



Teacher's Guide

Spring & Summer

Ag-tivities

WYOMING STATE FACTS

LAND

The Great Plains meet the Rocky Mountains in Wyoming. The state is a great plateau broken by a number of important mountain ranges. The majority of Wyoming's land surface is mountainous. The natural vegetation in the grasslands and mountains makes Wyoming a favorable place for livestock production.

Is your local area a favorable place for livestock production? _____

As a "headwaters" state, Wyoming provides water to streams and rivers that span the U.S. The continental divide cuts through Wyoming from the northwest to the south central border. Rivers east of the divide drain into the Missouri River Basin and eventually the Atlantic Ocean.

What types of water ways are located in your area? _____

Wyoming has the second highest mean elevation in the United States at 6,700 feet above sea level. The highest point of elevation is Gannett Peak at 13,804 feet in Fremont and Sublette counties, and the lowest level, 3,125 feet, is on the Belle Fourche River in Crook County.

What is the elevation of the town or area where you live? _____

CLIMATE

The climate of any area in Wyoming is largely determined by its latitude, altitude, proximity to oceans and its local topography. Annual precipitation is 14.5". Temperature can vary from below 20°F in the winter to above 90°F in the summer, however the average temperature is 45.6°F for Wyoming. The growing season ranges from 140 days in the eastern side of the state to 60 days in the central and western part of the state.

What is the climate where you live? _____

ECONOMY

Wyoming's economic well-being revolves around three industries - the extraction of minerals, agriculture and tourism. The value of the agriculture sector output in Wyoming annually exceeds one billion dollars.

What are some economic industries where you live? _____

Wyoming Content Standards :

SOCIAL STUDIES:

Production, Distribution, and Consumption - *Students demonstrate an understanding of economic principles and concepts and describe the influence of economic factors on societies.*

- **SS4.3.1** Students describe the importance of major resources, industries, and economic development of the local community and Wyoming.
- **SS4.3.2** Students describe different ways that people earn a living in the local community and in Wyoming.

People, Places, and Environments- *Students demonstrate an understanding of interrelationships among people, places, and environments.*

- **SS4.5.2** Students identify their relative location in terms of home, school, neighborhood, community, county, state, country, and continent.
- **SS4.5.4** Students describe relationships among people and places, and the environmental context in which they take place.

AGRICULTURE FEEDS THE WORLD

Create as many words as you can using only the letters in this phrase.
How many of your words are connected to agriculture in some way?

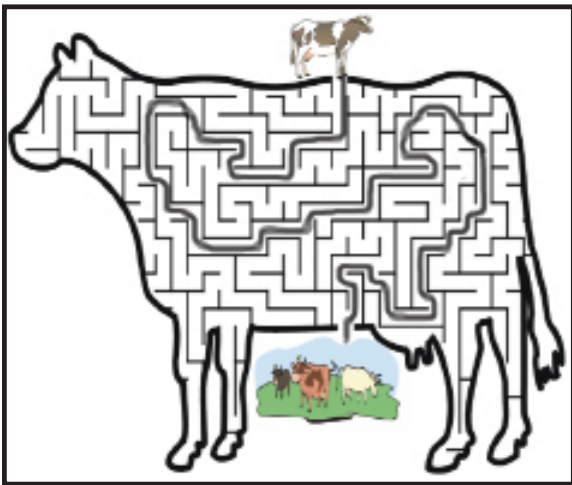
Wyoming Content Standards:

LANGUAGE ARTS:

WRITING - Students use the writing process and use appropriate strategies to write a variety of expressive and expository pieces.

- **LA3.2A.7** Students write a variety of tools to improve writing and vocabulary such as thesaurus, dictionary, and technology.

DAIRY CATTLE - Maze



- Did you know that calcium does much more than strengthen your bones and teeth? Research has shown: You can lower your blood pressure by eating a diet high in fruits, vegetables, and lower fat dairy products.
- Dietary calcium may decrease your risk of developing colon cancer.
- You can decrease your risk of developing kidney stones by consuming a calcium-rich diet.
- People with higher calcium intakes generally weigh less and have less body fat.
- Calcium also plays other important roles in the body such as in blood clotting, muscle contractions, nervous system functioning, and the heart beating.

