

# Elementary School Standards

These school standards are intentionally grouped into three-year cycles, rather than broken out into year-by-year expectations. In part, this is to support the ideal of de-emphasizing grade levels. It also respects the fact that children develop and master academic topics at different speeds, and that in reality, children often work in particular content areas in spurts. Finally, this allows us to minimize the number of “checkpoints” in the children’s path, maximizing their options for taking an unorthodox route through their education while still ensuring that they meet local curriculum requirements.

## Math Benchmarks (6-9 Year Olds) 1 of 2

### Numbers

Read, write, and compare numbers up to 10,000. Use the symbols  $<$ ,  $>$ , and  $=$ .  
*All math materials, Bank Game*

Round whole numbers to 10,000 to the nearest 10, 100, or 1000.  
*Word problems*

Ordinal numbers: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> and the words first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth.  
*Work journals and word study*

Understand place value.  
*Wooden Hierarchical Materials, Golden Beads, Pegboard, Stamp Game, Most Math Materials*

### Operations and Algebraic Thinking

Know addition, subtraction, multiplication, and division math facts.  
*Finger Charts, Math Facts Booklets, Flashcards, Math Facts Quizzes*

Add and subtract three-digit numbers without materials.  
*Stamp Game, Large Bead Frame, Problems on Paper, Word Problems*

Represent and solve problems involving multiplication with the help of materials.  
*Chequerboard, Large Bead Frame, Flat Bead Frame, Bank Game, Geometric Form of Multiplication*

Represent and solve problems involving division with the help materials.  
*Racks and Tubes, Stamp Game*

Understand and use the fact that addition and subtraction are inverses.  
*Use inverses to check results of problems*

Understand and use the fact that multiplication and division are inverses.  
*Use inverses to check results of problems. Use your knowledge of multiplication to solve division problems and vice versa*

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

*Word Problems, Solving algebraic equations.*

## **Math Benchmarks (6-9 Year Olds) 2 of 2**

### **Fractions**

Write fractions, show fractions in pictures, and find fractions on a number line.

*Fraction materials*

Compare and order fractions. Find equivalent fractions.

*Fractions research, Fraction Ordering Game*

# Math Benchmarks (9-12 Year Olds) 1 of 2

## Operations and Patterns with Whole Numbers

Fluently add, subtract, multiply, and divide whole numbers abstractly.

*Solving problems on paper*

Write and solve word problems using addition, subtraction, multiplication, and division, showing your strategy in words, numbers, and pictures.

*Word problem materials*

Find all factors pairs for whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is prime or composite.

*Tables A, B, and C, Multiples and Factors work*

Find greatest common factors of number less than 100 and least common multiples of numbers less than 12.

*Pegboard, Multiples and Factors work*

Generate and analyze patterns using particular rules. Explain what the rules are.

*Skip counting on the bead chains, Sequences*

Use parentheses, brackets, or braces, all four basic operations, and exponents in numerical expressions, and evaluate expressions with these symbols.

Understand and use the Order of Operations correctly.

*Algebra Work, Solving Problems on Paper, Powers of Numbers work*

## Numbers, Fractions, and Decimals

Add, subtract fractions with the same or different denominators, multiply, and divide fractions by whole numbers or by fractions.

*Fraction materials, Word problems, Fractions work on paper*

Find decimals on a number line. Graph points on a Cartesian Coordinate Plane and use the coordinate plane to solve problems..

*Graphing work, Measurement, Word Problems*

Add, subtract, multiply, and divide decimals.

*Decimal Board, Decimal Chequerboard, Problems on paper, Word problems*

Convert between common fractions, decimal fractions, and percent.

*Word Problems*

# Math Benchmarks (9-12 Year Olds) 2 of 2

Calculate with negative numbers, be able to find negative numbers on a number line, find the absolute value of a number.

*Snake Game, Word problems*

## Ratio & Proportion

Use ratios and rates to solve word problems.

*Word Problem material*

## Algebra

Translate word problems into algebraic expressions, using variables to stand for unknowns. Correctly use the following nomenclature: sum, term, product, factor, quotient, coefficient.

*Word Problems, Algebra work, Area and Volume work*

Simplify algebraic expressions using the Laws of Mathematics.

*Laws of Mathematics, Algebra work*

Solve one-variable equations and inequalities.

*Algebra work*

Write equations that express one quantity in terms of another.

*Area and Volume work. Algebra work, Word Problems*

## Measurement and Data

Convert between different sized measurements in the metric system, for example, convert a distance from meters to kilometers.

