

World Population Video

Global Family Ties

B. Maps and Globes:

The student will make and use maps to acquire, process, and report on the spatial organization of people and places on Earth.

1. Students will create a variety of maps to scale.

Earth: The Apple of Our Eye (Elementary)

Earth: The Apple of Our Eye (Intermediate/Secondary)

Food for Thought

C. Physical Features and Processes:

The student will use basic terminology describing basic physical and cultural features of continents studied.

1. Students will locate and describe major physical features and analyze how they influenced cultures/civilizations studied.

Food for Thought

Growing Pains in Texas Hill Country

Who Polluted the Potomac?

World Population Video

C. Physical Features and Processes:

The student will identify and locate geographic features associated with the development of the United States.

1. Students will identify physical features and analyze their impact as either hindering or promoting settlement, establishment of cities and states, and economic development in the United States.

Earth: The Apple of Our Eye (Elementary)

Earth: The Apple of Our Eye (Intermediate/Secondary)
Food for Thought
Growing Pains in Texas Hill Country
Who Polluted the Potomac?

C. Physical Features and Processes:

The student will identify physical characteristics of places and use this knowledge to define regions, their relationships among regions, and their patterns of change.

1. Students will describe the major physical features of the United States and the regions of the world they study.

Food for Thought
World Population Video

2. Students will describe physical systems in the atmosphere and Earth's crust, and the regional patterns of climate and landforms associated with them.

Earth: The Apple of Our Eye (Elementary)
Earth: The Apple of Our Eye (Intermediate/Secondary)
Water, Water Everywhere (Elementary/Intermediate)

C. Physical Features and Processes:

The student will give examples of physical systems and describe their role in shaping life on Earth.

1. Students will describe how the major regions of the world they study are interconnected through physical processes such as wind and/or ocean currents.

Food for Thought

D. Interconnections:

The student will give examples that demonstrate how people are connected to each other and the environment.

1. Students will identify factors that drew people to their local communities.

Growing Pains in Texas Hill Country
On the Double
People on the Move
Who Polluted the Potomac?
Global Family Ties
What Are People's Basic Needs?

2. Students will analyze how the physical environment influences human activities.

Cougar Hunt
Earth: The Apple of Our Eye (Elementary)
Earth: The Apple of Our Eye (Intermediate/Secondary)
Eco Ethics
Energy Imagery
Food for Thought
For the Common Good
Growing Pains in Texas Hill Country
Mining for Chocolate
The More The Merrier?
Something for Everyone
The Stork and the Grim Reaper
Take a Stand
Water, Water Everywhere (Elementary/Intermediate)
When the Chips Are Down
Who Polluted the Potomac?
World Population Video

The Balance of Nature
Global Family Ties
How Do People Use the Earth's Resources?
How Many Is Enough?
People Count: Facing the Population Challenge
What Are People's Basic Needs?
Why Do People Need Space?

D. Interconnections:

The student will identify examples of the changing relationships between patterns of settlement, land use and topographic features in the United States.

2. Students will analyze how changes in transportation affected settlement of the country.
Who Polluted the Potomac?

D. Interconnections:

The student will demonstrate how various regional frameworks are used to analyze the variation in culture and human occupation of the Earth's surface.

1. Students will explain the patterns of population density on the surface of the Earth and analyze the causes of population change.

Earth: The Apple of Our Eye (Elementary)
Earth: The Apple of Our Eye (Intermediate/Secondary)
Food for Thought
The More The Merrier?
On the Double
People on the Move
Population Circle
Power of the Pyramids
Stage Stepping
The Stork and the Grim Reaper
Who Polluted the Potomac?
World Population Video
People Count: Facing the Population Challenge
What Is a Population?
Why Do People Need Space?
You're One in Six Billion!

5. Students will describe the patterns of economies on the surface of the Earth and explain how changes in technology affect patterns of change.

Food for Thought
Power of the Pyramids
Who Polluted the Potomac?
People Count: Facing the Population Challenge

7. Students will identify current or historic conflicts and explain how those conflicts are/were influenced by geography.

For the Common Good
Growing Pains in Texas Hill Country
Something for Everyone
Take a Stand

D. Interconnections:

The student will demonstrate how various regional frameworks are used to analyze the variation in physical environment.

3. Students will describe how physical processes affect different regions of the world.
 - Earth: The Apple of Our Eye (Elementary)
 - Earth: The Apple of Our Eye (Intermediate/Secondary)
 - Food for Thought
 - How Much Space Do We Need?

4. Students will interpret regional variation in the relationships among soil, climate, plant and animal life, and landforms
 - Earth: The Apple of Our Eye (Elementary)
 - Earth: The Apple of Our Eye (Intermediate/Secondary)
 - Food for Thought

E. Essential Skills:

The student will use maps, globes, geographic information systems and other sources of information to analyze the natures of places at a variety of scales.

1. Students will demonstrate the ability to obtain geographic information from a variety of print and electronic sources.
 - Energy Imagery
 - The More The Merrier?
 - People on the Move
 - Take a Stand
 - World Population Video
 - The Balance of Nature*
 - Global Family Ties*
 - Your Place on the Planet*
 - You're One in Six Billion!*

3. Students will locate major political and physical features of the United States and the world.
 - Earth: The Apple of Our Eye (Intermediate/Secondary)
 - Earth: The Apple of Our Eye (Elementary)
 - Food for Thought
 - World Population Video

VI. Economics

A. Producers and Consumers:

The student will understand the concept of interdependence in relation to producers and consumers.

1. Students will compare and contrast the roles of producers and consumers.
 - Cougar Hunt
 - Eco Ethics
 - Mining for Chocolate
 - Power of the Pyramids
 - Take a Stand
 - Timber!
 - The Balance of Nature*
 - Global Family Ties*
 - How Do People Use the Earth's Resources?*
 - How Many Is Enough?*
 - People Count: Facing the Population Challenge*

B. Economic Choices:

The student will understand basic principles of economic decision making.

1. Students will understand the concept of scarcity and its role in decision-making.
 - Cougar Hunt

Earth: The Apple of Our Eye (Elementary)
 Earth: The Apple of Our Eye (Intermediate/Secondary)
 Educating Wanjiku
 Food for Thought
 For the Common Good
 Growing Pains in Texas Hill Country
 How Much Space Do We Need?
 The Hunger Banquet
 Maria's Education
 Mining for Chocolate
 The More The Merrier?
 Needs vs. Wants
 People on the Move
 Something for Everyone
 The Stork and the Grim Reaper
 Take a Stand
 Timber!
 Water, Water Everywhere (Elementary/Intermediate)
 When the Chips Are Down
 A World of Difference
The Balance of Nature
Global Family Ties
How Do People Use the Earth's Resources?
How Many Is Enough?
What Are People's Basic Needs?
You're One in Six Billion!

2. Students will apply a decision-making process to make informed choices.

Eco Ethics
 For the Common Good
 Growing Pains in Texas Hill Country
 Needs vs. Wants
 Something for Everyone
 Take a Stand

3. Students will analyze how people respond predictably to positive and negative economic incentives.

For the Common Good
 The Hunger Banquet
 Maria's Education
 More or Less
 People on the Move
 Population Riddles
 Something for Everyone
 Take a Stand

D. The National Economy (Macro Economics):

The student will understand the concepts that measure the national economy.

1. Students will define and give examples of basic economic terms.

Food for Thought
 The Hunger Banquet
 When the Chips Are Down
Global Family Ties

VII. Government And Citizenship

A. Civic Values, Skills, Rights and Responsibilities:

The student will articulate the range of rights and responsibilities in a republic

2. Students will explain some of the responsibilities of people living in a democracy.

Eco Ethics

Growing Pains in Texas Hill Country

Take a Stand

Your Place on the Planet

A. Civic Values, Skills, Rights and Responsibilities:

The student will understand the importance of participation in civic life and demonstrate effective civic skills

2. Students will explain the meaning of civic life and how all members of a community can be engaged.

Growing Pains in Texas Hill Country

Your Place on the Planet

3. Students will identify and research community problems and recommend solutions.

Growing Pains in Texas Hill Country

Take a Stand

Grade 9 to Grade 12

I. U.S. History

G. Expansion, Innovation, and Reform, 1801-1861:

The student will understand how explosive growth (economic, demographic, geographic) and technological innovation transformed American society.

