

Curriculum Alignment w/ State Standards

Anchorage Public Waldorf School

Curriculum Alignment with Alaska State Performance Standards

Mathematics 5-7

Alaska State Standard	Anchorage Public Waldorf
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1. Numeration (Ages 5-7)

1) read, write, order, count, and model one-to-one correspondence with whole numbers to 100; (M.A.1)	meets standard
2) use, model and identify place value position's of 1's, 10's and 100's; (M.A.1)	meets standard
3) model and explain the processes of addition and subtraction, describing the relationship between the operation; (M.A.1)	meets standard
4) select and use various representations of ordinal and cardinal numbers; (M.A.1)	meets standard
5) identify, model, and label simple fractions describing and defining them as equal parts of a whole, a region, or a set; (M.A.1)	meets standard
6) identify, describe, and extend patterns inherent in the number system. Skip count by 2's, 5's and 10's. Add and subtract by 10. (M.A.1)	meets standard
7) demonstrate the commutative and identity properties of addition. (M.A.1)	meets standard

Alaska State Standard	Anchorage Public Waldorf
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2. Measurement (Ages 5-7)

1) compare and order objects by various measurable attributes including calendar, temperature, length, weight, capacity, area and volume; (M.A.2)	meets standard
2) compare objects to standard and nonstandard units to identify objects that are greater than, less than, and equal to, a given unit; (M.A.2)	meets standard
3) choose a unit of measurement, estimate the length or weight of objects and then measure to check for reasonableness; (M.A.2)	meets standard
4) tell time to the nearest half hour, distinguishing between morning, afternoon, and evening; (M.A.2)	meets standard
5) identify coins, their value and the value of given sets of coins; (M.A.2)	meets standard

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3. Estimation and Computation (Ages 5-7)

1) make reasonable estimates of how “how many” and “how much”; estimate the results of simple addition and subtraction problems;(M.A.3)	meets standard
2) recall and use basic addition and subtraction facts orally and with paper and pencil without a calculator; (M.A.3)	meets standard
3) add and subtract whole numbers to 100 using a variety of models and algorithms; and(M.A.3)	meets standard
4) model multiplication as repeated addition and grouping objects; model division as “sharing equally” and grouping objects. (M.A.3)	meets standard

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4. *Function and Relationships (Ages 5-7)*

1) recognize, describe, create, and extend repeating and increasing patterns with a variety of materials including symbols, objects and manipulatives;(M.A.4)	meets standard
2) generate and solve simple functions by identifying and applying addition and subtraction patterns;(M.A.4)	meets standard
3) use a calculator to find and extend patterns in the number system; and (M.A.4)	meets standard Uses other manipulatives such as number stars or number tables to find and extend patterns in the number system
4) complete open space sentences with missing numbers; use appropriate vocabulary including greater than and less than and equal to; and use the correct symbols. (M.A.4)	meets standard

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5. *Geometry (Ages 5-7)*

1) identify, sort, describe, model, and compare circles, triangles, and rectangles including squares regardless of orientation; (M.A.5)	meets standard
2) identify, sort, describe, model, and compare solid figures including cubes, cylinders, and spheres; (M.A.5)	meets standard
3) identify and create examples of line symmetry; compare and describe given circles, triangles and rectangles as larger, smaller, or congruent; (M.A.5)	meets standard
4) demonstrate conservation of area using drawings or manipulatives; (M.A.5)	meets standard
5) describe and identify geometric transformations including slides, flips, and turns; (M.A.5)	meets standard
6) use comparative directional and position words: above below, inside, outside, on, in, right and left, horizontal, vertical, and middle and (M.A.5)	meets standard
7) draw and build familiar shapes. (M.A.5)	meets standard

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Statistics / Probability (Ages 5-7)

1) collect, record organize, display, and explain the classification of data; (M.A.6)	meets standard
2) describe data from a variety of visual displays including tallies, tables, pictograph, bar graphs and Venn diagrams; (M.A.6)	meets standard
3) use the term “maximum” and “minimum” when working with a data set; (M.A.6)	meets standard
4) find and record the possibilities of simple probability experiments; explain differences between chance and certainty, giving examples; and (M.A.6)	meets standard
5) conduct a survey and tally the results. (M.A.6)	meets standard

Problem -Solving (Ages 5-7)

1) formulate problems from practical and mathematical activities;(M.B.1)	meets standard
2) develop and apply strategies including guess and check, modeling and acting out, drawings, and extending patterns to solve a variety of problems; and (M.B.1)	meets standard
3) predict an answer before solving a problem and compare results to check for reasonableness. (M.B.1)	meets standard

