



Summary of 4th Grade Standards What your 4th grader is expected to learn

APS invites you to get familiar with the content standards your child should master this year. The complete text for State and District standards can be found at www.aps.edu.
(Please note: Examples are provided to illustrate concepts, but are not meant as a complete list.)

READING

Read More Complex Text & Expand Vocabulary

- ☞ Comfortably use reading skills (*letter sounds, meaning in the sentence, knowledge of related words, & English usage*)
- ☞ Use many comprehension strategies to understand what's read (*Read it again, look it up, form questions, put it in own words, ask for help*)
- ☞ Expand vocabulary through reading, listening & defining words
- ☞ Read 4th grade level materials aloud fluently with comprehension
- ☞ Read fiction, (*novels, legends*), nonfiction, (*biography, information books*) poetry & drama

Understand, Analyze & Interpret What's Read

- ☞ Use evidence from what's read to:
 - Draw conclusions & form opinions about events, characters & setting
 - Explain the main idea (*cite supporting details*)
 - Analyze characters, events, plots, themes & types of writing (*cite evidence from text*)
 - Identify & explain the use of 'figurative language' (*simile [comparison using the word 'like'], metaphor (comparison), personification [human qualities for something not human), hyperbole [overstatement]*)
- ☞ Interpret & evaluate what's read (*fiction, nonfiction, poetry & drama*)
 - analyze word choice & content
 - examine motives of characters
 - look at a situation from the point of view of different characters

WRITING

Write Clearly and Effectively

- ☞ Use elements of effective writing (*idea, organization, voice (tone), word choice, sentence flow & conventions*)
- ☞ Use effective writing strategies
 - Plan topics & pre-write
 - Compose rough draft using multiple related paragraphs
- ☞ Revise for clear & effective communication of ideas
- ☞ Edit for writing conventions
 - Grammar, spelling, punctuation, capitalization & penmanship
- ☞ Improve on:
 - Sentence structure
 - Sequence
 - Descriptions
 - Variety of sentence types
 - Word choice
- ☞ Write effectively for different audiences & purposes
 - Stories, plays, poetry, reports, essays, letters, journals
 - Describe, narrate, express, explain, persuade & analyze

RESEARCH

Locate • Gather • Record • Organize • Present

- ☞ Locate information & expand vocabulary using:
 - key words, index, cross-reference
 - multiple representations (*map, chart, photo*)
 - dictionary, glossary & thesaurus

SPEAKING, LISTENING & VIEWING

Improve Communication Skills: Reflect & Respond

- ☞ Use different speaking types to suit audience & purpose (*describe, narrate, express, explain, persuade, analyze*)
- ☞ Contribute to discussions (*initiate new topics, ask questions, respond to questions*)
- ☞ Present information & ideas clearly & concisely
- ☞ Perform interviews
- ☞ Use listening & speaking skills to solve problems
- ☞ Use correct grammar & word usage
- ☞ Use active listening skills (*restate main ideas of a presentation*)
- ☞ Follow oral & written multi-step instructions

SOCIAL STUDIES

People • Events • Cultures • Interactions • Citizenship

History

- ☞ Identify issues, events & people in NM from pre-history to present
- ☞ Describe local events & their connections to state history
- ☞ Identify & compare components of a community
- ☞ Look at the relationship of different events over time

Geography

- ☞ Apply geographic tools to construct & interpret maps (*legend, grid, symbols, scale, north*)
- ☞ Describe the characteristics of regions (*NM, U.S. western hemisphere*)
- ☞ Explain how natural & man-made environments have influenced people & events over time
- ☞ Describe land forms in NM (*plains, mountains, plateau, basin & range*)
- ☞ Explain causes & patterns of human migration
- ☞ Identify the distribution of natural & man-made resources in NM, the Southwest & U.S.

Civics & Government

- ☞ Explain how the organization of NM government has changed over time
- ☞ Compare & contrast how governments applied law over time in NM (*majority rules, 'public good,' protection of minorities*)
- ☞ Describe how cultures & communities evolve over time
- ☞ Explain the system of rules & laws (*why we have them, how they are made, who is responsible to enforce them, and the role of citizens in upholding them*)
- ☞ Explain the difference between rights & responsibilities

Economics

- ☞ Understand that resources are used & distributed in a variety of ways
- ☞ Understand & compare characteristics of systems in the NM economy (*private enterprise, public incentives*)
- ☞ Explain how the government raises & borrows money (*taxes, fees, bonds*) to pay for services (*roads, libraries, water system*)
- ☞ Explain how the economies of New Mexico, the US, & other parts of the world depend on each other (*natural gas, food, arts*)
- ☞ Identify patterns of work & economic activity in New Mexico (*farming, ranching, mining*) & their sustainability over time
- ☞ Explain the role of a bank (*processes currency, savings & loans*)
- ☞ Understand that the price of a good or service is its 'market value'



Summary of 4th Grade Standards

What your 4th grader is expected to learn

MATH

Number & Operations

Understand the relationships of numbers and work with numbers to 100,000

- Understand place value to 100,000
 - write, model, interpret, compare & order numbers
 - show equal representations of numbers: (break apart & recombine) $853 = (8 \times 100) + (5 \times 10) + 3$ (use equations) $853 = 900 - 50 + 3$; $853 = 1706 \div 2$
- Identify numbers less than 0 using:
 - number line & example -30 -20 -10 0 10 20 30 temperature
- Solve problems using knowledge of numbers (odd, even, factors, multiples, square) (factors of 12: 1×12 , 2×6 , 3×4) (multiples of 12: 24, 36...) (square of 12: $12 \times 12 = 144$)