1. Students will describe and analyze the impact of innovations in industry, technology and transportation on life in America.

Pop Quiz

A Warm Forecast for the Planet?

2. Students will examine demographic growth and patterns of population change and their consequences for American society before the Civil War.

Pop Quiz

The People Connection

J. Reshaping the Nation and the Emergence of Modern America, 1877-1916:

The student will describe and analyze the linked processes of industrialization and urbanization after 1870.

1. Students will demonstrate knowledge about how the rise of corporations, heavy industry, and mechanized farming transformed the American economy, including the role of key inventions and the growth of national markets.

A Warm Forecast for the Planet?

N. Post-War United States, 1945-1972:

The student will understand the changes in legal definitions of individual rights in the 1960s and 1970s and the social movements that prompted them.

1. Students will demonstrate knowledge of the "rights revolution" including the civil rights movement, women's rights movements, expansion of civil liberties, and environmental and consumer protection.

Troubled Water

O. Contemporary United States, 1970 to the present:

The student will understand the evolution of foreign and domestic policy in the last three decades of the 20th century and the beginning of the 21st century.

2 Students will demonstrate knowledge of economic, social, and cultural developments in contemporary United States.

Earth: The Apple of Our Eye (Intermediate/Secondary)

Eco Ethics

Everything Is Connected

Family Perspective

Food for Thought

Global Warming Begins at Home

Growing Pains in Texas Hill Country

Maria's Education

Needs vs. Wants

Pop Quiz

Power of the Pyramids

Take a Stand

Water, Water Everywhere (Secondary)

Feeding the Global Family

The People Connection

The Rising Tide of Poverty

Troubled Water

A Warm Forecast for the Planet?

Women: The Critical Link

III. World History

E. Global Encounters, Exchanges, and Conflicts, 500 AD - 1500 AD:

The student will demonstrate knowledge of social, economic, and political changes and cultural achievements in the late medieval period.

3. Students will identify patterns of crisis and recovery related to the Black Death, and evaluate their impact.

World Population Video

G. Age of Empires and Revolutions, 1640 AD - 1920 AD:

The student will demonstrate knowledge of political and philosophical developments in Europe during the 19th century.

3. Students will describe major scientific, technological, and philosophical developments of the 19th Century and analyze their impact.

Pop Quiz

The People Connection

A Warm Forecast for the Planet?

G. Age of Empires and Revolutions, 1640 AD - 1920 AD:

The student will demonstrate knowledge of the effects of the Industrial Revolution during the 19th century.

1. Students will explain industrial developments and analyze how they brought about urbanization as well as social and environmental changes.

A Warm Forecast for the Planet?

I. The Post-War Period, 1945 AD - Present:

The student will demonstrate knowledge of significant political and cultural developments of the late 20th century that affect global relations.

1. Students will examine human rights principles and how they have been supported and violated in the late 20th Century.

Baby-O-Matic

Educating Wanjiku

Maria's Education

Take a Stand
A Woman's Place
The People Connection
The Rising Tide of Poverty
Women: The Critical Link

2. Students will describe and analyze processes of "globalization" as well as persistent rivalries and inequalities among the world's regions, and assess the successes and failures of various approaches to address these.

Educating Wanjiku
Food for Thought
The Hunger Banquet
Maria's Education
Pop Quiz
Power of the Pyramids
Take a Stand
Feeding the Global Family
The People Connection
The Rising Tide of Poverty
Troubled Water
A Warm Forecast for the Planet?
Women: The Critical Link

V. Geography

B. Essential Skills:

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

1. Students will demonstrate the ability to obtain geographic information from a variety of print and electronic sources.

Baby-O-Matic
Educating Wanjiku
Living on \$500 a Year
Maria's Education
Take a Stand
Feeding the Global Family
Troubled Water

C. Spatial Organization:

The student will understand the regional distribution of the human population at local to global scales and its patterns of change.

1. Students will describe the pattern of human population density in the United States and major regions of the world.

Food for Thought
Growing Pains in Texas Hill Country
World Population Video
Feeding the Global Family
The Rising Tide of Poverty

2. Students will provide examples that illustrate the impact changing birth and death rates have on the growth of the human population in the major regions of the world.

All in the Family
Food for Thought
World Population Video
The People Connection

The Rising Tide of Poverty
Women: The Critical Link

3. Students will use population pyramids and birth and death rates to compare and contrast the characteristics of regional populations at various scales.

Food for Thought
Power of the Pyramids

4. Students will use the concepts of push and pull factors to explain the general patterns of human movement in the modern era, including international migration, migration within the United States and major migrations in other parts of the world.

Food for Thought
Growing Pains in Texas Hill Country
Maria's Education
Take a Stand
Feeding the Global Family
The Rising Tide of Poverty

C. Spatial Organization:

The student will analyze the patterns of location, functions, structure, and characteristics of local to global settlement patterns and the processes that affect the location of cities.

1. Students will describe the contemporary patterns of large cities.

The Rising Tide of Poverty

2. Students will describe the processes that have produced this pattern of cities.

The Rising Tide of Poverty

4. Students will describe how changes in transportation technology, government policies, lifestyles, and cycles in economic activity impact the suburbanization of the United States.

Eco Ethics
Growing Pains in Texas Hill Country
Take a Stand

C. Spatial Organization:

The student will use regions and the interaction among them to analyze the present patterns of economic activity in the United States and around the world at various scales.

10. Students will cite a variety of examples of how economic or political changes in other parts of the world can affect their lifestyle.

Food for Thought
The Hunger Banquet
Take a Stand
Feeding the Global Family
The People Connection
A Warm Forecast for the Planet?

D. Interconnections:

The student will describe how humans influence the environment and in turn are influenced by it.

1. Students will provide a range of examples illustrating how types of government systems and technology impact the ability to change the environment or adapt to it.

Food for Thought
Take a Stand
Transportation Tally
Water, Water Everywhere (Secondary)

Feeding the Global Family
The People Connection
Troubled Water
A Warm Forecast for the Planet?
Women: The Critical Link

2. Students will analyze the advantages and drawbacks of several common proposals to change the human use of environmental resources.

Earth: The Apple of Our Eye (Intermediate/Secondary)
Eco Ethics
For the Common Good
Needs vs. Wants
Something for Everyone
Take a Stand
Transportation Tally
Water, Water Everywhere (Secondary)
Feeding the Global Family
Troubled Water
A Warm Forecast for the Planet?

VI. Economics

B. The National Economy (Macro Economics):

The student will understand the concepts that measure the national economy.

1. Students will define and give examples of basic economic terms.

Food for Thought
The Hunger Banquet
The Rising Tide of Poverty

B. The National Economy (Macro Economics):

The student will understand that economic growth is the primary means by which a country can improve the future economic standard of living for its citizens.

1. Students will explain that Gross Domestic Product (GDP) per capita is a measure that permits comparisons of material living standards over time and among people in different nations.

Food for Thought
The Hunger Banquet
The Rising Tide of Poverty

4. Students will understand that investments in physical capital (machinery, equipment, and structures), human capital (education, training, skills), and new technologies commonly increase productivity and contribute to an expansion of future economic prosperity.

Educating Wanjiku
Food for Thought
Living on \$500 a Year
Maria's Education
The Rising Tide of Poverty
Women: The Critical Link

C. Essential Skills:

The student will understand and use economic concepts, theories, principles and quantitative methods to analyze current events.