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Communication (Ages 5-7)

1) translate problems from everyday language into math language and symbols; (M.C.1)	meets standard
2) use manipulatives, models, pictures, and language to represent and communicate mathematical ideas; and (M.C.1)	meets standard
3) use everyday language to explain thinking about problem solving strategies and solutions to problems. (M.C.1)	meets standard

Reasoning (Ages 5-7)

1) draw conclusions about mathematical problems; (M.D.1)	meets standard
2) find examples that support or refute mathematical statements; and (M.D.1)	meets standard
3) explain why a prediction, estimation, or solution is reasonable.(M.D.1)	meets standard

Connections (Ages 5-7)

1) apply mathematical skills and processes to literature; and (M.E.1)	meets standard
2) apply mathematical skills and processes to situations with self and family. (M.E.1)	meets standard

AGES 8-10

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Numeration (8-10)

1) read, write model order, and count with positive whole numbers to 1,000,000 and negative whole numbers; (M.A.1)	meets standard
2) use, model and identify place value positions from .0001 to 1,000,000; (M.A.1)	meets standard
3) model and explain the processes of multiplication and division. Describe the relationships among the four basic operations; (M.A.1)	meets standard
4) identify and describe different uses for the same numerical representation;(M.A.1)	meets standard
5) model and explain the process of adding and subtracting fractions with common denominators and decimals that represent money;(M.A.1)	meets standard
6) identify and describe factors and multiples including those factors and multiples common to a pair or set of numbers; and (M.A.1)	meets standard
7) demonstrate the commutative and identity properties of multiplication. (M.A.1)	meets standard

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Function and Relationship (Ages 8-10)

1) use patterns and their extensions to make predictions and solve problems; describe patterns found in the number system including those formed by multiples, factors, perfect squares, and powers of 10; (M.A.4)	meets standard
2) generate and solve simple functions by identifying and applying multiplication and division patterns; (M.A.4)	meets standard
3) use a calculator to find a missing item in number sequence; (M.A.4)	meets standard
4) use words, lists and tables to represent and analyze patterns; and (M.A.4)	meets standard
5) explain the purpose of variables and use them in open sentences to express relationships and describe simple functions (M.A.4)	meets standard

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Geometry (Ages 8-10)

1) identify and compare various triangles and quadrilaterals according to their sides or angles;(M.A.5)	meets standard
2) compare and contrast plane and solid figures e.g., circle/sphere, square/cube, triangle/pyramid) using relevant attributes, including the number of vertices, edges, and the number and shape of faces; (M.A.5)	meets standard
3) identify and model geometric figures that are congruent, similar, and/ or symmetrical (M.A.5)	meets standard
4) distinguish between area and perimeter; find both using a variety of methods including rulers, grid paper and tiles; (M.A.5)	meets standard
5) identify and model transformations of geometric figures, describing the motions as slides, flips, or rotations; (M.A. 5)	meets standard
6) locate and describe objects in terms of their positions with and without compass directions; identify coordinates for a given point or locate points of given coordinates on a grid; and (M.A.5)	meets standard
7) sketch and identify line segments, midpoint, intersections, parallels, and perpendicular lines. (M.A.5)	meets standard

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Statistics/ Probability (Ages 8-10)

1) collect, organize, and display data creating a variety of visual displays including tables, charts, and line graphs; (M.A.6)	meets standard
2) present the data using a variety of appropriate representations and explain the meaning of the data; (M.A.6)	meets standard
3) describe and interpret a data set using mean, median, mode, and range; (M.A.6)	meets standard
4) estimate whether a game is a mathematically fair or unfair; analyze and present probability data using simple fractions; and (M.A.6)	meets standard
5. conduct simple probability experiments using concrete materials and represent the results using fractions and probability. (M.A.6)	meets standard

Problem-Solving (Ages 8-10)

1) read and summarize a problem, using mathematical terms and symbols; (M.B.1)	meets standard
2) select and apply a variety of strategies including making a table, chart or list, draw pictures, making a model, and comparing with previous experience to solve problems; and (M.B.1)	meets standard
3) explain and verify results of the original problem and apply what was learned to new situations; (M.B.1)	meets standard

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Communication (Ages 8-10)

1) use the mathematical vocabulary appropriate to the problem; (M.C.1)	meets standard
2) represent mathematical and practical situations using concrete, pictorial, and symbolic representation; and (M.C.1)	meets standard
3) organize and communicate mathematical problem solving strategies and solutions to problems. (M.C.1)	meets standard

Reasoning (Ages 8-10)