*Metric System work*

Solve word problems involving distance, time, volume, mass, and money.

*Word Problems, Daily Classroom Life*

Measure angles in degrees.

*Angle work*

Create line graphs of data and use your graph to solve word problems.

*Graphing work*

## Other Topics

Gather statistical data and display it in a bar chart, line graph, table, or other type of graph. Find the mean, median, and mode of the data and describe variability.

# Geometry Benchmarks (9-12 Year Olds) 1 of 1

Classify two-dimensional figures.

*Family Tree of Quadrilaterals, Geometry  
Nomenclature Materials*

Find areas and perimeters of rectangles, parallelograms, trapezoids, triangles, and regular polygons and use this information in word problems.

*Area work, Word Problems*

Find volumes of rectangular prisms. Use the formula for volume of rectangular prisms.

*Volume materials*

Draw polygons in the Cartesian Coordinate plane using a list of coordinates.

*Graphing work*

Find the surface area of rectilinear solids.

*Surface Area work*

## Measurement Benchmarks (6-9 Year Olds) 1 of 1

Measure length: inch, foot, yard, mile, centimeter, meter, kilometer.

*All class work, benchmark materials*

Measure perimeter.

*Box of sticks, geometry cabinet*

Measure weight: ounce, pound, gram, kilogram.

*Science commands, benchmark materials*

Measure area of a rectangle.

*Area material*

Measure volume: teaspoon, tablespoon, cup, pint, quart, gallon, milliliter, liter.

*Science commands, benchmark materials*

Measure time: second, minute, hour, day, week, month, year, including reading time on analog and digital clocks.

*Work journals, clock work, time puzzles*

Measure temperature: degrees Fahrenheit, degrees Celsius.

*Science commands, thermometer puzzles*

Calculate money: recognize and know value of penny, nickel, dime, and quarter, and be able to make change from \$10.00.

*Money materials, money worksheets, shopping, going out experiences*

Determine cost to the nearest dollar for amounts under \$100.

*Classroom life, Going Outs, Money Stamps*

## Geometry Benchmarks (6-9 Year Olds)

1 of 1

Recognize and describe the following geometric constructs:

*Box of sticks, geometry cabinet, geometry nomenclature material*

- line segments
- acute, right, and obtuse angles
- triangles
- quadrilaterals: trapezoid, rhombus, parallelogram, rectangle, square
- pentagons, hexagons, octagons
- spheres and cubes

Partition shapes into parts with equal areas.

*Fraction Insets, Divided Squares and Triangles, Constructive Triangles.*

Recognize congruent, similar, and equivalent shapes.

*Divided Squares and Triangles, Constructive Triangles.*

# Language Benchmarks (6-9 Year Olds)

1 of 2

Write neatly in cursive or cursive italic.

*Journal, Writing, Calligraphy, Practice Books*

## Reading Benchmarks

Spell the puzzle words and other common words correctly.

*Puzzle words, Word Study, Spelling Journal, Spelling Lists*

Know most common prefixes and suffixes. Read words with multiple syllables.

*Word Study, Spelling Journal*

Understand how to use a dictionary and use it to help you understand your reading.

*Dictionary Work*

Read and understand books at a “third grade” level.

*Reading Level List*

## Grammar Benchmarks

Explain the functions of nouns, verbs, adjectives, and adverbs.

*Grammar Boxes*

Use correct forms of plural nouns, past-tense verbs, and comparative and superlative adjectives.

*Further work of the Noun, Verb, and Adjective*

Use correct end-of-sentence punctuation: . ! ?

*Writing, sentence analysis*

Use commas in dates and series (lists).

*Writing, work journals*

Capitalize beginning of sentences, proper nouns, titles, and ‘I’.

*Writing, work journals, grammar boxes*

Write compound and complex sentences and write in a variety of sentence types.

*Sentence Analysis, Grammar Boxes, Writing*

## Writing Benchmarks

Rehearse, draft, revise, edit, and publish your writing. Use revision to help make you work more focused and organized.

## Language Benchmarks (6-9 Year Olds)

2 of 2

Write in a variety of modes:

- Fiction stories (imaginative)  
*Your stories should have a setting, developed characters, and a plot, and should use both description and dialogue.*
- True stories (narrative)  
*Introduce a narrator and characters and help your reader understand what the characters say, think, and feel.*
- Reports and how-to writing (expository)  
*Introduce the topic and give facts. Use linking words and phrases.*
- Opinion pieces  
*Give reasons to support your opinion, including a chart or graph.*

Write paragraphs with a main idea and supporting details.