1. Students will use tables, graphs, equations, diagrams, and charts to interpret economic information.

Power of the Pyramids
The Rising Tide of Poverty

Women: The Critical Link

2. Students will evaluate the economic implications of current issues as found in such sources as magazine articles, radio and television reports, editorials, and Internet sites.

Growing Pains in Texas Hill Country

Take a Stand

Feeding the Global Family

The People Connection

The Rising Tide of Poverty

Troubled Water

A Warm Forecast for the Planet?

Women: The Critical Link

D. International Economic Relationships:

The student will understand the key factors involved in the United States' economic relationships with other nations.

7. Students will know and analyze the reasons some countries are characterized as developing nations.

Food for Thought

The Hunger Banquet

Living on \$500 a Year

The Rising Tide of Poverty

E. Economics and Public Policy:

The student will apply economic theories and concepts to public policy issues.

3. Students will know and analyze how income, and wealth are distributed among different sectors of the population.

Food for Thought

The Hunger Banquet

Living on \$500 a Year

The Rising Tide of Poverty

VII. Government And Citizenship

A. Civic Values, Skills, Rights and Responsibilities:

The student will analyze various methods of civic engagement needed to fulfill responsibilities of a citizen of a republic.

1. Students will demonstrate the ability to use the print and electronic media to do research and analyze data.

Baby-O-Matic

Take a Stand

4. Students will understand the importance of informed decision making and the roles of public speaking, conducting a public meeting, letter writing, petition signing, negotiation, active listening, conflict resolution, and mediation, defending a public policy position in a civil conversation.

For the Common Good

Growing Pains in Texas Hill Country

Something for Everyone

Language Arts

Kindergarten

I. Reading And Literature

B. Vocabulary Expansion:

The student will use a variety of strategies to develop and expand reading, listening and speaking vocabularies.

1. Use words to describe and name people, places, and things.

Earth Cookie

Web of Life

Who Polluted the River?

3. Use words to describe actions.

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Go Fish!

Web of Life

Who Polluted the River?

4. Use context to predict and infer word meanings.

Web of Life

Who Polluted the River?

Sharing a Small World

5. Learn new words through explicit instruction.

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Go Fish!

Web of Life

Who Polluted the River?

C. Comprehension:

The student will listen to and understand the meaning of text.

2. Make predictions from illustrations and story content.

Web of Life

Who Polluted the River?

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will communicate effectively through listening and speaking.

2. Follow two-step directions.

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Go Fish!

Web of Life

Who Polluted the River?

4. Communicate needs, feelings and ideas to peers and adults.

Creatures in Motion
Crowding Can Be Seedy
Go Fish!

5. Recite and respond to poems, rhymes and songs.
Crowding Can Be Seedy

8. Ask and respond to questions.
Creatures in Motion
Crowding Can Be Seedy
Earth Cookie
Go Fish!
Web of Life
Who Polluted the River?

Grade 1

I. Reading And Literature

B. Vocabulary Expansion:

The student will use a variety of strategies to develop and expand reading, listening and speaking vocabularies.

4. Use context to predict and infer word meanings.
Web of Life
Who Polluted the River?

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will communicate effectively through listening and speaking.

2. Follow two- or three-step oral directions.
Creatures in Motion
Crowding Can Be Seedy
Earth Cookie
Go Fish!
Web of Life
Who Polluted the River?
5. Recite and respond to stories, poems, rhymes and songs with expression.
Crowding Can Be Seedy
7. Ask and respond to questions.
Creatures in Motion
Crowding Can Be Seedy
Earth Cookie
Go Fish!
Web of Life
Who Polluted the River?

Grade 2

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

2. Comprehend text or information presented orally.
Web of Life
Who Polluted the River?

Sharing a Small World

3. Follow two- or three-step oral directions.
Creatures in Motion
Crowding Can Be Seedy
Earth Cookie
Go Fish!
Web of Life
Who Polluted the River?
6. Recite and respond to stories, poems, rhymes and songs with expression.
Crowding Can Be Seedy
8. Ask and respond to questions.
Creatures in Motion
Crowding Can Be Seedy
Earth Cookie
Go Fish!
Web of Life
Who Polluted the River?

Grade 3

I. Reading And Literature

B. Vocabulary Expansion:

The student will use a variety of strategies to expand reading, listening and speaking vocabularies.

1. Acquire, understand and use new vocabulary through explicit instruction and independent reading.
Cougar Hunt
Earth: The Apple of Our Eye (Elementary)
Everything Counts
Mining for Chocolate
People Count
The Stork and the Grim Reaper
Who Polluted the Potomac?
How Do People Use the Earth's Resources?
How Many Is Enough?
What Are People's Basic Needs?
What Is a Population?
Why Do People Need Space?

C. Comprehension:

The student will understand the meaning of texts using a variety of comprehension strategies and will demonstrate literal, interpretive and evaluative comprehension.

1. Read aloud grade-appropriate text (that has not been previewed) with accuracy and comprehension.
How Do People Use the Earth's Resources?
How Many Is Enough?
What Are People's Basic Needs?
What Is a Population?
Why Do People Need Space?

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups.

When the Chips Are Down

2. Demonstrate active listening and comprehension.

Cougar Hunt

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Energy Imagery

Everything Counts

Mining for Chocolate

More or Less

People Count

Population Riddles

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

When the Chips Are Down

Who Polluted the Potomac?

3. Follow multi-step oral directions.

Cougar Hunt

Energy Imagery

Mining for Chocolate

More or Less

The Stork and the Grim Reaper

Timber!

When the Chips Are Down

Who Polluted the Potomac?

Grade 4

I. Reading And Literature

B. Vocabulary Expansion:

The student will use a variety of strategies to expand reading, listening and speaking vocabularies.

1. Acquire, understand and use new vocabulary through explicit instruction and independent reading.

Cougar Hunt

Earth: The Apple of Our Eye (Elementary)

Everything Counts

Mining for Chocolate

People Count

The Stork and the Grim Reaper

Who Polluted the Potomac?

How Do People Use the Earth's Resources?

How Many Is Enough?

What Are People's Basic Needs?

What Is a Population?

Why Do People Need Space?

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

2. Demonstrate active listening and comprehension.

Cougar Hunt

Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Everything Counts
Mining for Chocolate
More or Less
People Count
Population Riddles
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
When the Chips Are Down
Who Polluted the Potomac?

Grade 5

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

2. Demonstrate active listening and comprehension.

Cougar Hunt
Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Everything Counts
Mining for Chocolate
More or Less
People Count
Population Riddles
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
When the Chips Are Down
Who Polluted the Potomac?

Grade 6

I. Reading And Literature

C. Comprehension:

The student will understand the meaning of informational, expository or persuasive texts, using a variety of strategies and will demonstrate literal, interpretive, inferential and evaluative comprehension.

3. Generate and answer literal, inferential, interpretive and evaluative questions to demonstrate understanding about what is read.

The Balance of Nature
Global Family Ties
People Count: Facing the Population Challenge
Your Place on the Planet
You're One in Six Billion!

III. Speaking, Listening And Viewing

A. Speaking and Listening:

Students will demonstrate understanding and communicate effectively through listening and speaking.

1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups.

Eco Ethics
Educating Wanjiku
Energy Imagery
Everything Is Connected
Food for Thought
For the Common Good
Growing Pains in Texas Hill Country
Maria's Education
Needs vs. Wants
People on the Move
Something for Everyone
Take a Stand
The Hunger Banquet
Who Polluted the River?

2. Know and apply listening rules and expectations for formal settings and demonstrate comprehension.

Eco Ethics
Food for Thought
Growing Pains in Texas Hill Country
Take a Stand
Who Polluted the River?

3. Actively listen and comprehend messages.

Eco Ethics
Energy Imagery
Growing Pains in Texas Hill Country
Take a Stand
Who Polluted the Potomac?