Wyoming Content Standards:

LANGUAGE ARTS:

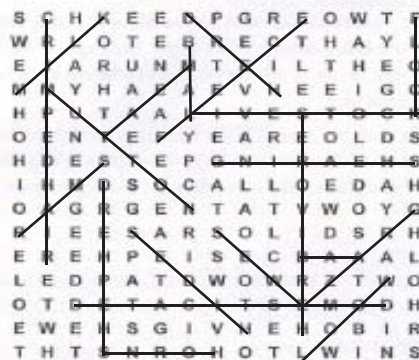
WRITING - Students use the writing process and use appropriate strategies to write a variety of expressive and expository pieces.

- **LA3.2A.7** Students write a variety of tools to improve writing and vocabulary such as thesaurus, dictionary, and technology.

SHEEP - Word Search Puzzle

Wyoming sheep producers produced 3.5 million pounds of wool valued at \$3.3 million in 2006. Wyoming is ranked 2nd nation wide in wool production and breeding sheep. Wyoming inventory of sheep and lambs was 460,000 head in 2006, valued at \$63 million.

USDA NASS 2006



SHEEP WORD LIST

- | | |
|--------------|-----------|
| BAA | HORNS |
| CRIMPED HAIR | LAMB |
| DOMESTICATED | LIVESTOCK |
| EWES | MEAT |
| FLEECE | MILK |
| FLOCK | MUTTON |
| GRAZE | RAMS |
| HERBIVORES | SHEARI |
| HERD | SHEPHE |
| HIDES | WOOL |



THE ENVIRONMENT & CATTLE PRODUCTION

Read and discuss with class.

CATTLE GRAZING AND THE LAND

CATTLE PRODUCERS MAINTAIN GRAZING LAND, WHICH CAN INCLUDE OPEN SPACE, WOODLANDS, GRASS, TREES, FORESTS, PLAINS, MOUNTAINS, VALLEYS AND LOWLANDS. GRAZING CATTLE CAN MINIMIZE THE INVASION OF NON-NATIVE PLANT SPECIES AND MINIMIZE THE RISK OF WILDFIRES BY DECREASING THE AMOUNT OF FLAMMABLE MATERIAL ON THE LAND.

APPROXIMATELY 85 PERCENT OF U.S. GRAZING LANDS ARE UNSUITABLE FOR PRODUCING CROPS. GRAZING ANIMALS ON THIS LAND MORE THAN DOUBLES THE AREA THAT CAN BE USED TO PRODUCE FOOD. CATTLE SERVE A VALUABLE ROLE IN THE ECOSYSTEM BY CONVERTING THE FORAGES HUMANS CANNOT CONSUME INTO A NUTRIENT-DENSE FOOD.

POSITIVE EFFECT ON WILDLIFE

A COMBINATION OF LIVESTOCK AND WILDLIFE MANAGEMENT ON GRAZING LANDS HAS RESULTED IN BETTER SPECIES SURVIVAL THAN WHEN THESE ACTIVITIES ARE PRACTICED SEPARATELY

ENVIRONMENTAL STEWARDSHIP

GOOD ENVIRONMENTAL PRACTICES NOT ONLY CONSERVE AND IMPROVE NATURAL RESOURCES, THEY ALSO ENHANCE LAND PRODUCTIVITY. MANY BEEF CATTLE PRODUCERS PRACTICE NATURAL RESOURCE MANAGEMENT ACTIVITIES INCLUDING SOIL TESTS, BRUSH AND WEED CONTROL PROGRAMS, GRAZING MANAGEMENT PLANS, MINIMUM OR NO-TILL SYSTEMS AND RANGE QUALITY AND GRASS UTILIZATION MONITORING.

WATER QUALITY

BEEF PRODUCERS ENSURE PROPER PRACTICES ARE USED TO COMPLY WITH THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) CLEAN WATER ACT, ESTABLISHED IN 1972.

AIR QUALITY

U.S. BEEF PRODUCERS ARE RESPONSIBLE STEWARDS OF THE AIR AND ATMOSPHERE. THEIR LIVELIHOOD IS CLOSELY CONNECTED TO PRESERVING A HEALTHY, SAFE AND CLEAN ENVIRONMENT FOR FOOD PRODUCTION. THEREFORE, CONTROLLING DUST HAS BEEN A PRIORITY LAND-MANAGEMENT PRACTICE IN AMERICA FOR GENERATIONS. BEEF PRODUCERS ARE EXPERIENCED IN USING BEST MANAGEMENT PRACTICES (BMP) TO MAINTAIN AIR QUALITY SURROUNDING THEIR OPERATIONS.