Choose your words for variety and effect.

Write reports and stories with a beginning, middle, and end, and some transitions between paragraphs. Give reasons for your opinions.

Know and use the elements of stories, poems, and other literature, such as setting, character, plot, stanza, and scene.

Give a presentation on a report or tell a story out loud in a way that is interesting and understandable to your audience.

# Language Benchmarks (9-12 Year Olds) 1 of 2

## Reading benchmarks

Use a variety of different tools to understand challenging vocabulary, including a dictionary or glossary, your knowledge of word roots, prefixes, and suffixes, and the context of the sentence.

Read and understand fiction and non-fiction at a “sixth grade” level.

*Reading Level List.*

Analyze literature in various ways:

- Give an unbiased summary of what you read and distinguish between main ideas and supporting details.
- Identify the organizational structure of the text and why you think the author chose that structure.
- Identify the author’s point of view and how the author develops that view.
- Distinguish fact, opinion, reasoned conclusions, and speculation.

Read aloud with accuracy and fluency.

## Grammar benchmarks

Use correct grammar, including correct prefixes and suffixes and correct word order.

Use correct punctuation, capitalization, and spelling.

Use a variety of words for effect, and distinguish the nuances of synonyms.

## Writing benchmarks

Write in a variety of genres:

- Fiction stories (imaginative)
- True stories (narrative)  
*Give relevant descriptive details and organize the events clearly.*
- Reports and show-to writing (expository)  
*Be able to do a short research project and write a report on the results. Quote and cite sources correctly and make a bibliography.*
- Opinion pieces  
*Make a claim and support it with relevant evidence.*

Type your stories. Be able to type three pages in a single sitting.

Write paragraphs with a main idea and supporting details.

## **Language Benchmarks (9-12 Year Olds)      2 of 2**

Publish reports with a table of contents and a bibliography.

Know and use the elements of stories, poems, and other literature, such as setting, character, plot, stanza, and scene.

Give a presentation on a report or tell a story in a way that is interesting and understandable to your audience.

## Social Sciences Benchmarks (6-9 Year Olds)

1 of 2

### Civics

Know the rights and responsibilities of people living in communities.

*Benchmark materials, class meeting*

Know the ideas and values expressed in the national symbols, heroes, the Pledge of Allegiance, and patriotic songs of the United States of America.

*History stories, non-fiction reading*

Read some biographies and non-fiction books about American history.

*History stories, non-fiction reading*

Research the following communities and civilizations: Native Americans of the Pacific Northwest, Washington State, Ancient Civilizations such as Egypt, Greece, Rome, China, or Mesopotamia.

*History Stories, Fundamental Needs Charts, History Question Charts, Non-Fiction Reading, What to Do When You're Not Writing a Report*

### Economics

Understand that limited resources make economic choices necessary.

*Economic Geography work, class meeting, Going Outs, Migrations Charts*

Know the basic parts of an economic system such as producers, distributors, and consumers

*Interdependencies, Economic Geography*

### Geography

Read map, and use the globe. Identify features of North America such as mountains, rivers, habitats, countries, and cities.

*Maps and globe work, Pinmaps, Outline maps, Making maps*

Understand how peoples lives are affected by the environment.

*Diversity of people charts, human needs charts, non-fiction reading about geography and people*

Understands that people meet the same needs in different ways.

*Fundamental Needs Chart, History Question Charts*

## **Social Sciences Benchmarks (6-9 Year Olds)**

**2 of 2**

Create timelines to show the chronological order of events.

*Timeline of Life, Timelines of Human Beings,  
Civilizations Timeline, US History Timeline,  
Research*

# Social Sciences Benchmarks (9-12 Year Olds) 1 of 3

## Civics

Know the importance and main ideas of significant documents in American history, such as the Declaration of Independence, the Constitution, and the Bill of Rights. Choose a particular public issue and explain how the Constitution affects how we solve it.

*History stories, Non-Fiction Reading*

Know the three branches of the United States government and the responsibilities and powers of each one. Explain what a system of checks and balances is.

Compare the organization of the United States Government to governments of other civilizations, such as Ancient Egypt or China.

*History Question Charts, Research and Reading, Civilizations Timeline*

Describe some of the ways that civilizations have interacted with each other in the past or present.

*Economic Geography, History Question Charts*

Read some biographies and non-fiction books about American history.

*History stories, non-fiction reading, benchmark materials*

Research the following communities and civilizations: Native Americans of the Pacific Northwest, Washington State, Ancient Civilizations such as Egypt, Greece, Rome, China, or Mesopotamia.