5. Distinguish between a speaker's opinion and verifiable facts.

Growing Pains in Texas Hill Country
Take a Stand

6. Orally communicate information, opinions and ideas effectively to different audiences for a variety of purposes.

Eco Ethics
Growing Pains in Texas Hill Country
Take a Stand

Grade 7

I. Reading And Literature

C. Comprehension:

The student will understand the meaning of texts, using a variety of strategies, and will demonstrate literal, interpretive, inferential and evaluative comprehension.

1. Comprehend, interpret and evaluate text by asking and answering questions.

Educating Wanjiku
Growing Pains in Texas Hill Country
Maria's Education
The Balance of Nature
Global Family Ties
People Count: Facing the Population Challenge
Your Place on the Planet
You're One in Six Billion!

III. Speaking, Listening And Viewing

A. Speaking and Listening:

Students will demonstrate understanding and communicate effectively through listening and speaking.

1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups.

- Eco Ethics
- Educating Wanjiku
- Energy Imagery
- Everything Is Connected
- Food for Thought
- For the Common Good
- Growing Pains in Texas Hill Country
- The Hunger Banquet
- Maria's Education
- Needs vs. Wants
- People on the Move
- Something for Everyone
- Take a Stand
- Who Polluted the Potomac?

2. Know and apply listening rules for formal settings.

- Growing Pains in Texas Hill Country
- Take a Stand

4. Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation.

- Growing Pains in Texas Hill Country
- Take a Stand

Grade 8

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups.

- Eco Ethics
- Educating Wanjiku
- Energy Imagery
- Everything Is Connected
- Food for Thought
- For the Common Good
- Growing Pains in Texas Hill Country
- The Hunger Banquet
- Maria's Education
- Needs vs. Wants
- People on the Move
- Something for Everyone
- Who Polluted the Potomac?

2. Actively listen and comprehend messages.

- Eco Ethics
- Energy Imagery
- Growing Pains in Texas Hill Country
- Take a Stand

Who Polluted the Potomac?

4. Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation.
Growing Pains in Texas Hill Country
Take a Stand

6. Orally communicate information, opinions and ideas effectively to different audiences, adjusting delivery and language for intended audience and purpose.
Growing Pains in Texas Hill Country
Take a Stand

Grade 9 to Grade 12

II. Writing

D. Research:

The student will locate and use information in reference materials.

1. Use print, electronic databases and online resources to access information, organize ideas, and develop writing.
A Woman's Place

III. Speaking, Listening And Viewing

A. Speaking and Listening:

The student will demonstrate understanding and communicate effectively through listening and speaking.

1. Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation.
Growing Pains in Texas Hill Country
Take a Stand

Mathematics

Kindergarten

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

2. Estimate and check that answers are reasonable.

Food for Thought
Mining for Chocolate
Population Circle

II. Number Sense, Computation, And Operations

A. Number Sense:

Represent quantities using whole numbers and understand relationships among whole numbers.

2. Count the number of objects in a set and identify the quantity.

Creatures in Motion
Crowding Can Be Seedy
Food for Thought
Go Fish!
Mining for Chocolate
Population Circle

3. Compare the number of objects in two or more sets.

Crowding Can Be Seedy
Food for Thought

Grade 1

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

2. Estimate and check that answers are reasonable.

Mining for Chocolate

II. Number Sense, Computation, And Operations

A. Number Sense:

Understand place value, ways of representing whole numbers and relationships among whole numbers.
Understand the concept of one half.

1. Read, write numerals for, compare and order numbers to 120.

Adding Armadillos
Food for Thought
Population Circle

B. Computation and Operation:

Add and subtract one-digit whole numbers in real-world and mathematical problems.

1. Use one-digit addition and subtraction to solve real-world and mathematical problems.

Adding Armadillos

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Gather and record data in real-world and mathematical problems.

1. Gather and record data about classmates and their surroundings in a simple graph.
People Count
2. Identify patterns in simple graphs.
Population Circle

Grade 2

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

2. Estimate and check that answers are reasonable.
Mining for Chocolate

II. Number Sense, Computation, And Operations

A. Number Sense:

Understand place value, ways of representing whole numbers and relationships among whole numbers.
Understand the concept of unit fractions.

1. Read, write with numerals, compare and order numbers to 999.
Adding Armadillos
Food for Thought
Multiplying Mice
Population Circle
5. Recognize, name, compare and represent unit fractions with drawings or concrete materials.
Earth Cookie

B. Computation and Operation:

Compute fluently and make reasonable estimates with whole numbers in real-world and mathematical problems.

1. Use one- and two-digit addition and subtraction to solve real-world and mathematical problems.
Adding Armadillos
Multiplying Mice

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Understand repeating, growing and shrinking patterns.

1. Recognize, create and extend repeating, growing and shrinking patterns using numbers, concrete objects and pictures.
Adding Armadillos
Multiplying Mice
Population Circle

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Collect and represent data in real-world and mathematical problems.

1. Collect and record categorical data.
Food for Thought
People Count

2. Create pictographs and real-object graphs to represent data.
 - Earth Cookie
 - Food for Thought
 - People Count
3. Identify patterns in graphs or data sets.
 - Population Circle

Grade 3

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

1. Communicate, reason and represent situations mathematically.
 - Adding Armadillos
 - Earth Cookie
 - Food for Thought
 - Go Fish!
 - People Count
 - Population Circle
6. Support mathematical results using pictures, numbers and words to explain why the steps in a solution are valid and why a particular solution method is appropriate.
 - Adding Armadillos
 - Multiplying Mice

II. Number Sense, Computation, And Operations

A. Number Sense:

Represent whole numbers in various ways to quantify information and to solve real-world and mathematical problems. Understand the concept of decimals and common fractions.

1. Read, write with numerals, compare and order whole numbers to 9,999.
 - Adding Armadillos
 - Food for Thought
 - Multiplying Mice
 - Population Circle
4. Represent and write fractions with pictures, models and numbers.
 - Earth Cookie

B. Computation and Operation:

Compute fluently and make reasonable estimates with whole numbers in real-world and mathematical problems. Understand addition and subtraction and how they relate to one another. Understand the concepts of multiplication and division.

1. Use addition of up to three whole number addends, containing up to four digits each in real-world and mathematical problems.
 - Adding Armadillos
 - People Count

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent and interpret data in real-world and mathematical problems.

1. Read and interpret data from circle graphs using halves, thirds and quarters.

Earth Cookie

2. Collect data using observations or surveys and represent the data with pictographs and line plots with appropriate title and key.

People Count

B. Probability:

Explore the basic concept of probability.

Earth Cookie

Food for Thought

Grade 4

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

1. Communicate, reason and represent situations mathematically.

Adding Armadillos

Cougar Hunt

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Everything Counts

Food for Thought

Multiplying Mice

People Count

Population Circle

Population Riddles

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

5. Express a written problem in suitable mathematical language, solve the problem and interpret the result in the original context.

Cougar Hunt

Population Riddles

Timber!

6. Support mathematical results using pictures, numbers and words to explain why the steps in a solution are valid and why a particular solution method is appropriate.

Adding Armadillos

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Everything Counts

Multiplying Mice

People Count

Population Riddles

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

II. Number Sense, Computation, And Operations

A. Number Sense:

Represent whole numbers in various ways to quantify information and to solve real-world and mathematical problems. Understand the concept of fractions and decimals.

1. Read and write whole numbers to 100,000 in numerals and words.
 - Adding Armadillos
 - Everything Counts
 - Food for Thought
 - Multiplying Mice
 - Population Circle
 - Population Riddles
2. Compare and order whole numbers.
 - Food for Thought
4. Use rounding and estimation with whole numbers to solve real-world and mathematical problems.
 - Everything Counts
 - Food for Thought
 - Population Circle
 - Population Riddles
 - The Stork and the Grim Reaper

II. Number Sense, Computation, And Operations

B. Computation and Operation:

Compute fluently and make reasonable estimates with whole numbers in real-world and mathematical problems. Understand the meanings of arithmetic operations and how they relate to one another.