1) draw logical conclusions about mathematical situations; (M.D.1)	meets standard
2) given a rule or generalization, determine whether the example fits; and (M.D.1)	meets standard
3) justify answers and mathematical strategies as reasonable.(M.D.1)	meets standard

Connections (Ages 8-10)

1) apply mathematical processes to social studies; and (M.E.1)	meets standard
2) apply mathematical skills and processes to situations with friends and school. (M.E.1)	meets standard

Ages 11-14

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Numeration (Ages 11-14)

1) read, write, model, and order real numbers, explaining scientific notation, exponents, and percents; (M.A.1)	meets standard
2) model counting in a different base system; (M.A.1)	meets standard
3) translate between equivalent representations of the same number; Select a representation that is appropriate for the situation; (M.A.1)	meets standard
4) describe and model the relationship of fractions to decimals, percents, ratios, and proportions; (M.A.1)	meets standard
5) use, explain, and define the rules of divisibility, prime and composite numbers, multiples, and order of operations; and (M.A.1)	meets standard
6) use commutative, identity, associative, and distributive properties with variables. (M.A.1)	meets standard

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Measurement (Ages 11-14)

1) estimate and measure various dimensions to a specified degree of accuracy; (M.A.2)	meets standard
2) estimate and convert measurements within the same system. (M.A.2)	meets standard
3) use a variety of methods and tools to construct and compare plane figures; (M.A.2)	meets standard
4) describe and apply the relationships between dimensions of geometric figures to solve problems using indirect measurement; describe and apply the concepts of rate and scale; and (M.A.2)	meets standard
5) apply information about time zones and elapsed time to solve problems. (M.A.2)	meets standard

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Estimation and Computation (Ages 11-14)

1) apply, explain, and assess the appropriateness of a variety of estimation strategies including truncating and rounding compatible numbers; (M.A.3)	meets standard
2) apply basic operations efficiently and accurately, using estimation to check the reasonableness of results; (M.A.3)	meets standard
3) add and subtract fractions, decimals, and percents; (M.A.3)	meets standard
4) multiply and divide rational numbers in various forms including fractions, decimals, and percents; (M.A.3)	meets standard
5) convert between equivalent fractions, decimals, percents, and proportions. Convert from exact to decimal representations of irrational numbers; and (M.A.3)	meets standard
6) solve problems using ratios and proportions. (M.A.3)	meets standard

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Function and Relationships (Ages 11-14)

1) identify numeric and geometric patterns, to find the next term and predict the nth term (M.A.4)	meets standard
2) identify and describe how a change in one variable in a function affects the remaining variables (e.g., how changing the length affects the area and volume of a rectangular prism); (M.A.4)	meets standard
3) use a calculator to find a missing item in arithmetic and a geometric sequence; predict the graph of each function; (M.A.4)	meets standard
4) translate among and use tables of ordered pairs, graphs on coordinate planes and linear equations as tools to represent and analyze patterns; and (M.A.4)	meets standard
5) find the value of a variable by evaluating formulas and algebraic expressions for given values (M.A.4)	meets standard

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Geometry (Ages 11-14)

1) identify, classify, compare, and sketch regular and irregular polygons;(M.A.5)	meets standard
2) model, identify, draw, and describe 3-dimensional figures including tetrahedrons, dodecahedrons, triangular prisms, and rectangular prisms: (M.A.5)	meets standard
3) apply the properties of equality and proportionality to solve problems involving congruent or similar shapes; (M.A.5)	meets standard
4) estimate and determine volume and surface areas of solid figures using manipulatives and formulas; estimate and find circumferences and areas of circles; (M.A.5)	meets standard
5) draw and describe the results of transformations including translations (slide rotations (turns), reflections (flips), and dilations (shrinking or enlarging): (M.A.5)	meets standard
6) use coordinate geometry to represent and interpret relationships defined by equations and formulas including distance and midpoint; and (M.A.5)	meets standard
7) draw, measure, and construct geometric figures including perpendicular bisectors, polygons with given dimensions and angles, circles with given dimensions, perpendicular and parallel lines. (M.A.5)	meets standard

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Statistics/ Probability (Ages 11-14)

1) collect, analyze, and display data in a variety of visual displays including frequency distributions, circle graphs, box and whisker plots, stem and leaf plots, histograms, and scatter plots with and without technology; (M.A.6)	meets standard
2) interpret and analyze information found in newspapers, magazines, and graphical displays; (M.A.6)	meets standard
3) determine and justify a choice of mean, median, or mode as the best representation of data for a practical situation; (M.A.6)	meets standard
4) make projections based on available data and evaluate whether or not inferences can be made given the parameters of the data; (M.A.6)	meets standard
5) use tree diagrams and sample spaces to make predictions about independent events; and (M.A.6)	meets standard
6) design and conduct a simulation to study a problem and communicate the results. (M.A.6)	meets standard

