TEKS State Standards Correlation Chart

Texas Essential Knowledge and Skills by Chapter

Chapter 111  Mathematics
Subchapter B. Middle School
§111.22 Mathematics Grade 6

(a) Introduction.

(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 6 are using ratios to describe direct proportional relationships involving number, geometry, measurement, probability, and adding and subtracting decimals and fractions.

(2) Throughout mathematics in Grades 6-8, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use concepts, algorithms, and properties of rational numbers to explore mathematical relationships and to describe increasingly complex situations. Students use algebraic thinking to describe how a change in one quantity in a relationship results in a change in the other; and they connect verbal, numeric, graphic, and symbolic representations of relationships. Students use geometric properties and relationships, as well as spatial reasoning, to model and analyze situations and solve problems. Students communicate information about geometric figures or situations by quantifying attributes, generalize procedures from measurement experiences, and use the procedures to solve problems. Students use appropriate statistics, representations of data, reasoning, and concepts of probability to draw conclusions, evaluate arguments, and make recommendations.

(3) Problem solving in meaningful contexts, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 6-8, students use these processes together with graphing technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve problems as they do mathematics.

(b) Knowledge and skills.

(6.1) **Number, operation, and quantitative reasoning.** The student represents and uses rational numbers in a variety of equivalent forms.

The student is expected to:
(C) use integers to represent real-life situations;

Student Guide
Pg. 10

Student Workbook
Pg. 3, Home Survey
Pg. 7, Activity B
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Activities

Teacher Book
Pg. 18
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 39, In the Classroom, Global Apple Activity
A-1, Additional Activities, Water Tickets
A-4, Additional Activities, LivingWise Brain Twister

(6.2) **Number, operation, and quantitative reasoning.** The student adds, subtructs, multiplies, and divides to solve problems and justify solutions.

The student is expected to:

(B) use addition and subtraction to solve problems involving fractions and decimals;

Student Workbook
Pg. 5, Activity A
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 23, Activity G
Pg. 27, Activity H

Teacher Book
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 39, In the Classroom, Global Apple Activity
A-4, Additional Activities, LivingWise Brain Twister
(C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates;

*Student Guide*
Pg. 10
Pg. 11
Pg. 19
Pg. 23
Pg. 27

*Teacher Book*
Pg. 18
Pg. 19
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 33
Pg. 37
Pg. 47
A-4, Additional Activities, LivingWise Brain Twister

(6.4) **Patterns, relationships, and algebraic thinking.** The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.

The student is expected to:

(A) use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area;

*Student Workbook*
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Activities

*Teacher Book*
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use

(6.8) **Measurement.** The student solves application problems involving estimation and measurement of length, area, time, temperature, volume, weight, and angles.
The student is expected to:

(A) estimate measurements (including circumference) and evaluate reasonableness of results;

*Student Workbook*
Pg. 11, Activity D
Pg. 15, Activity E

*Teacher Book*
Pg. 39, *In the Classroom, Global Apple Activity*

(B) select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight;

*Student Workbook*
Pg. 7, Activity B
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I

*Teacher Book*
Pg. 20, *In the Classroom, Solar Power at Work*
Pg. 53, *In the Classroom, Insulation Tests*

(6.10) **Probability and statistics.** The student uses statistical representations to analyze data.

The student is expected to:

(A) select and use an appropriate representation for presenting and displaying different graphical representations of the same data including line plot, line graph, bar graph, and stem and leaf plot;

*Teacher Book*
Pg. 25, *Make the Connection, How Much Do We Use*

(B) identify mean (using concrete objects and pictorial models), median, mode, and range of a set of data;

*Teacher Book*
Pg. 25, *Make the Connection, How Much Do We Use*
(D) solve problems by collecting, organizing, displaying, and interpreting data.

_Citation:

Student Workbook
Pg. 3, Home Survey
Pg. 5, Activity A
Pg. 7, Activity B
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 33, Home Activities

Teacher Book
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use

(6.11) **Underlying processes and mathematical tools.** The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.

The student is expected to:

(A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;

_Citation:

Student Workbook
Pg. 3, Home Survey
Pg. 7, Activity B
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Activities

Teacher Book
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 39, In the Classroom, Global Apple Activity
Pg. 53, In the Classroom, Insulation Tests
Pg. 54, In the Classroom, Heat from Light Bulbs
A-1, Additional Activities, Water Tickets
A-4, Additional Activities, LivingWise Brain Twister
A-7, Additional Activities, Classroom kWh Savings

(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;

Student Workbook
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 33, Home Activities

Teacher Book
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use

(C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem;

Student Workbook
Pg. 11, Activity D
Pg. 15, Activity E

Teacher Book
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
A-2, Additional Activities, Mystery Picture Graph

(D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.

Student Workbook
Pg. 3, Home Survey
Pg. 7, Activity B
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I

Teacher Book
Pg. 25, Make the Connection, School Survey
(6.12) **Underlying processes and mathematical tools.** The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models.

The student is expected to:

(A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;

(B) evaluate the effectiveness of different representations to communicate ideas.