*History Stories, Fundamental Needs Charts, History Question Charts, Non-Fiction Reading, What to Do When You're Not Writing a Report*

## Economics

Understand that limited resources make economic choices necessary, and research the choices that the US Colonists, the Pioneers, and people in other civilizations made.

*Economic Geography work, class meeting, Going Outs*

Research the key industries in Washington State.

*Economic Geography, Research*

Research how goods were produced and distributed in ancient civilizations.

*History Question Charts, Research*

## Social Sciences Benchmarks (9-12 Year Olds) 2 of 3

Understand how governments and community needs affect the economy through money, taxation, and spending.

*Interdependencies, Economic Geography*

### Geography

Read and draw maps, and use the globe. Identify features of the planet such as continents, oceans, countries.

*Maps and globe work*

Understand how people's lives are affected by the environment.

*Diversity of people charts, human needs charts, non-fiction reading about geography and people*

Understands that people meet the same needs in different ways.

*Fundamental Needs Chart, History Question Charts*

Understand the reasons that people and communities choose to migrate.

*Migration Charts, Research*

Create timelines to show the chronological order of events.

*Timeline of Life, Timelines of Human Beings, Civilizations Timeline, US History Timeline, Research*

Research calendar and timekeeping systems of different cultures.

*Reading and Research*

### History

Understand that historical events can have more than one cause.

Research the following eras in Washington State history and learn about important people from these eras:

- The Native American tribes of the Pacific Northwest
- Exploration of the Pacific Northwest by European explorers and traders (including Lewis and Clark)
- The Pioneers and the settlement of Washington by Europeans
- Territory and Treaties

*Research, Make a timeline, Read biographies and non-fiction works, History Question Charts*

## Social Sciences Benchmarks (9-12 Year Olds) 3 of 3

Research the following eras in United States history and learn about important people from these eras:

- Native Americans
- Colonization by Europeans
- The Revolutionary War and the writing of the Constitution

*Research, Make a timeline, Read biographies and non-fiction works, History Question Charts*

Read some biographies of important people from local, state, and United States history.

Read biographies of important people from ancient civilizations.

Research how inventions and technology have affected peoples lives in ancient civilizations and the modern world.

*Research and Reading, Timeline work, History Question Charts*

## Arts Benchmarks

*You may meet the art benchmarks through any artistic medium, including visual art, dance, music, or theater.*

Describe an idea or feeling connected with viewing or hearing a work of art.

*Benchmark materials, going out experiences, art appreciation materials.*

Identify an event or condition that inspired a work of art.

*Benchmark materials, going out experiences, art appreciation materials..*

Create, present, and/or perform a work of art. This could be visual art, dance, music, or theater.

Communicate verbally and in writing about your own artwork.

Use nomenclature appropriate to each main genre of art.

## Physical Education Benchmarks

*All of the following benchmarks can be met through outside time activities, P.E., and creative movement experiences.*

Move your body in following ways:

- run, gallop, skip
- hop
- horizontal jump
- leap
- sideways slide

Be able to start and stop on command, and move in control.

Throw, catch, kick, and strike a ball.

Balance, showing stillness, in symmetrical and asymmetrical shapes.

Make a 3-step pattern and a combination of three movements and repeat the sequence.

Understand the changes that happen to your body during vigorous exercise.

Know the rules, procedures, and grace and courtesy of several playground games.

Solve conflicts during games fairly, peacefully, and positively.

Understand how the food you eat affects your health and know what kinds of food are healthy for you to eat.

# Science Benchmarks (6-9 Year Olds) 1 of 2

## Physical Science

Describe the properties of solids and liquids

*States of Matter experiments*

Explain how force causes motion and compare the strength of two forces.

*Physics command cards*

Explain how sound is created and how it travels.

*Scientific Investigation of Sound*

Understand that heat, light, electricity, motion, and sound are all forms of energy.

## Earth and Space Science

Know that the position of the sun in the sky changes during the day.

Understand how water can create different landforms.

*Work of Water*

Observe, compare, and predict the weather

*Observation, Work of Air*

Describes the properties of earth materials and uses these properties to classify earth materials.

*Composition of the Earth work, Work with Rocks and Minerals, Research Projects*

## Life Science

Know the parts, life cycle, and needs of plants.

*Needs of the Plant, Plant dissection, Botany Nomenclature Materials, Botany Command Cards*

Know the parts, life cycles, behaviors, and needs of some common animals.

