

PAVING THE WAY WITH TREADS

GRADES K-3

This document lists the Washington learning standards addressed by Paving the Way with Treads, True Robotics' grades K-3 robotics curriculum. Standards are grouped by subject and grade level, with codes and wording as published by the Washington Office of Superintendent of Public Instruction.

42

MATH

39

ELA

15

CS

5

SCIENCE

101

TOTAL STANDARDS

MATHEMATICS

42 STANDARDS

Based on the Washington state standards

GRADE	CODE	STANDARD
K-3	SMP 1	Make sense of problems and persevere in solving them.
K	M.K.Q.CC.1	Count to 100 by ones and by tens.
K	M.K.Q.CC.4	Understand the relationship between numbers and quantities; connect counting to the number of items in the set.
K	M.K.R.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
K	M.K.R.OA.2	Efficiently, flexibly, and accurately solve addition and subtraction word problems, and add and subtract within 10, e.g., using objects or drawings to represent the problem.
K	M.K.DA.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K	M.K.DA.MD.2	Directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute and describe the difference.
K	M.K.DA.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
K	M.K.SR.G.1	Describe objects in the student environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
K	M.K.SR.G.2	Correctly name shapes regardless of their orientations or overall size.
1	SMP 2	Reason abstractly and quantitatively.

GRADE	CODE	STANDARD
1	M.1.DA.MD.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less in each category.
1	M.1.Q.OA.1	Use addition and subtraction within 20 to efficiently, flexibly, and accurately solve real world word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem.
1	M.1.Q.OA.2	Efficiently, flexibly, and accurately solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem.
1	M.1.Q.MD.1	Order three objects according to their length; compare the lengths of two objects indirectly by using a third object.
1	M.1.Q.MD.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlap.
1	M.1.R.NBT.2	Understand that the digits of a two-digit number represent amounts of tens and ones.
1	M.1.R.NBT.3	Compare two two-digit numbers based on the values of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.
1	M.1.SR.G.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus nondefining attributes (e.g., color, orientation, overall size) and represent shapes (build and/or draw) to possess defining attributes.
1	M.1.SR.G.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape and create new shapes from the composite shape.
2	M.2.DA.MD.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
2	M.2.DA.MD.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve one step put-together, take-apart, and compare problems using information presented in a bar graph.
2	M.2.Q.NBT.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
2	M.2.Q.NBT.5	Efficiently, flexibly, and accurately add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
2	M.2.Q.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2	M.2.Q.MD.3	Estimate lengths using units of inches, feet, centimeters, and meters.

GRADE	CODE	STANDARD
2	M.2.Q.MD.8	Efficiently, flexibly, and accurately solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
2	M.2.R.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
2	M.2.R.OA.1	Use addition and subtraction within 100 to efficiently, flexibly, and accurately solve one- and two-step real world word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
2	M.2.SR.G.1	Identify and draw shapes based on specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2	M.2.SR.G.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Demonstrate that equal shares of identical wholes need not have the same shape.
3	M.3.DA.MD.3	Create a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.
3	M.3.DA.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units according to the data— whole numbers, halves, or quarters.
3	M.3.Q.OA.1	Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.
3	M.3.Q.OA.3	Use multiplication and division within 100 to efficiently, flexibly, and accurately solve real world word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
3	M.3.Q.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
3	M.3.Q.OA.5	Use strategies to multiply and divide by applying and extending understanding of the properties of operations.
3	M.3.R.NF.1	Understand a unit fraction as the quantity formed when a whole is partitioned into equal parts and explain that a unit fraction is one of those parts; understand fractions are quantities composed of unit fractions.
3	M.3.R.NF.2	Understand a fraction as a number; and represent fractions on a number line diagram.
3	M.3.R.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.
3	M.3.R.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

GRADE	CODE	STANDARD
3	M.3.SR.G.1	Demonstrate understanding that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

ENGLISH LANGUAGE ARTS

39 STANDARDS

Based on the Washington state standards

GRADE	CODE	STANDARD
K	ELA.K.R.2d	Recognize and produce rhyming words.
K	ELA.K.R.3c	Produce the short vowel sounds with common CVC spellings in closed syllables.
K	ELA.K.R.3e	Recognize and read common high frequency words (e.g., "me," "the," "go," "is").
K	ELA.K.R.4d	Ask and answer questions about a text's topic, characters, setting, and/or major events.
K	ELA.K.SLDF.1e	Identify when clarification is needed for something they did not understand and/or restate what they heard others say.
K	ELA.K.SLDF.3c	Use images and/or multimedia artifacts in presentations to clarify content.
K	ELA.K.L.4a	Sort common objects into categories to identify connections between words and their meanings.
K	ELA.K.L.5	Students develop foundational writing skills to record their ideas using letters, words, and sentences.
1	ELA.1.R.1c	Recognize that words are separated by spaces in print.
1	ELA.1.R.2b	Recognize, isolate, and blend initial, medial, and final sounds (phonemes) in spoken single-syllable words.
1	ELA.1.R.3	Students decode words accurately by applying grade-level phonics and word analysis skills.
1	ELA.1.R.3a	Produce the sounds for short and long vowels, consonants, and use them to decode regularly spelled one-syllable words.
1	ELA.1.R.3c	Recognize and apply knowledge of silent -e (CVCe) and common vowel team (CVVC) patterns for representing long vowel sounds (e.g., "cake," "boat").
1	ELA.1.R.3h	Recognize and read irregularly spelled high frequency words (e.g., "said," "was") with increased accuracy and automaticity.
1	ELA.1.R.3i	Read simple sentences and short paragraphs with increasing fluency (accuracy, rate, and expression), using self-monitoring to notice and correct errors.
1	ELA.1.R.4e	Ask and answer questions about the topic and key details in a text.
1	ELA.1.SLDF.1b	Describe the people, places, things, events, information, and emotions they are referring to with relevant details.
1	ELA.1.L.5	Students develop foundational writing skills to record their ideas using letters, words, and sentences.