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Problem-Solving (Ages 11-14)

1) analyze and summarize a problem using the relationships between the known facts and unknown information; (M.B.1)	meets standard
2) select, modify, and apply a variety of problem solving strategies including graphing, inductive and deductive reasoning, Venn diagrams, and spreadsheets; and (M.B.1)	meets standard
3) evaluate, interpret, and justify solutions to problems. (M.B.1)	meets standard

Communications (Ages 11-14)

1) use math vocabulary, symbols, and notation to represent information in the problem; (M.C.1)	meets standard
2) represent a problem numerically, graphically, and symbolically; and translate among these alternative representations; and (M.C.1)	meets standard
3) use appropriate vocabulary, symbols and technology to explain, justify, and defend mathematical solutions. (M.C.1)	meets standard

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Connections (Ages 11-14)

1) apply mathematical skills and processes to science and humanities; and (M.E.1)	meets standard
2) apply mathematical skills and processes to situations with peers and community. (M.E.1)	meets standard

Reading

Ages 5-7 *Students: (to be assessed in 3rd grade)*

1) a. distinguish, reproduce, and manipulate the sounds in words; (E.B.1) b. use a combination of the following to read and comprehend text -knowledge of phonics, alphabetic principle, e.g. recognition of letter shapes, letter names, letter/ sound relationships, initial/ final consonants, vowels, letter patterns; -pictures and visual clues; - sight recognition of high frequency vocabulary words - word structure, e.g., root words, prefixes, suffixes, rhyming words - language structure, e.g. word order, grammar; -meaning structure, e.g. prior knowledge and context; -text structure, e.g. read left to right; (E.B.1)	meets standard
2) a. comprehend literal meaning from text;(E.B.1) b. use a variety of strategies to support comprehension, including predicting, questioning, rereading, and monitoring own comprehension (E.B.1)	meets standard
3) read texts aloud with expression, demonstrating knowledge of punctuation and other conventions of print; (E.B.1)	meets standard
4) a. Retell or dramatize a story after reading it; (E.B.1) b. Restate information after reading a text; (E.B.1)	meets standard
5) identify the main idea of a passage; (E.B.1)	meets standard
6) read and follow simple directions to complete a simple task; (E.C.2)	meets standard

Reading Ages 5-7 continued

7) distinguish between common forms of text (genres): - fiction and nonfiction - prose and poetry, and - short story and drama; (E.B.2)	meets standard
8) identify and describe basic plot, main characters, and setting (time and place) in fiction; (E.B.2)	meets standard
9) express own opinions about texts; (E.D.1)	meets standard
10) make connections between a text and personal experiences, experiences of others, or other texts, and locate details in the text to illustrate these connections; and (E.B.3)	meets standard
11) identify basic cultural influences in texts. (E.E.1)	meets standard

Ages 8-10

*Students know and are able to do everything required at an earlier age and:
(to be assessed in 6th grade)*

1) a. use a combination of the following to read and comprehend text: -knowledge of phonetics, language structure, and semantics; - text structures such as illustration, graphs, and headers; - self-monitoring and self-correcting strategies; - adjusting reading pace or style based on purpose, task and type of text. b. use knowledge of word families, phonetics, context clues, visual cues, and structural elements to determine meaning of unfamiliar words; (E.B.1)	meets standard
2) infer meaning from the text; (E.B.1)	meets standard
3) read texts aloud with rhythm, flow, and expression, demonstrating knowledge of punctuation and other conventions of print; (E.B.1)	meets standard
4) a. retell stories in correct sequence; (E.B.2) b. restate and summarize information or ideas from a text; (E.B.2)	meets standard
5) locate evidence in the text and from related experiences to support understanding of a main idea; (E.D.2)	meets standard
6) read and follow multistep directions to complete simple task; (E.C.2)	meets standard
7) explain the characteristics of the following: -fiction and nonfiction -prose and poetry, and -four major genres of fiction; short story, drama, novel and poetry; (E.B.2)	meets standard
8) a. define and identify plots, settings, and characters in fiction; (E.B.2) b. compare and contrast plots, settings, and characters in a variety of works by a variety of authors. (E.B.2)	meets standard