Addition, Subtraction, Multiplication & Division

- Use standard algorithms to:
 - add & subtract multi-digit numbers $325 + 1,830$
 - multiply a multi-digit by a 2-digit number 325×52
 - divide a multi-digit by a 1-digit number $325 \div 5$
- Use a variety of models to multiply & divide whole numbers (pictures, arrays, groups of objects)
- Solve problems by correctly selecting addition, subtraction, multiplication & division
- Demonstrate multiplication facts through 12×12
 - know associated division facts $144 \div 12 = 12$
 - use multiplication facts to solve related problems ($4 \times 5 = 20$, so $40 \times 50 = 2,000$)
 - solve multiplication problems in your head
- Estimate results to judge if an answer is reasonable using a variety of strategies:
 - rounding ($607 + 82 \cong 600 + 80 \cong 680$)
 - regrouping ($800 - 19 \cong 800 - 20 \cong 780 + 1 = 781$)

Fractions & Decimals

- Show an understanding of fractions
 - compare & order common fractions ($1/2 > 3/8 > 5/16$)
 - compare decimals with fractions ($1/2 = 5/10 = 0.5$)
- Use fractions in a variety of ways
 - division of whole numbers: $1/2 = 1 \div 2$ (1 apple cut in 2)
 - ratio: 1:2 (1 cup rice to 2 cups water) equivalence: $1/2 = .5 = 50\%$ parts of a whole (cut pie in 12 pieces, each gets $1/12$)
- Add & subtract fractions
 - common denominator ($3/8 + 1/8 = 4/8$ or $1/2$)
 - uncommon denominator ($3/8 + 1/4 = 3/8 + 2/8 = 5/8$)
 - create decimal forms of fractions ($1/10 = 0.1$, $1/4 = 0.25$)

Algebra

- Create, describe & analyze patterns ($5 \times 10 = 50$, $10 \times 10 = 100$...)
- Use variables & solve for an 'unknown':
 - to stand in for a number ($5 + \square = 30$)
 - solve for missing variable ($a \times 3 = 12$, $a = \square$)
 - use formulas (Area = Length x Width)
 - Model problem solving (using objects, pictures, graphs, tables & equations)
- Describe relationships of quantities (if it takes 1 hour at 60 mph, how long is it at 30 mph?)
- Model problem solving (using objects, pictures, graphs, tables & equations)
- Describe relationships of quantities (math expressions, equations, inequalities)
- Explore math properties
 - commutative: can add or multiply numbers in any order ($5 \times 7 = 35$, $7 \times 5 = 35$)
 - distributive: separate numbers into parts (multiply each addend separately & then add together): $3 \times 12 = (3 \times 10) + (3 \times 2) = 30 + 6 = 36$
 - zero: $a \times 0 = 0$
 - proportional: 4 tops cost 80¢, so 1 top costs 20¢

Geometry

- Identify, compare, analyze & develop vocabulary for 2- & 3- dimensional shapes
 - build, draw, & create objects
 - identify parallel & perpendicular lines $\parallel \perp$
 - identify congruent figures (same size & shape)
 - classify shapes (by similar properties)
 - rotate shapes to play with symmetry
- Use sets of 2 numbers (ordered pairs) to:
 - identify points on a graph
 - create paths between points
 - measure distances on a grid
- Calculate perimeter & area (rectangle & square)



Measurement

- Do conversions within a measurement system (hours to minutes, meter to centimeters)
- Estimate, measure & solve problems (length, area, mass, time & temperature)

Data Analysis & Probability

- Organize, represent & interpret data (communicate findings using a suitable representation)
- Use data analysis to make predictions & argument using a variety of formats (bar graph, Venn diagram, chart, line graph)
- Describe probability of events "3 out of 4" "3/4"

SCIENCE

Do Scientific Investigations: OBSERVE, PREDICT, EXPERIMENT & VALIDATE

Scientific Thinking & Practice

- Do multiple experiments using control groups & instruments (timer) to test predictions
- Use math skills & vocabulary to make predictions & communicate findings

Physical Science

- Know that when substances are combined they may create a new substance with different properties (vinegar & baking soda)
- Know that materials are made of atoms & molecules
- Know that energy can be converted into different forms (light to heat) & stored (chemical energy in batteries)
- Know that energy can be carried by waves, currents & moving objects
- Know how electricity flows through a simple circuit
- Describe how gravity exerts more force on objects with greater mass (force for lifting a rock vs. a feather)

Earth & Space Science

- Know properties of rocks & minerals & how they were formed (igneous, metamorphic, sedimentary)
- Describe weather patterns that move west to east in the U.S. & identify local weather patterns over time using daily weather reports

Life Sciences

- Explain that living organisms have distinctive structures (wings) & body systems (gills for breathing)
- Describe photosynthesis (making food from sunlight) & food chains (owls eat mice who eat grain)
- Know that living things are made of cells
- Know that plants & animals adapt to survive in different environments, & some adaptations increase the chance of survival (chameleons change color)
- Know that the human body is made up of systems (skeleton, muscles)
- Describe the functions that body parts (nose, lungs) have in systems (respiratory)
- Know that pollutants can be harmful to living things