IN WYOMING, THE CATTLE INDUSTRY IS BY FAR THE LARGEST COMPONENT OF AGRICULTURE ACCOUNTING FOR AROUND 75 PERCENT OF ALL CASH RECEIPTS. CATTLE ALSO LEAD THE WAY IN 2006 IN TERMS OF VALUE OF PRODUCTION AT \$548.6 MILLION.

Wyoming Content Standards :

SOCIAL STUDIES:

Citizenship/ Government/ Democracy- *Students demonstrate how structures of power, authority, and governance have developed historically and continue to evolve.*

- **SS4.1.1** Students describe and apply rights and responsibilities of citizenship.
- **SS4.1.2** Students explain how rules and laws affect families, schools, communities, and states.

Production, Distribution, and Consumption - *Students demonstrate an understanding of economic principles and concepts and describe the influence of economic factors on societies.*

- **SS4.3.1** Students describe the importance of major resources, industries, and economic development of the local community and Wyoming.
- **SS4.3.2** Students describe different ways that people earn a living in the local community and in Wyoming.

People, Places, and Environments- *Students demonstrate an understanding of interrelationships among people, places, and environments.*

- **SS4.5.2** Students identify their relative location in terms of home, school, neighborhood, community, county, state, country, and continent.
- **SS4.5.4** Students describe relationships among people and places, and the environmental context in which they take place.

WYOMING CROPS - WORD SCRAMBLE

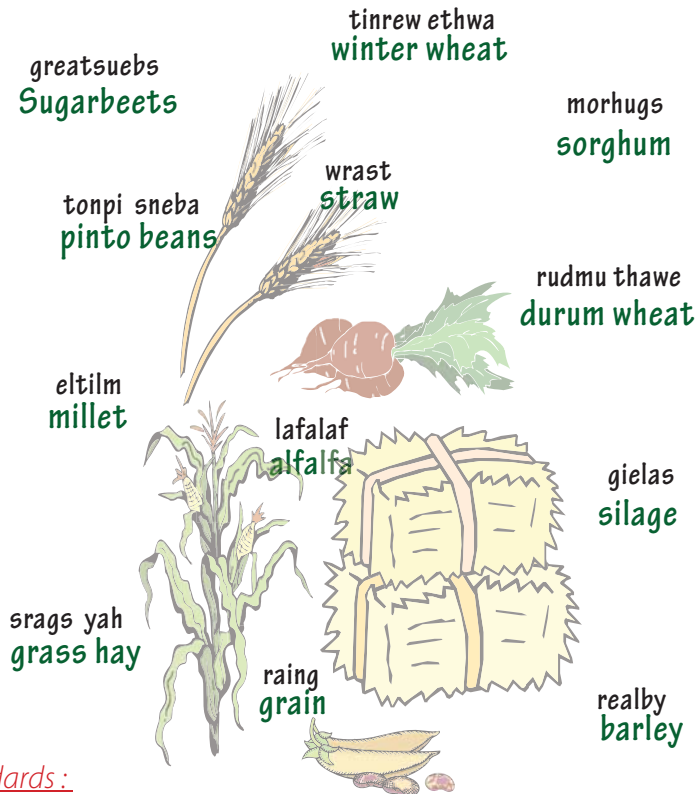
Discuss the economic importance of Wyoming crops and its financial importance to local communities.

Wyoming grows hay, barley, wheat, dry edible beans, sugar beets, and corn. Hay is by far the leading crop in Wyoming in terms of value production dollars - \$190.3 million in 2006. Sugar beets were next, coming in at \$34.2 million. Wheat with a crop value at - \$18.4 million, followed by corn for grain at \$17.4 million. Barley came in at \$15.8 million and dry edible beans at \$12.4 million in value of production dollars.

USDA NASS 2006

WYOMING CROPS

WORD SCRAMBLE



Wyoming Content Standards :

SOCIAL STUDIES:

Production, Distribution, and Consumption - *Students demonstrate an understanding of economic principles and concepts and describe the influence of economic factors on societies.*

- **SS4.3.1** Students describe the importance of major resources, industries, and economic development of the local community and Wyoming.
- **SS4.3.2** Students describe different ways that people earn a living in the local community and in Wyoming.