---

**Chapter 112 Science**  
**Subchapter B. Middle School**  
§112.22 Science Grade 6

a) **Introduction.**

(1) In Grade 6, the study of science includes conducting field and laboratory investigations using scientific methods, analyzing data, making informed decisions, and using tools such as beakers, test tubes, and spring scales to collect, analyze, and record information. Students also use computers and information technology tools to support scientific investigations.
(2) As students learn science skills, they identify components of the solar system including the Sun, planets, moon, and asteroids and learn how seasons and the length of the day are caused by the tilt and rotation of the Earth as it orbits the Sun. Students investigate the rock cycle and identify sources of water in a watershed. In addition, students identify changes in objects including position, direction, and speed when acted upon by a force.

(3) Students classify substances by their chemical properties and identify the water cycle and decay of biomass as examples of the interactions between matter and energy. They identify life processes and the relationships between structure and function of organisms.

(4) Science is a way of learning about the natural world. Students should know how science has built a vast body of changing and increasing knowledge described by physical, mathematical, and conceptual models, and also should know that science may not answer all questions.

(5) A system is a collection of cycles, structures, and processes that interact. Students should understand a whole in terms of its components and how these components relate to each other and to the whole. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in systems and can be observed and measured as patterns. These patterns help to predict what will happen next and can change over time.

(6) Investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. They have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world.

(b) Knowledge and skills.

(1) Scientific processes. The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:

(A) demonstrate safe practices during field and laboratory investigations;

Student Workbook
Pg. 7, Activity B
Pg. 9, Activity C
Pg. 11, Activity D
Pg. 15, Activity E
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.

(2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:
(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;

Teacher Book
Pg. 25, Make the Connection, School Survey

(B) collect data by observing and measuring;

Student Workbook
Pg. 3, Home Survey
Pg. 5, Activity A
Pg. 7, Activity B
Pg. 9, Activity C
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Survey

Teacher Book
Pg. 20, In the Classroom, Solar Power at Work
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 40, In the Classroom, Mini Water Cycle Experiment
Pg. 41, In the Classroom, Soap Powered Boat Activity
Pg. 53, In the Classroom, Insulation Tests
Pg. 54, In the Classroom, Heat from Light Bulbs
A-1, Additional Activities, Water Tickets
A-7, Additional Activities, Classroom kWh Savings

(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;

Student Workbook
Pg. 7, Activity B
Pg. 9, Activity C
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Survey
(D) communicate valid conclusions;

Student Workbook
Pg. 9, Activity C
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Survey

Teacher Book
Pg. 20, In the Classroom, Solar Power at Work
Pg. 25, Make the Connection, School Survey
Pg. 25, Make the Connection, How Much Do We Use
Pg. 40, In the Classroom, Mini Water Cycle Experiment
Pg. 41, In the Classroom, Soap Powered Boat Activity
Pg. 53, In the Classroom, Insulation Tests
Pg. 54, In the Classroom, Heat from Light Bulbs
A-1, Additional Activities, Water Tickets
A-7, Additional Activities, Classroom kWh Savings

(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.

Student Workbook
Pg. 11, Activity D
Pg. 15, Activity E
Pg. 19, Activity F
Pg. 23, Activity G
Pg. 27, Activity H
Pg. 31, Activity I
Pg. 33, Home Survey
(3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;

(C) represent the natural world using models and identify their limitations;

(D) evaluate the impact of research on scientific thought, society, and the environment;

(4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:

(A) collect, analyze, and record information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring
scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes;

**Student Workbook**
- Pg. 7, Activity B
- Pg. 9, Activity C
- Pg. 11, Activity D
- Pg. 15, Activity E
- Pg. 19, Activity F
- Pg. 23, Activity G
- Pg. 27, Activity H
- Pg. 31, Activity I

**Teacher Book**
- Pg. 20, In the Classroom, Solar Power at Work
- Pg. 40, In the Classroom, Mini Water Cycle Experiment
- Pg. 41, In the Classroom, Soap Powered Boat Activity
- Pg. 53, In the Classroom, Insulation Tests
- Pg. 54, In the Classroom, Heat from Light Bulbs

(B) identify patterns in collected information using percent, average, range, and frequency.

**Student Workbook**
- Pg. 11, Activity D
- Pg. 15, Activity E
- Pg. 19, Activity F
- Pg. 23, Activity G
- Pg. 27, Activity H
- Pg. 31, Activity I

**Teacher Book**
- Pg. 25, Make the Connection, How Much Do We Use

(5) Scientific concepts. The student knows that systems may combine with other systems to form a larger system. The student is expected to:

(A) identify and describe a system that results from the combination of two or more systems such as in the solar system;

**Student Guide**
- Pg. 4
- Pg. 5
- Pg. 7
- Pg. 12
(B) describe how the properties of a system are different from the properties of its parts.

Electricity Poster

(7) Science concepts. The student knows that substances have physical and chemical properties. The student is expected to:

(A) demonstrate that new substances can be made when two or more substances are chemically combined and compare the properties of the new substances to the original substances;

Student Guide
Pg. 17

Teacher Book
Pg. 31

(B) classify substances by their physical and chemical properties.