1. Use addition and subtraction of multi-digit whole numbers to solve multi-step real-world and mathematical problems.
 - Adding Armadillos
 - Everything Counts
 - Multiplying Mice
 - Population Riddles
 - Timber!
2. Add up to three whole numbers containing up to three digits each, without a calculator.
 - Adding Armadillos
 - Multiplying Mice
 - Timber!
5. Use multiplication and division of whole numbers to solve simple real-world and mathematical problems.
 - Everything Counts
 - Population Riddles
 - The Stork and the Grim Reaper
 - Timber!

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Understand and describe patterns in tables and graphs.

1. Examine and describe patterns in tables and graphs.
 - Adding Armadillos
 - Earth Cookie
 - Earth: The Apple of Our Eye (Elementary)
 - Everything Counts
 - Multiplying Mice
 - People Count
 - Population Circle
 - Power of the Pyramids

Timber!

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent and interpret data in real-world and mathematical problems.

1. Collect data using observations or surveys and represent the data with tables and graphs with labeling.

Everything Counts

People Count

Population Circle

Timber!

2. Use mathematical language to describe a set of data.

Everything Counts

People Count

Power of the Pyramids

Grade 5

I. Mathematical Reasoning

Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

1. Communicate, reason and represent situations mathematically.

Adding Armadillos

Cougar Hunt

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Everything Counts

Food for Thought

Multiplying Mice

People Count

Population Circle

Population Riddles

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

5. Express a written problem in suitable mathematical language, solve the problem and interpret the result in the original context.

Cougar Hunt

Population Riddles

Timber!

6. Support mathematical results using pictures, numbers, and words to explain why the steps in a solution are valid and why a particular solution method is appropriate.

Adding Armadillos

Earth Cookie

Earth: The Apple of Our Eye (Elementary)

Everything Counts

Multiplying Mice

Population Circle

Population Riddles

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

7. Organize, record and communicate math ideas coherently and clearly.

- Adding Armadillos
- Cougar Hunt
- Earth Cookie
- Earth: The Apple of Our Eye (Elementary)
- Everything Counts
- Food for Thought
- Multiplying Mice
- People Count
- Population Circle
- Population Riddles
- The Stork and the Grim Reaper
- Timber!
- Water, Water Everywhere (Elementary/Intermediate)

II. Number Sense, Computation, And Operations

A. Number Sense:

Represent fractions, decimals and whole numbers in a variety of ways, to quantify information and to solve real-world and mathematical problems. Understand the concept of negative numbers.

1. Read and write numbers up to three decimal places in numerals and words.

- Adding Armadillos
- Food for Thought
- Multiplying Mice
- Population Circle
- Power of the Pyramids

4. Use a variety of estimation strategies such as rounding, truncation, over- and underestimation and decide when an estimated solution is appropriate.

- Everything Counts
- Population Riddles
- The Stork and the Grim Reaper
- Timber!

B. Computation and Operation:

Compute fluently and make reasonable estimates with fractions, decimals, and whole numbers, in real-world and mathematical problems. Understand the meanings of arithmetic operations and how they relate to one another.

1. Use addition, subtraction, multiplication and division of multi-digit whole numbers to solve multi-step, real-world and mathematical problems.

- Everything Counts
- Population Riddles
- The Stork and the Grim Reaper
- Timber!
- Power of the Pyramids

4. Multiply, without a calculator, a two-digit whole number or decimal by a two-digit whole number or decimal, such as 3.2×3.4 .

- Everything Counts

5. Divide, without a calculator, a three-digit whole number or decimal by a one-digit whole number or decimal such as 3.51 divided by 3.

- Power of the Pyramids

7. Interpret percents as a part of a hundred.

Power of the Pyramids

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Understand and describe patterns in numbers, shapes, tables and graphs.

1. Identify patterns in numbers, shapes, tables, and graphs and explain how to extend those patterns.

Population Circle
Population Riddles
Timber!

B. Algebra (Algebraic Thinking):

Represent mathematical relationships using equations.

1. Evaluate numeric expressions in real-world and mathematical problems.

Adding Armadillos
Everything Counts
Multiplying Mice
People Count
Population Riddles
Power of the Pyramids
Timber!

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent data and use various measures associated with data to draw conclusions and identify trends.

2. Use fractions and percentages to compare data sets.

Earth Cookie
Earth: The Apple of Our Eye (Elementary)
The Stork and the Grim Reaper
Power of the Pyramids

3. Collect data using measurements, surveys or experiments and represent the data with tables and graphs with labeling.

Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Everything Counts
People Count
Population Circle
Timber!
Water, Water Everywhere (Elementary/Intermediate)

V. Spatial Sense, Geometry, And Measurement

C. Measurement:

Measure and calculate length, area and capacity using appropriate tools and units to solve real-world and mathematical problems.

3. Select and apply the appropriate units and tools to measure perimeter, area and capacity.

Measuring a Million
The Stork and the Grim Reaper

Grade 6

II. Number Sense, Computation, And Operations

A. Number Sense:

Use positive and negative rational numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems.

2. Use rounding and estimation with integers, decimals and fractions to solve real-world and mathematical problems.

- Everything Counts
- Food for Thought
- Measuring a Million
- Population Riddles
- The Stork and the Grim Reaper

B. Computation and Operation:

Compute fluently and make reasonable estimates with positive and negative rational numbers in real-world and mathematical problems. Understand the meanings of arithmetic operations and factorization, and how they relate to one another. Appropriately use calculators and other technologies to solve problems.

3. Use addition, subtraction, multiplication and division of multi-digit whole and decimal numbers to solve multi-step real-world and mathematical problems.

- All in the Family
- Everything Counts
- Global Warming Begins at Home
- How Much Space Do We Need?
- Measuring a Million
- On the Double
- Population Clock
- Population Riddles
- Power of the Pyramids
- Stage Stepping
- Timber!
- Transportation Tally

4. Multiply and divide, without a calculator, numbers containing up to three digits by numbers containing up to two digits, such as $347 / 83$ or 4.91×9.2 .

- Everything Counts
- Global Warming Begins at Home
- How Much Space Do We Need?
- Measuring a Million
- Population Clock
- Power of the Pyramids
- Transportation Tally

8. Find, represent and use percentages in real-world and mathematical problems, including percentages greater than 100% and less than 1%.

- On the Double
- The Pop Ecology Files
- Power of the Pyramids

III. Patterns, Functions, And Algebra

B. Algebra (Algebraic Thinking):

Apply arithmetic operations in the correct order to simplify and evaluate numeric expressions in real-world and mathematical problems.

1. Apply the correct order of operations including addition, subtraction, multiplication, division and grouping symbols to simplify and evaluate numeric expressions.

- Global Warming Begins at Home
- How Much Space Do We Need?

Transportation Tally

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent data and use various measures associated with data to draw conclusions and identify trends.

1. Collect, organize and represent categorical and numerical data with tables and bar graphs.

All in the Family
On the Double
Power of the Pyramids
Stage Stepping
Timber!

2. Understand the differences and appropriate use of mean, median and mode.

Everything Counts

V. Spatial Sense, Geometry, And Measurement

C. Measurement:

Make calculations of time, length, area and volume within standard measuring systems, using good judgment in choice of units.

1. Solve problems requiring conversion of units within the U.S. customary system, and within the metric system.

How Much Space Do We Need?
Measuring a Million
The Stork and the Grim Reaper

2. Express measures of time and distance as fractions, mixed numbers and decimals to solve real-world and mathematical problems.

How Much Space Do We Need?
Measuring a Million
The Stork and the Grim Reaper

3. Find the area and perimeter of rectangles, squares, triangles and parallelograms by measuring, using a grid or using a formula.