AG-LITERATURE

Cattle Kids: A Year On the Western Trail

Cowboys aren't necessarily boys, and they aren't necessarily grown-ups, either. In this lively photo essay, young readers will meet girls and boys who live a unique way of life on their families' cattle ranches. Cowgirls and cowboys take part in many aspects of livestock operations, from calving and branding to haying and rounding up the herd. Students will enjoy looking at the important jobs done by other children their age and making comparisons in the types of chores they are asked to do. This book is an accurate look at western cattle ranching.

Author: Cat Urbigit

ISBN: 978-1590785089

A Handful of Dirt

Soil may not seem alive, but amazingly, it is home to a multitude of microscopic creatures fighting to survive in an eat-or-be-eaten world. These soil-dwellers play an integral part in the cycle of life that links mammals, reptiles, and insects. Readers learn how the tiniest of animals aerate the soil, and detailed instructions for setting up a compost heap are included as well. You'll never look at the ground you walk on in the same way once you've picked up A Handful of Dirt, Raymond Bial's vivid educational examination of this common, yet precious resource.

Author: Raymond Bial

ISBN: 978-0802786982

All the Places to Love

Growing up on his family's farm, young Eli learns that no matter where the rest of his life may take him, all the places to love are tied to simple pleasures and a primal connection with the land. 1995 Teachers' Choices (IRA) 1995 Notable Trade Books in the Language Arts (NCTE) Notable 1995 Children's Trade Books in Social Studies (NCSS/CBC)

Author: Patricia MacLachlan.

ISBN: 0060210982

America's Prairies and Grasslands:

Prickly Pear, Needlegrass, Deer Mouse, Roadrunner, where can you find these fascinating plants and animals? In the vast ecosystem of North America's prairies and grasslands! In this guide you will learn about these huge, open areas and unique habitats. Find out how plants survive after wild prairie fires. Learn where to find water sources and when best to view the animals in these habitats. Identify the many different plants and animals in colorful illustrations. Each prairie or grassland region's tallgrass Prairie, Mixed Grass Prairie, Shortgrass Prairie, Palouse Prairie, California Valley Grassland, and Semidesert grassland features full-color illustrations which helps you identify plants and animals. The "hard to find" sections point out unusual finds such as pocket gophers, vernal pools, and the living rock cactus.

Author: Marianne D. Wallace

ISBN: 1-55591-992-8

Dig, Plant, Grow: A Kid's Guide to Gardening

Dig, Plant, Grow - A Kid's Guide to Gardening written by the ever popular Felder Rushing. The book also includes gardening projects such as bean teepee, stepping stones and creating plant labels. Various types of gardens, such as a Japanese garden, will be explored. Dig, Plant, Grow also discusses the different aspects of nature (such as insects, flower parts, types of leaves) and how they all affect the garden. Colorful symbols explain which plants attract butterflies and other visitors. "Grown-Up Stuff" that addresses a curriculum and how gardening impacts different subjects in schools.

Author: Felder Rushing

ISBN: 1591860938

Wyoming Content Standards:

LANGUAGE ARTS, (There is a wide variety of the Wyoming Content Standards that can be used in this literature Connection)

1. **READING** - Students use the reading process to demonstrate understanding of literary and informational texts.

LA4.3.1, LA4.3.2, LA4.3.3, LA4.3.4, LA4.3.5

2. **WRITING** - Students use the writing process and use appropriate strategies to write a variety of expressive and expository pieces.

LA4.2A, LA4.2A.1, LA4.2A.2, LA4.2A.3, LA4.2A.4, LA4.2A.5, LA4.2A.6, LA4.2A.7, LA4.2A.8, LA4.2A.9, LA4.2B, LA4.2B.1, LA4.2B.2, LA4.2B.3

3. **SPEAKING AND LISTENING** - Students use listening and speaking skills for a variety of purposes and audiences.

LA4.1A, LA4.1A.1, LA4.1A.2, LA4.1A.3, LA4.1A.4, LA4.1A.5, LA4.1A.6, LA4.1A.7, LA4.1A.8, LA4.1A.9, LA4.1A.10, LA4.1B, LA4.1B.1, LA4.1B.2, LA4.1B.3, LA4.1B.4, LA4.1B.5, LA4.1B.6, LA4.1C, LA4.1C.1, LA4.1C.2, LA4.1C.3, LA4.1C.4