

**Content Standards & Benchmarks: Science
West Des Moines Community School District**

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.

Content Standards & Benchmarks: Science
Grade 1
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
1.1.a understand where earth materials are found and how they are used.
1.1.b understand the properties of rocks.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
1.2.c know that insects and arachnids have unique characteristics.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
1.3.d know that materials can exist in different states.
1.3.e know that matter can change.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
1.4.f understand that there is a process to what scientists can do.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
1.5.g understand that animals eat plants or other animals for food.
1.5.h understand that the desert has a special climate.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
1.6.i understand that there are many health habits that help people stay healthy.

Content Standards & Benchmarks: Science
Grade 2
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- 2.1.a describe the weather using weather terminology (e.g. precipitation, sun, temperature, clouds, wind).
 - 2.1.b tell how the weather affects people.
 - 2.1.c demonstrate that air has matter and can move things.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- 2.2.d label the 4 parts of a plant.
 - 2.2.e tell what plants need to grow and live.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- 2.3.f tell that a balanced object is stable.
 - 2.3.g demonstrate a shape and balance it.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- 2.4.h observe and describe weather.
 - 2.4.i experiment to create a stable object and find a solution to balance the object.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- 2.5.j name 2 different ways people use plants.
 - 2.5.k tell why we need to take care of our oceans.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
- 2.6.l understand that germs cause illness.
 - 2.6.m list ways to prevent the spread of germs.

Content Standards & Benchmarks: Science
Grade 3
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- 3.1.a know the characteristics of a rain forest (location, climate, layers, etc.).
 - 3.1.b compare the moon and the earth.
 - 3.1.c identify the 8 phases of the moon.
 - 3.1.d name the 9 planets in our solar system.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- 3.2.e draw a picture of a food web in a rain forest.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- 3.3.f understand the forces of magnets: attract and repel.
 - 3.3.g know the components of a complete circuit.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- 3.4.h use the skill of concluding to deduce information.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- 3.5.i understand the movement of the sun, moon, and earth.
 - 3.5.j understand how the rain forest benefits the entire earth (system dependency).
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
- 3.6.k identify the 6 parts of the food pyramid.
 - 3.6.l identify the major parts of the digestive system.

Content Standards & Benchmarks: Science
Grade 4
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
4.1.a compare and contrast the prairie today with the prairie of 100 years ago.
4.1.b analyze characteristics that distinguish the prairie land form from other land forms.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
4.2.c
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
4.3.d state the variables that determine the pitch of a sound.
4.3.e describe how sound travels and what medium it can travel through.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
4.4.f design and conduct a controlled experiment using a variety of multivariable systems: pendulums, airplanes, boats and catapults.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
4.5.g identify resources prairies provide for life forms and the environment.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
4.6.h explain how bones and muscles in our body work together to cause movement.
4.6.i explain that skin protects the body from harmful substances and other organisms, and from drying out.
4.6.j understand that the brain gets signals from all parts of the body telling what is going on there; the brain also sends signals to parts of the body to influence what they do.
4.6.k understand that from food, people obtain energy and materials for body repair and growth; the indigestible parts of food are eliminated.
4.6.l state that by breathing, people take in the oxygen they need to live.

Content Standards & Benchmarks: Science
Grade 5
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
5.1.a distinguish that organisms may interact with one another in a producer/consumer relationship or predator/prey relationship.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
5.2.b compare and contrast animal and plant cells through observation.
5.2.c understand the various parts of a microscope and its uses.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
5.3.d distinguish between a parallel and series circuit.
5.3.e understand the components of a simple circuit.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
5.4.f develop predictions and analyze observations through trial and error.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
5.5.g classify, compare, and contrast the properties of rocks.
5.5.h identify the kinds of rocks and how they are formed.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
5.6.i understand various body changes during growth.
5.6.j develop an awareness and recognize how AIDS is transmitted.

Content Standards & Benchmarks: Science
Grade 6
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- 6.1.a recognize that patterns of stars in the sky stay the same, although they appear to move across the sky nightly, and different stars can be seen in different seasons.
 - 6.1.b describe that stars differ from each other in size, temperature, age and color.
 - 6.1.c describe the role mythology plays in astronomy.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- 6.2.d state why there are variations among characteristics.
 - 6.2.e compare and contrast a DNA strand to an RNA strand.
 - 6.2.f identify the parts of a cell.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- 6.3.g identify the parts of an eye.
 - 6.3.h identify the differences between reflection and refraction.
 - 6.3.i label the parts of an atom.
 - 6.3.j identify the electrical charges of each part of an atom.
 - 6.3.k recognize the different types of lenses and mirrors.
 - 6.3.l diagram the behavior of light as it strikes different mirrors and lenses.
 - 6.3.m state the elements in different molecules.
 - 6.3.n identify the number of atoms in a molecule.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- 6.4.o identify the variables in a given experiment.
 - 6.4.p accurately use scientific equipment.
 - 6.4.q demonstrate appropriate lab behaviors.

- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- 6.5.r identify why the wetlands are a valuable ecosystem.
 - 6.5.s understand that two types of organisms in a wetland may interact with one another in several ways (producer/consumer, predator/prey, or parasite/host relationship).
 - 6.5.t understand that human beings are part of the earth's wetlands; human activities can, deliberately or inadvertently, alter the balance in the wetland.

- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
- 6.6.u state the six essential nutrients for life.
 - 6.6.v identify the glands of the endocrine system.
 - 6.6.w calculate genetic phenotypes.

Content Standards & Benchmarks: Science
Grade 7
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
7.1.a explain how natural cycles contribute to life on Earth.
7.1.b explain why all life on Earth is dependent on the sun.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
7.2.c determine the major characteristics of living organisms
7.2.d classify organisms.
7.2.e explain how organs allow major systems to function.
7.2.f explain how adaptations allow organisms to survive.
7.2.g compare and contrast characteristics of plants and animals.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
7.3.h recognize properties and changes as physical or chemical.
7.3.i describe matter and give examples of elements, compounds, and mixtures.
7.3.j describe motion in terms of change of position and velocity of an object.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
7.4.k measure metrically using appropriate tools.
7.4.l pose questions for scientific investigations, hypothesize and state conclusions.
7.4.m collect and organize data.
7.4.n recognize controls and variables.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
7.5.o explain how the parts of an ecosystem interact.
7.5.p analyze humans' positive and negative impacts on Earth's environment.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
7.6.q describe how alcohol and tobacco affect the human body.

Content Standards & Benchmarks: Science
Grade 8
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- 8.1.a explain cause and effect of earthquakes and volcanoes.
 - 8.1.b identify the characteristics of rocks and minerals.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- 8.2.c understand how the organ systems of humans interact to maintain life.
 - 8.2.d explain how organisms survive in a constantly changing environment.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- 8.3.e compare and contrast properties of matter and energy.
 - 8.3.f apply physical science concepts using mathematical formulas (i.e., density, work, energy).
 - 8.3.g apply Newton's Laws of Motion.
 - 8.3.h use a periodic table to provide basic information about elements.
- Standard #4: Students will use scientific inquiry processes (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- 8.4.i interpret a graph.
 - 8.4.j given a problem, form a hypothesis, plan an investigation with controlled variables, record data, and draw one or more conclusions.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- 8.5.k explain how parts of an Iowa ecosystem interact.
 - 8.5.l analyze humans' positive and negative impacts on Iowa's environment.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
- 8.6.m identify the major female and male reproductive organs of the human body.
 - 8.6.n describe the developmental stages of male and females from conception to maturity.
 - 8.6.o state the physical, social, and emotional consequences of being sexually active as a teenager.

Content Standards & Benchmarks: Science
Grades 9-12
West Des Moines Community School District

- Standard #1: Students will understand major concepts in earth science and how these apply to society.
- 12.1.a analyze a weather map.
 - 12.1.b understand the unique qualities of the earth that make life possible.
 - 12.1.c identify natural factors that affect the earth's surface.
- Standard #2: Students will understand major concepts in life science and how these apply to society.
- 12.2.d understand that populations of organisms change over time.
 - 12.2.e identify factors affecting transmission of disease.
 - 12.2.f understand that DNA is the common thread of living organisms.
- Standard #3: Students will understand major concepts in physical science and how these apply to society.
- 12.3.g understand the structure of the atom.
 - 12.3.h understand forces acting on macroscopic and microscopic objects.
 - 12.3.i identify forms of energy and energy transfer.
 - 12.3.j understand the properties of matter through physical and chemical changes.
- Standard #4: Students will use scientific inquiry process (e.g. questioning, observing, predicting, experimenting, controlling variables, concluding) to understand the natural world.
- 12.4.k construct or develop a graph from experimental data.
 - 12.4.l determine relationship between variables by interpreting graph/chart/table (visual representation of data).
 - 12.4.m be able to make and interpret accurate and precise measurements.
- Standard #5: Students will recognize the inter-relationships among the earth, life, and physical sciences and their effect on the environment.
- 12.5.n explain the effect of population growth on the earth's resources.
 - 12.5.o understand the cyclical nature of the earth's resources.
- Standard #6: Students will know the needs, functions, and systems of the human body, as it develops into an adult.
- 12.6.p understand the basic functions of the human body.
 - 12.6.q identify key components of a healthy lifestyle.