How Much Space Do We Need?
Measuring a Million

Grade 7

II. Number Sense, Computation, And Operations

B. Computation and Operation:

Compute fluently and make reasonable estimates with rational numbers in real-world and mathematical problems. Understand the meanings of the basic operations, including the use of integer exponents and square roots, and how the operations relate to one another. Appropriately use calculators and other technologies to solve problems.

1. Add, subtract, multiply and divide fractions and mixed numbers.

Earth: The Apple of Our Eye (Intermediate/Secondary)

3. Calculate the percentage of increase and decrease of a quantity in real-world and mathematical problems.

On the Double
The Pop Ecology Files

4. Convert among fractions, decimals and percents and use these representations for estimations and computations in real-world and mathematical problems.

On the Double

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Demonstrate an understanding of rate of change graphically and numerically.

1. Demonstrate, numerically and graphically, an understanding that rate is a measure of change of one quantity per unit change of another quantity in real-world and mathematical problems.

On the Double

The Pop Ecology Files

B. Algebra (Algebraic Thinking):

Apply arithmetic operations in the correct order to generate equivalent algebraic expressions and to solve simple formulas in real-world and mathematical problems.

1. Apply the correct order of operations including addition, subtraction, multiplication, division and grouping symbols to generate equivalent algebraic expressions.

Global Warming Begins at Home

How Much Space Do We Need?

Transportation Tally

3. Solve simple formulas with up to three variables, when the values of two of the variables are given.

Global Warming Begins at Home

How Much Space Do We Need?

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent data and use various measures associated with data to draw conclusions and identify trends.

2. Understand the meaning of, and be able to compute minimum, maximum, range, median, mean and mode of a data set.

Everything Counts

B. Probability:

Calculate and express probabilities numerically and apply probability concepts to solve real-world and mathematical problems.

1. Express probabilities as percentages, fractions, proportions and decimals.

Family Perspective

A World of Difference

2. Use a variety of experiments to explore the relationship between experimental and theoretical probabilities.

Everything Counts

A World of Difference

V. Spatial Sense, Geometry, And Measurement

C. Measurement:

Make calculations of time, length, area and volume within standard measuring systems using good judgment in choice of units.

1. Choose appropriate units to calculate, measure, and record length, weight, area and volume in both U.S. customary and metric systems.

How Much Space Do We Need?

Measuring a Million

The Stork and the Grim Reaper

Grade 8

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Understand and describe progressions. Use graphs and tables to solve real-world and mathematical problems.

1. Recognize when a list of numbers forms an arithmetic or geometric progression and be able to determine subsequent terms in the progression.

- All in the Family
- Population Riddles
- Stage Stepping
- Timber!

2. Represent quantitative relationships graphically and use the graphs to solve real-world and mathematical problems.

- All in the Family
- Earth: The Apple of Our Eye (Intermediate/Secondary)
- On the Double
- The Pop Ecology Files
- Population Clock
- Power of the Pyramids
- Stage Stepping
- Timber!
- World Population Video

B. Algebra (Algebraic Thinking):

Use algebraic operations to generate equivalent expressions, and use proportional reasoning to solve real-world and mathematical problems. Demonstrate the ability to manipulate an equation by applying arithmetic operations to both sides to maintain equivalence.

2. Use simple formulas with more than one variable to solve real-world and mathematical problems.

- Global Warming Begins at Home
- How Much Space Do We Need?

3. Use proportions and percents with one unknown quantity to solve real-world and mathematical problems.

- Everything Counts
- Global Warming Begins at Home
- Power of the Pyramids

4. Apply the correct order of operations including addition, subtraction, multiplication, division, grouping symbols and powers, to simplify and evaluate algebraic expressions.

- Global Warming Begins at Home
- How Much Space Do We Need?

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent data and use various measures associated with data to draw conclusions and identify trends.

1. Construct and analyze histograms, circle graphs, stem-and-leaf plots and box-and-whisker plots.

- A World of Difference

B. Probability:

Calculate and express probabilities numerically and apply probability concepts to solve real-world and mathematical problems.

2. Convert between odds and probabilities.

Family Perspective
A World of Difference

3. Use a variety of experiments to explore the relationship between experimental and theoretical probabilities and the effect of sample size on this relationship.

Everything Counts
A World of Difference

C. Measurement:

Make calculations of time, length, area and volume within and between standard measuring systems using good judgment in choice of units.

1. Find approximate equivalent measures of length, temperature and weight for common units in U.S. customary and metric measuring systems.

How Much Space Do We Need?

2. Use arithmetic to solve simple real-world and mathematical problems involving mixed units such as minutes and hours in elapsed time, degrees and minutes in latitude and longitude and feet and inches in distance.

How Much Space Do We Need?

Measuring a Million

The Stork and the Grim Reaper

Water, Water Everywhere (Elementary/Intermediate)

Grade 9 to Grade 11

II. Number Sense, Computation, And Operations

A. Number Sense:

Use real numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems.

All in the Family

Global Warming Begins at Home

How Much Space Do We Need?

The Pop Ecology Files

Stage Stepping

Transportation Tally

A World of Difference

III. Patterns, Functions, And Algebra

A. Patterns and Functions:

Represent and analyze real-world and mathematical problems using numeric, graphic and symbolic methods for a variety of functions.

2. Model exponential growth and decay, numerically, graphically and symbolically, using exponential functions with integer inputs.

All in the Family

Stage Stepping

The Pop Ecology Files

World Population Video

B. Algebra (Algebraic Thinking):

Solve simple equations and inequalities numerically, graphically, and symbolically. Use recursion to model and solve real-world and mathematical problems.

5. Use a variety of models such as equations, inequalities, algebraic formulas, written statements, tables and graphs or spreadsheets to represent functions and patterns in real-world and mathematical problems.

All in the Family
Global Warming Begins at Home
How Much Space Do We Need?
The Pop Ecology Files
Stage Stepping
Transportation Tally

7. Solve linear equations and inequalities in one variable with numeric, graphic and symbolic methods.

Global Warming Begins at Home
How Much Space Do We Need?
Transportation Tally

IV. Data Analysis, Statistics And Probability

A. Data and Statistics:

Represent data and use various measures associated with data to draw conclusions and identify trends. Understand the effects of display distortion and measurement error on the interpretation of data.

1. Construct and analyze circle graphs, bar graphs, histograms, box-and-whisker plots, scatter plots and tables, and demonstrate the strengths and weaknesses of each format by choosing appropriately among them for a given situation.

All in the Family
The Pop Ecology Files
Stage Stepping

B. Probability:

Use appropriate counting procedures, calculate probabilities in various ways and apply theoretical probability concepts to solve real-world and mathematical problems.

1. Select and apply appropriate counting procedures to solve real-world and mathematical problems, including probability problems.

All in the Family
Stage Stepping
A World of Difference

6. Use a variety of experimental, simulation and theoretical methods to calculate probabilities.

A World of Difference

Science

Kindergarten

I. History And Nature Of Science

B. Scientific Inquiry:

The student will raise questions about the natural world.

1. The student will observe and describe common objects using simple tools.

Creatures in Motion

Earth Cookie

Go Fish!

Mining for Chocolate

Population Circle

Web of Life

Who Polluted the River?

IV. Life Science

G. Human Organism:

The student will understand that people have five senses that can be used to learn about the environment.

1. The student will observe and describe the environment using the five senses.

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Mining for Chocolate

Population Circle

Web of Life

Who Polluted the River?

Grade 1

I. History And Nature Of Science

B. Scientific Inquiry:

The student will raise questions about the natural world, make careful observations, and seek answers.

1. The student will observe, describe, measure, compare and contrast common objects, using simple tools including but not limited to ruler, thermometer and balance.

Creatures in Motion

Earth Cookie

Mining for Chocolate

Population Circle

Who Polluted the River?