GRADE	CODE	STANDARD
2	ELA.2.R.3a	Know letter-sound correspondences including consonant digraphs, diphthongs, and common vowel teams (e.g., "ai," "oa," "ou," "oi," "ue").
2	ELA.2.R.3b	Distinguish long and short vowel sounds in regularly spelled one-syllable words.
2	ELA.2.R.4h	Retell a story in their own words and/or say what they learned from a text.
2	ELA.2.W.3g	Provide details about an opinion and/or preference, using linking words.
2	ELA.2.W.3i	Tell events in stories in order, using temporal words to signal order and details to elaborate, describing actions, thoughts, and feelings.
2	ELA.2.W.5	Students discuss, revise, and/or edit their compositions.
2	ELA.2.SLDF.1e	Ask for clarification or more information and/or explain what they understood.
2	ELA.2.SLDF.3	Students present experience, positions, ideas, findings, and creative work.
2	ELA.2.SLDF.3c	Use images and/or multimedia artifacts in presentations to clarify content and support the audience's engagement.
2	ELA.2.L.3a	Use context, roots, affixes, word relationships, and reference materials to clarify the meaning of unfamiliar words and phrases, including compound words.
2	ELA.2.L.3b	Use collective nouns, irregular plural nouns, and reflexive pronouns accurately.
2	ELA.2.L.4a	Identify connections between words and their use.
2	ELA.2.L.5g	Use apostrophes to form contractions and possessives.
3	ELA.3.R.3	Students decode words accurately by applying grade-level phonics and word analysis skills.
3	ELA.3.R.4f	Ask and answer questions about a text, referring explicitly to the text as the basis for answers.
3	ELA.3.R.4j	Determine key details to include when retelling a story in their own words and/or saying what they learned from a text.
3	ELA.3.R.5b	Describe the central message, main idea, theme, or key information in a text, and how it connects to their own experiences.
3	ELA.3.W.3h	Tell stories in a sequence of events, using temporal words, descriptive details, and dialogue when relevant, describing actions, thoughts, and feelings, and showing characters' response to events.
3	ELA.3.W.5	Students evaluate, revise, and edit their compositions.
3	ELA.3.L.3a	Use context, roots, affixes, word relationships, and reference materials to analyze and clarify the meaning of unfamiliar words and phrases.
3	ELA.3.L.4	Students demonstrate understanding of word relationships in the context of conversations, reading, and writing about experiences, events, and ideas.

COMPUTER SCIENCE AND EDUCATIONAL TECHNOLOGY

15 STANDARDS

Based on the Washington state standards

GRADE	CODE	STANDARD
K-2	1A-CS-01	Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use.
K-2	1A-AP-08	Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks.
K-2	1A-AP-10	Develop programs with sequences and simple loops, to express ideas or address a problem.
K-2	1A-IC-16	Compare how people live and work before and after the implementation or adoption of new computing technology.
K-2	2.b (K-2)	With guidance from an educator, students understand how to be careful when using devices and how to be safe online, follow safety rules when using the internet and collaborate with others.
K-2	6.b (K-2)	Students use digital tools to create original works.
K-2	6.c (K-2)	With guidance from an educator, students share ideas in multiple ways-visual, audio, etc.
3	1B-DA-06	Organize and present collected data visually to highlight relationships and support a claim.
3	1B-AP-08	Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
3	1B-AP-10	Create programs that include sequences, events, loops, and conditionals.
3	1B-AP-15	Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.
3	1.d (3-5)	Students explore age-appropriate technologies and begin to transfer their learning to different tools or learning environments.
3	5.d (3-5)	Students understand and explore basic concepts related to automation, patterns and algorithmic thinking.
3	6.c (3-5)	Students create digital artifacts to communicate ideas visually and graphically.
3	7.b (3-5)	Students use collaborative technologies to connect with others, including peers, experts and community members, to explore different points of view on various topics.

SCIENCE

5 STANDARDS

Based on the Washington state standards

GRADE	CODE	STANDARD
K-2	K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

GRADE	CODE	STANDARD
K-2	K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
K-2	K-2-ETS1-3	Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
3	3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3	3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

SOURCES & NOTES

- The official mathematics, English language arts, computer science and science standards for Washington, as published by the Washington Office of Superintendent of Public Instruction.
- Codes and standard wording are reproduced from the official standards documents. Clarification statements, examples and assessment boundaries are omitted.
- Grade shows the grade level at which True Robotics lessons address each standard. A range (for example K-2) marks a standard written for a grade band.
- Standards text remains the property of its publisher and is reproduced here for alignment reference only.
- A lesson-level crosswalk is available on request at info@truerobotics.org.