Student Guide
Pg. 17

Student Workbook
Pg. 11, Activity D
Pg. 15 Activity E

Teacher Book
Pg. 31
(8) Science concepts. The student knows that complex interactions occur between matter and energy. The student is expected to:

(A) define matter and energy;

Student Guide
Pg. 5
Pg. 12

Teacher Book
Pg. 13
Pg. 23

(9) Science concepts. The student knows that obtaining, transforming, and distributing energy affects the environment. The student is expected to:

(A) identify energy transformations occurring during the production of energy for human use such as electrical energy to heat energy or heat energy to electrical energy;

Student Guide
Pg. 5
Pg. 7

Student Workbook
Pg. 11, Activity D
Pg. 15, Activity E
(B) compare methods used for transforming energy in devices such as water heaters, cooling systems, or hydroelectric and wind power plants;

(C) research and describe energy types from their source to their use and determine if the type is renewable, non-renewable, or inexhaustible.
14) Science concepts. The student knows the structures and functions of Earth systems. The student is expected to:

(B) identify relationships between groundwater and surface water in a watershed;

Chapter 113 Social Studies
Subchapter B. Middle School
§113.22 Social Studies Grade 6

(a) Introduction.

(1) In Grade 6, students study people and places of the contemporary world. Societies selected for study are chosen from the following regions of the world: Europe, Russia and the Eurasian republics, North America, Middle America, South America, Southwest Asia-North Africa, Sub-Saharan Africa, South Asia, East Asia, Southeast Asia, Australia, and the Pacific Realm. Students describe the influence of individuals and groups on historical and contemporary events in those societies and identify the locations and geographic characteristics of selected societies. Students identify different ways of organizing economic and governmental systems. The concepts of limited and unlimited government are introduced, and students describe the nature of citizenship in various societies. Students compare institutions common to all societies such as government, education, and religious institutions. Students explain how the level of technology affects the development of the selected societies and identify different points of view about selected events.

(2) To support the teaching of the essential knowledge and skills, the use of a variety of rich primary and secondary source material such as biographies and
autobiographies; novels; speeches and letters; and poetry, songs, and artworks is encouraged. Selections may include Sadako and the Thousand Paper Cranes. Motivating resources are also available from museums, art galleries, and historical sites.

(3) The eight strands of the essential knowledge and skills for social studies are intended to be integrated for instructional purposes. Skills listed in the geography and social studies skills strands in subsection (b) of this section should be incorporated into the teaching of all essential knowledge and skills for social studies. A greater depth of understanding of complex content material can be attained when integrated social studies content from the various disciplines and critical-thinking skills are taught together.

(4) Throughout social studies in Kindergarten-Grade 12, students build a foundation in history; geography; economics; government; citizenship; culture; science, technology, and society; and social studies skills. The content, as appropriate for the grade level or course, enables students to understand the importance of patriotism, function in a free enterprise society, and appreciate the basic democratic values of our state and nation as referenced in the Texas Education Code, §28.002(h).

(b) Knowledge and skills.

(6) Geography. The student understands the impact of physical processes on patterns in the environment. The student is expected to:

(B) describe and explain the physical processes that produce renewable and nonrenewable natural resources such as fossil fuels, fertile soils, and timber;

(C) analyze the effects of physical processes and the physical environment on humans.
(7) Geography. The student understands the impact of interactions between people and the physical environment on the development of places and regions. The student is expected to:

(A) identify and analyze ways people have adapted to the physical environment in selected places and regions;

(B) identify and analyze ways people have modified the physical environment;

(C) describe ways in which technology influences human capacity to modify the physical environment.

9) Economics. The student understands the role factors of production play in a society's economy. The student is expected to:
(A) describe ways in which factors of production (natural resources, labor, capital, and entrepreneurs) influence the economies of selected contemporary societies;

Student Guide
Pg. 7
Pg. 12
Pg. 17
Pg. 22
Pg. 24

Student Workbook
Pg. 33, Home Activities

Teacher Book
Pg. 15
Pg. 20, In the Classroom, Solar Power at Work
Pg. 23
Pg. 25, Make the Connection, School Survey
Pg. 31
Pg. 36
Pg. 44
A-3, Additional Activities, Electrical Generation
A-5, Additional Activities, LivingWise House Poster

(B) identify problems and issues that may arise when one or more of the factors of production is in relatively short supply.

Student Guide
Pg. 7

Teacher Book
Pg. 17

(20) Science, technology, and society. The student understands the relationships among science and technology and political, economic, and social issues and events. The student is expected to:

(A) give examples of scientific discoveries and technological innovations, including the roles of scientists and inventors, that have transcended the boundaries of societies and have shaped the world;

Student Guide
Pg. 12
Pg. 24
(B) explain how resources, belief systems, economic factors, and political
decisions have affected the use of technology from place to place, culture
to culture, and society to society;

(C) make predictions about future social, economic, and environmental
consequences that may result from future scientific discoveries and
technological innovations.