Reading Ages 8-10 continued

9) a. differentiate between fact and opinion;(E.D.2) b. express opinions about a text and support these opinions with textual evidence; (E.D.2)	meets standard
10) identify themes in texts and connect them to personal experiences, experiences of others, and other texts; and (E.B.3)	meets standard
11) connect cultural events, ideas, settings, and influences from one text to similar texts from other cultures. (E.E.1)	meets standard

Ages 11-14

Students know and are able to do everything required at earlier ages and;
(to be assessed in 8th grade)

Alaska State Standard	APW
1) apply knowledge of word origins, structure and context clues, and root words, and use dictionaries and glossaries, to determine the meaning of new words and to comprehend text; (E.B.1)	meets standard
2) rehearse and read texts aloud to an audience in performances such as readers theater, reading to younger students or peers, or as part of formal presentations including research reports and literature responses; (E.B.1)	meets standard
3) restate and summarize information or ideas from a text and connect new information or ideas to prior knowledge and experience; (E.B.3)	meets standard
4) clarify and connect main ideas and concepts, identify their relationship to other sources and related topics,, and provide supporting details; (E.B.2)	meets standard
5) read and follow multistep directions to complete a task, and identify the sequence prescribed; (E.C.2)	meets standard
6) analyze basic rules (conventions) of the four genres of fiction (short story, drama, novel, and poetry; (E.B.2)	meets standard
7) analyze and evaluate narrative elements including plot, character, setting, and point of view to determine their importance to the stor (E.B.2)	meets standard

Ages 11-14 Reading continued

Alaska State Standards	APW
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8) a. differentiate between fact and opinion in text; (E.D.2) b. analyze an author's purpose and offer a critical opinion of the effectiveness of the text in meeting that purpose; (E.D.2)	meets standard
9) connect themes to personal experiences of others, and other texts, and locate evidence from texts to support or illustrate these connections; and (E.B.3)	meets standard
10) compare and contrast how texts reflect historical and cultural influences.(E.E.1)	meets standard

Writing

Ages 5-7 *Students: (to be assessed in 3rd grade)*

Alaska State Standards	APW
1) a. write complete sentences with a subject and a predicate; (E.A.1) b. write a paragraph with a topic sentence and supporting details; (E.A.2) c. write short stories or compositions with a beginning, middle, and end ; (E.A.1)	meets standard
2) write for a specific audience, including self, other children, parents, and other adults; (E.A.4)	meets standard
3) a. use a variety of simple sentence structures, and basic rules of punctuation and capitalization in written work; (E.A.2) b. proofread writing for legibility, spelling, capitalization, and punctuation when producing final drafts; (E.A.5)	meets standard
4) a. revise writing for detail and clarity;(E.A.5) b. provide appropriate feedback to peers about written work; and (E.A.8)	meets standard
5) list titles and authors of books and other materials when used as references in written work. (E.D.3)	meets standard

Ages 8-10 *Students know and are able to do everything required at earlier ages and: (to be assessed in 6th grade)*

1) write a well organized two-paragraph composition that addresses a single topic; (E.A.1)	meets standard
2) use a variety of fiction and nonfiction forms when writing for different audiences; (E.A.4)	meets standard

writing 8-10 continued

Alaska State Standards	APW
3) a. use a variety of simple and complex sentence structures in written work; (E.A.2) b. proofread and correct grammar, sentence structure, paragraph structure, punctuation, capitalization, spelling, and usage in finished written work; (E.A.5)	meets standard
4) a. revise writing to improve the logical progression of ideas and supporting information; (E.A.5) b. revise own and others; work and provide appropriate feedback to peers based upon established criteria, to improve quality and effectiveness of writing; (E.A.5)	meets standard
5) give credit for others' ideas, images, and information by citing information about sources, including title and author; and (E.D.3)	meets standard
6) use resources such as computers, word processing software, dictionaries, and thesauruses to make choices when writing. (E.A.7)	meets standard

Ages 11-14 *Students know and are able to do everything required at earlier ages and: (to be assessed in 8th grade)*

1) write a coherent composition that includes a thesis statement, supporting evidence, and a conclusion; (E.A.1)	meets standard
2) select and use appropriate forms of fiction and nonfiction to achieve different purposes when writing for different audiences; (E.A.4)	meets standard
3) use the conventions of standard English including grammar, sentence structure, paragraph structure, punctuation, spelling, and usage in written work; (E.A.2)	meets standard

writing 11-14 continued

4) a. revise writing to improve organization, word choice, paragraph structure, punctuation, spelling, and usage in written work; (E.A.2) b. form and explain own standards or judgments of quality writing; (E.A.8)	meets standard
5) list and document sources using a given format; and (E.D.3)	meets standard
6) compose and edit a composition with a word processing program. (E.A.7)	meets standard