II. Physical Science

A. Structure of Matter:

The student will understand that objects have physical properties.

1. The student will describe objects in terms of color, size, shape, weight, texture, flexibility and attraction to magnets.

Creatures in Motion

Crowding Can Be Seedy

Earth Cookie

Mining for Chocolate

Population Circle

Web of Life
Who Polluted the River?

IV. Life Science

B. Organisms:

The student will observe plant and animal life cycles.

1. The student will observe and describe how plants and animals grow and change.
Crowding Can Be Seedy

F. Flow of Matter and Energy:

The student will understand that organisms have basic needs.

1. The student will know that animals need air, water and food and that plants require air, water, nutrients and light.
Crowding Can Be Seedy
Web of Life
Sharing a Small World

Grade 2

I. History And Nature Of Science

A. Scientific World View:

The student will understand that science is a human endeavor practiced throughout the world.

3. The student will give examples of scientific advances throughout history.
Who Polluted the River?

B. Scientific Inquiry:

The student will raise questions about the natural world, make careful observations and seek answers.

1. The student will use appropriate tools to gather and organize data.
Crowding Can Be Seedy
Earth Cookie
Adding Armadillos
Multiplying Mice
2. The student will recognize and describe patterns in data.
Adding Armadillos
Multiplying Mice
Population Circle

IV. Life Science

F. Flow of Matter and Energy:

The student will investigate feeding relationships among organisms.

1. The student will observe and describe predator and prey relationships.
Cougar Hunt

G. Human Organism:

The student will recognize that people have basic needs.

1. The student will know that people need water, food, air, waste removal and a particular range of temperature in their environment, just like other animals.
Crowding Can Be Seedy
Web of Life

Grade 3

I. History And Nature Of Science

A. Scientific World View:

The student will understand the use of science as a tool to examine the natural world.

1. The student will explore the use of science as a tool that can help investigate and answer questions about the environment.

Cougar Hunt
Crowding Can Be Seedy
Earth Cookie
Mining for Chocolate
Population Circle
Web of Life
Who Polluted the River?

B. Scientific Inquiry:

The student will understand the nature of scientific investigations.

1. The student will ask questions about the natural world that can be investigated scientifically.

Cougar Hunt
Crowding Can Be Seedy
Earth Cookie
Population Circle

2. The student will participate in a scientific investigation using appropriate tools.

Adding Armadillos
Multiplying Mice

IV. Life Science

C. Interdependence of Life:

The student will understand that an organism's patterns of behavior are related to the nature of its environment.

1. The student will know that organisms interact with one another in various ways besides providing food.

Web of Life

2. The student will know that changes in a habitat can be beneficial or harmful to an organism.

Cougar Hunt
Web of Life
Who Polluted the River?
Sharing a Small World

Grade 4

I. History And Nature Of Science

A. Scientific World View:

The student will understand how science is used to investigate interactions between people and the natural world.

1. The student will explore the uses and effects of science in our interaction with the natural world.

Crowding Can Be Seedy
Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Mining for Chocolate
More or Less
Something for Everyone

The Stork and the Grim Reaper
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?
How Do People Use the Earth's Resources?
How Many Is Enough?

2. The student will discuss the responsible use of science.

Crowding Can Be Seedy
Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Mining for Chocolate
More or Less
Something for Everyone
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?
How Do People Use the Earth's Resources?
How Many Is Enough?

3. The student will recognize the impact of scientific and technological activities on the natural world.

Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Mining for Chocolate
More or Less
Something for Everyone
Timber!
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?
How Do People Use the Earth's Resources?

B. Scientific Inquiry:

The student will participate in a controlled scientific investigation.

2. The student will collect, organize, analyze and present data from a controlled experiment.

Adding Armadillos
Cougar Hunt
Crowding Can Be Seedy
Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Everything Counts
Mining for Chocolate
Multiplying Mice
Population Circle
Something for Everyone
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?

III. Earth And Space Science

A. Earth Structure and Processes:

The student will investigate the impact humans have on the environment.

1. The student will identify and investigate environmental issues and potential solutions.

Crowding Can Be Seedy

Earth Cookie
Earth: The Apple of Our Eye (Elementary)
Energy Imagery
Mining for Chocolate
More or Less
Something for Everyone
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?
How Many Is Enough?
How Do People Use the Earth's Resources?

B. The Water Cycle, Weather and Climate:

The student will recognize that water on Earth cycles and exists in many forms.

2. The student will identify where water exists on Earth.
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?

Grade 5

I. History And Nature Of Science

B. Scientific Inquiry:

The student will understand the process of scientific investigations.

1. The student will perform a controlled experiment using a specific step-by-step procedure and present conclusions supported by the evidence.
Cougar Hunt
Crowding Can Be Seedy
Everything Counts
Mining for Chocolate
Something for Everyone
The Stork and the Grim Reaper
Timber!
Who Polluted the Potomac?

Grade 6

I. History And Nature Of Science

A. Scientific World View:

The student will understand that science is a way of knowing about the world that is characterized by empirical criteria, logical argument and skeptical review.

1. The student will distinguish between scientific evidence and personal opinion.
Eco Ethics
Growing Pains in Texas Hill Country
Take a Stand

B. Scientific Inquiry:

The student will understand that scientific inquiry is used in systematic ways to investigate the natural world.

3. The student will use appropriate tools and Système International (SI) units for measuring length, time, mass, volume and temperature with suitable precision and accuracy.
Measuring a Million
Timber!

4. The student will present and explain data and findings from controlled experiments using multiple representations including tables, graphs, physical models and demonstrations.

All in the Family
Earth: The Apple of Our Eye (Intermediate/Secondary)
Everything Counts
Population Circle
The Pop Ecology Files
Timber!
Water, Water Everywhere (Elementary/Intermediate)

Grade 7

I. History And Nature Of Science

A. Scientific World View:

The student will understand that science is a way of knowing about the world that is characterized by empirical criteria, logical argument and skeptical review.

2. The student will explain natural phenomena by using appropriate physical, conceptual and mathematical models.

All in the Family
Cougar Hunt
Earth: The Apple of Our Eye (Intermediate/Secondary)
Everything Is Connected
Global Warming Begins at Home
On the Double
The Pop Ecology Files
Population Circle
Population Clock
Something for Everyone
Stage Stepping
The Stork and the Grim Reaper
Timber!
Water, Water Everywhere (Elementary/Intermediate)
Who Polluted the Potomac?
A World of Difference
World Population Video

B. Scientific Inquiry:

The student will design and conduct scientific investigations.

1. The student will formulate a testable hypothesis based on prior knowledge.

Everything Counts
How Much Space Do We Need?
A World of Difference

2. The student will recognize that a variable is a condition that may influence the outcome of an investigation and know the importance of manipulating one variable at a time.

All in the Family
Everything Counts
Global Warming Begins at Home
How Much Space Do We Need?
Stage Stepping

IV. Life Science

C. Interdependence of Life:

The student will understand that within ecosystems, complex interactions exist between organisms and the physical environment.

1. The student will provide examples of the potentially irreversible effects of human activity on ecosystems.

Earth: The Apple of Our Eye (Intermediate/Secondary)

Everything Is Connected

Global Warming Begins at Home

Mining for Chocolate

Pop Quiz

The Stork and the Grim Reaper

Timber!

Who Polluted the Potomac?

A World of Difference

World Population Video

You're One in Six Billion!

The Balance of Nature

2. The student will define a population as all individuals of a species that exist together at a given place and time.

Power of the Pyramids

You're One in Six Billion!

4. The student will explain the factors that affect the number and types of organisms an ecosystem can support, including available resources, abiotic and biotic factors and disease.

Cougar Hunt

Earth: The Apple of Our Eye (Intermediate/Secondary)

For the Common Good

Growing Pains in Texas Hill Country

How Much Space Do We Need?