*Animal Stories, Body Functions of Animals, Question and Answer Game*

Describes how living things depend on each other and the nonliving resources in their environment to survive and complete their life cycle.

*Needs of the Plant, Ecosystems, Question and Answer Game, Research*

## Science Benchmarks (6-9 Year Olds) 2 of 2

Research fossils and find some examples of fossils that are similar to modern animals and some that are different.

*Timeline of Life, Research and Reading*

Understand that there is variation among organisms of the same species and that offspring closely resemble their parents. Recognize helpful and unhelpful variations.

*Research, Observation, Story of Charles Darwin*

Explain the theory of evolution and know the words *reproduction, adaptation, genetic information, and extinction*.

*Timeline of Life research, Reading, Story of Charles Darwin*

Know about cells including their parts and functions.

*Microscope work, Research*

### **Processes, Systems, Inquiry, Application**

Use observations from scientific investigations to answer questions about the natural world.

*Geography Command Cards, Design an experiment or observation to answer a question*

Designs a solution to a simple problem using tools.

## Science Benchmarks (9-12 Year Olds)

1 of 3

The State of Washington sets benchmarks for 6-8 grade science without separating them into individual grades. Thus, these benchmarks include the science standards through 8th grade.

### Physical Science

Understand the weight is a measure of the force of gravity. Measure the force of gravity with a spring scale.

*Physics Command Cards*

Know that wind is moving air.

*Work of Air*

Research different forms of energy including light, heat, sound, motion, and electricity.

*Geography Command Cards, Physics Command Cards, Scientific Investigation of Sound, Research*

Know the difference between balanced and unbalanced forces. Compute average speed of an object. Know about some of the forces that cause motion such as friction and gravity.

*Physics Command Cards, Distance/Rate/Time Word Problems*

Understand that matter and energy are always conserved. Both can be transformed from one kind to another, but neither can be created or destroyed.

Know that matter is made of atoms. Use the nomenclature *atom, element, molecule, and compound* correctly. Explain the difference between physical and chemical change.

*Different Ways of Combining, Research on the Elements, Science Experiments*

### Earth and Space Science

Know that the earth is a sphere and that day and night are caused by the rotation of the earth and it takes the earth exactly one year to travel around the sun.

Know that the sun is a star.

*Sun and Earth*

Know that there are other bodies in our solar system including other planets, dwarf planets, and asteroids. Research other kinds of objects in the universe outside of our Solar System, such as other stars, galaxies, exoplanets, and black holes.

*Sun and Earth, Research*

## Science Benchmarks (9-12 Year Olds)

2 of 3

Explain why the moon has phases and how solar and lunar eclipses are caused.

Explain the water cycle and different types of erosion.

*Work of Water*

Explain how energy from the sun is necessary for life, weather, and other processes on Earth.

*Sun and Earth, Work of Air, Work of Water*

Understand the rock cycle and classify different types of rocks.

*Composition of the Earth, Research, Rock Study, Going Outs*

Research plate tectonics and how tectonic plates affect the geography of the earth.

*Composition of the Earth*

Research how fossils are formed and how we can use fossils to learn about environments in the past.

*Timeline of Life, Research, Going Out*

### Life Science

Describes how living things depend on each other and the nonliving resources in their environment to survive and complete their life cycle.

*Chart of Interdependencies, Ecosystems, Needs of the Plant*

Describe ways that organisms, including humans, affect the ecosystems they live in. Research ways that humans can help keep their ecosystems healthy.

*Research, Going Outs, Service Projects*

Classify plants and animals according to their structures and behaviors.

*Question and Answer Game, Kingdom Animalia and Kingdom Plantae*

Describes the structures and behaviors of plants and animals that allow them to survive.

*Animal Stories, Question and Answer Game, Body Functions of Animals, Botany Nomenclature Materials, Botany Command Cards*

Know that the different structures in an animal's body have different functions. Research some of these structures.

*Body Functions of Animals, Human Body Systems*

## Science Benchmarks (9-12 Year Olds)

3 of 3

Know that we get necessary nutrients from the food we eat. Know what kinds of nutrients we need and what kinds of foods help us get them.

*Human Body Systems, Cooking and practical life, research*

### **Processes, Systems, Inquiry, Application**

Uses observations from scientific investigations and models to answer questions about the natural world. Design science experiments to answer simple questions. Distinguish independent and dependent variables and use a control correctly.

Present the results of a scientific investigation to others.

*Reports, Posters, Presentations*

Research the process of technological design and use the process to solve a problem.