Mining for Chocolate

The More The Merrier?

Population Circle

Population Riddles

Something for Everyone

The Stork and the Grim Reaper

Timber!

Water, Water Everywhere (Elementary/Intermediate)

Who Polluted the Potomac?

A World of Difference

G. Human Organism:

The student will understand human body systems and their relationship to disease.

2. The student will identify risks associated with natural, chemical and biological hazards.

All in the Family

Cougar Hunt

Earth: The Apple of Our Eye (Intermediate/Secondary)

Eco Ethics

Everything Is Connected

Food for Thought

For the Common Good

Global Warming Begins at Home

Growing Pains in Texas Hill Country

Mining for Chocolate

The More The Merrier?

On the Double

Pop Quiz
 Population Circle
 Population Riddles
 Population Clock
 Stage Stepping
 The Stork and the Grim Reaper
 Take a Stand
 Timber!
 Water, Water Everywhere (Elementary/Intermediate)
 Who Polluted the Potomac?
 A World of Difference
 World Population Video
The Balance of Nature
You're One in Six Billion!

Grade 8

I. History And Nature Of Science

A. Scientific World View:

The student will understand that science is a way of knowing about the world that is characterized by empirical criteria, logical argument and skeptical review.

1. The student will explain and give examples of how science can be used to make informed ethical decisions by identifying likely consequences of particular actions.

All in the Family
 Earth: The Apple of Our Eye (Intermediate/Secondary)
 Eco Ethics
 Energy Imagery
 Everything Is Connected
 Food for Thought
 For the Common Good
 Global Warming Begins at Home
 Growing Pains in Texas Hill Country
 How Much Space Do We Need?
 Needs vs. Wants
 The Pop Ecology Files
 Something for Everyone
 Stage Stepping
 The Stork and the Grim Reaper
 Take a Stand
 Timber!
 Transportation Tally
 Water, Water Everywhere (Elementary/Intermediate)
 Who Polluted the Potomac?
 A World of Difference
 World Population Video
The Balance of Nature
Your Place on the Planet

B. Scientific Inquiry:

The student will use multiple skills to design and conduct scientific investigations.

1. The student will specify variables to be changed, controlled and measured.

All in the Family
 Everything Counts
 Global Warming Begins at Home

Stage Stepping

2. The student will use sufficient trials and adequate sample size to ensure reliable data.
Everything Counts
3. The student will use appropriate technology and mathematics skills to access, gather, store, retrieve and organize data.
All in the Family
Everything Counts
Global Warming Begins at Home
How Much Space Do We Need?
Measuring a Million
The Pop Ecology Files
Population Circle
Population Clock
Power of the Pyramids
The Stork and the Grim Reaper
Timber!
Transportation Tally
Water, Water Everywhere (Elementary/Intermediate)
A World of Difference
World Population Video

D. Historic Perspectives:

The student will understand how scientific discovery, culture, societal norms and technology have influenced one another in different time periods.

2. The student will cite examples of how science and technology contributed to changes in agriculture, manufacturing, sanitation, medicine, warfare, transportation, information processing or communication.
Earth: The Apple of Our Eye (Intermediate/Secondary)
Eco Ethics
Energy Imagery
Growing Pains in Texas Hill Country
Needs vs. Wants
Take a Stand
Transportation Tally
Who Polluted the Potomac?
World Population Video
The Balance of Nature
You're One in Six Billion!

III. Earth And Space Science

A. Earth Structure and Processes:

The student will investigate the impact humans have on the environment.

1. The student will identify and research an environmental issue and evaluate its impact.
All in the Family
Earth: The Apple of Our Eye (Intermediate/Secondary)
Eco Ethics
Everything Is Connected
Food for Thought
For the Common Good
Global Warming Begins at Home
Growing Pains in Texas Hill Country
How Much Space Do We Need?
Mining for Chocolate

The More The Merrier?
 Needs vs. Wants
 On the Double
 Pop Quiz
 Population Riddles
 Something for Everyone
 Stage Stepping
 The Stork and the Grim Reaper
 Take a Stand
 Timber!
 Transportation Tally
 Water, Water Everywhere (Elementary/Intermediate)
 Who Polluted the Potomac?
 A World of Difference
 World Population Video
You're One in Six Billion!
The Balance of Nature

Grade 9 to Grade 12

I. History And Nature Of Science

A. Scientific World View:

The student will understand the nature of scientific ways of thinking and that scientific knowledge changes and accumulates over time.

5. The student will recognize that some scientific ideas are incomplete, and opportunity exists in these areas for new advances.

Earth: The Apple of Our Eye (Intermediate/Secondary)
 Global Warming Begins at Home
 Growing Pains in Texas Hill Country
 Water, Water Everywhere (Secondary)
The People Connection
Troubled Water
A Warm Forecast for the Planet?

B. Scientific Inquiry:

The student will design and conduct a scientific investigation.

1. The student will design and complete a scientific experiment using scientific methods by determining a testable question, making a hypothesis, designing a scientific investigation with appropriate controls, analyzing data, making conclusions based on evidence and comparing conclusions to the original hypothesis and prior knowledge.

A World of Difference

3. The student will apply mathematics and models to analyze data and support conclusions.

All in the Family
 Earth: The Apple of Our Eye (Intermediate/Secondary)
 Global Warming Begins at Home
 How Much Space Do We Need?
 The Pop Ecology Files
 Power of the Pyramids
 Stage Stepping
 Water, Water Everywhere (Secondary)
 A World of Difference

C. Scientific Enterprise:

The student will understand the relationship between science and technology and how both are used.

2. The student will provide an example of a need or problem identified by science and solved by engineering or technology.

Earth: The Apple of Our Eye (Intermediate/Secondary)
Everything Is Connected
Global Warming Begins at Home
Water, Water Everywhere (Secondary)

4. The student will know that technological changes and scientific advances are often accompanied by social, political, environmental and economic changes.

Earth: The Apple of Our Eye (Intermediate/Secondary)
Everything Is Connected
Global Warming Begins at Home
Growing Pains in Texas Hill Country
Take a Stand
Water, Water Everywhere (Secondary)
World Population Video
The People Connection
Troubled Water
A Warm Forecast for the Planet?

5. The student will recognize that science and technology are influenced by cultural backgrounds and beliefs and by social needs, attitudes, values and limitations.

Eco Ethics
Take a Stand
The People Connection
Troubled Water
A Warm Forecast for the Planet?

II. Physical Science

B. Chemical Reactions:

The student will describe chemical reactions and the factors that influence them.

1. The student will describe chemical reactions using words and symbolic equations.

Global Warming Begins at Home

III. Earth And Space Science

A. Earth Structure and Processes:

The student will investigate the impact humans have on the environment.

1. The student will identify and research an environmental issue and evaluate its impact.

Eco Ethics
Everything Is Connected
Growing Pains in Texas Hill Country
Take a Stand

B. The Water Cycle, Weather and Climate:

The student will explain the causes and effects of the Earth's atmospheric and hydrologic processes.

4. The student will identify, predict and investigate the factors that influence the quality of water and how it can be reused, recycled and conserved.

Water, Water Everywhere (Secondary)

5. The student will discuss the impact of the use of natural resources and other human activities on the Earth's climate.

Global Warming Begins at Home
Take a Stand

IV. Life Science

C. Interdependence of Life:

The student will describe how the environment and interactions between organisms can affect the number of species and the diversity of species in an ecosystem.

1. The student will describe the factors related to matter and energy in an ecosystem that both influence fluctuations in population size and determine the carrying capacity of a population.

For the Common Good
The Pop Ecology Files
Something for Everyone

4. The student will predict and analyze how a change in an ecosystem, resulting from natural causes, changes in climate, human activity or introduction of invasive species, can affect both the number of organisms in a population and the biodiversity of species in the ecosystem.

Food for Thought
Something for Everyone
A World of Difference