

PAVING THE WAY WITH TREADS

GRADES K-3

This document lists the Oregon 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 Oregon Department of Education.

42

MATH

40

ELA

5

SCIENCE

87

TOTAL STANDARDS

MATHEMATICS

42 STANDARDS

Based on the Oregon state standards

GRADE	CODE	STANDARD
K-3	MP.1	Make sense of problems and persevere in solving them.
K	K.OA.A.1	Represent addition as putting together and adding to and subtraction as taking apart and taking from using objects, drawings, physical expressions, numbers or equations.
K	K.OA.A.2	Add and subtract within 10. Model authentic contexts and solve problems that use addition and subtraction within 10.
K	K.NCC.A.1	Orally count to 100 by ones and by tens in sequential order.
K	K.NCC.B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
K	K.GMA.1	Describe objects in the environment using names of shapes and describe the relative positions of these objects in their environment.
K	K.GMA.2	Correctly name common two-dimensional and three-dimensional geometric shapes regardless of their orientations or overall size.
K	K.GM.C.7	Describe several measurable attributes of a single object using measurable terms, such as length or weight.
K	K.GM.C.8	Directly compare two objects with a measurable attribute in common, and describe which object has "more" or "less" of the attribute.
K	K.DR.B.2	Analyze data sets by counting the number of objects in each category and interpret results by classifying and sorting objects by count.
1	MP.2	Reason abstractly and quantitatively.

GRADE	CODE	STANDARD
1	1.OA.A.1	Use addition and subtraction within 20 to solve and represent problems in authentic contexts involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
1	1.OA.A.2	Solve problems that call for addition of three whole numbers whose sum is less than or equal to 20 using objects, drawings or equations.
1	1.NBT.B.2	Understand 10 as a bundle of ten ones and that the two digits of a two-digit number represent amounts of tens and ones.
1	1.NBT.B.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.
1	1.GM.A.1	Distinguish between defining attributes versus non-defining attributes for a wide variety of shapes. Build and draw shapes to possess defining attributes.
1	1.GM.A.2	Compose common two-dimensional shapes or three-dimensional shapes to create a composite shape, and create additional new shapes from composite shapes.
1	1.GM.B.4	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
1	1.GM.B.5	Express the length of an object as a whole number of non-standard length units, by laying multiple copies of a shorter object (the length unit) end to end.
1	1.DR.B.2	Analyze data sets with up to three categories by representing data visually, such as with graphs and charts, and interpret information presented to answer investigative questions.
2	2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step problems in authentic contexts by using drawings and equations with a symbol for the unknown.
2	2.NBT.A.1	Understand 100 as a bundle of ten tens and that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.
2	2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
2	2.NBT.B.5	Fluently add & subtract within 100 using accurate, efficient, & flexible strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
2	2.GM.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.
2	2.GM.A.3	Partition circles and rectangles into two, three, or four equal parts. Recognize that equal parts of identical wholes need not have the same shape.
2	2.GM.B.4	Measure the length of an object by selecting and using appropriate measurement tools.
2	2.GM.B.6	Estimate lengths using units of inches, feet, yards, centimeters, and meters.
2	2.GM.D.11	Solve problems in authentic contexts involving dollar bills, quarters, dimes, nickels, and pennies, using \$ (dollars) and c (cents) symbols appropriately.
2	2.DR.A.1	Generate questions to investigate situations within the classroom. Collect or consider data that can naturally answer questions by using measurements with whole-number units.
2	2.DR.B.2	Analyze data with a single-unit scale and interpret information presented to answer investigative questions.

GRADE	CODE	STANDARD
3	3.OA.A.1	Represent and interpret multiplication of two factors as repeated addition of equal groups.
3	3.OA.A.3	Use multiplication and division within 100 to solve problems in authentic contexts involving equal groups, arrays, and/or measurement quantities.
3	3.OA.A.4	Determine the unknown number in a multiplication or division equation relating three whole numbers by applying the understanding of the inverse relationship of multiplication and division.
3	3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
3	3.NF.A.1	Understand the concept of a unit fraction and explain how multiple copies of a unit fraction form a non-unit fraction.
3	3.NF.A.2	Understand a fraction as a number on the number line; Represent fractions on a number line diagram.
3	3.GM.A.1	Understand that shapes in different categories may share attributes and that shared attributes can define a larger category.
3	3.GM.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement presented in authentic contexts by tiling and counting unit squares.
3	3.GM.C.6	Measure areas by counting standard and non-standard unit squares.
3	3.DR.A.1	Generate questions to investigate situations within the classroom, school or community. Collect or consider measurement data that can naturally answer questions by using information presented in a scaled picture and/or bar graph.
3	3.DR.B.2	Analyze measurement data with a scaled picture graph or a scaled bar graph to represent a data set with several categories. Interpret information presented to answer investigative questions.

ENGLISH LANGUAGE ARTS AND LITERACY

40 STANDARDS

Based on the Oregon state standards

GRADE	CODE	STANDARD
K	K.RF.1c	Understand that words are separated by spaces in print.
K	K.RF.2a	Recognize and produce rhyming words.
K	K.RF.3b	Associate the long and short sounds with common spellings for the five major vowels.
K	K.RF.3c	Read common grade-appropriate high-frequency words by sight.
K	K.L.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
K	K.L.5c	Identify real-life connections between words and their use.
K	K.SL.2	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

GRADE	CODE	STANDARD
K	K.SL.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.
1	1.RF.2a	Distinguish long from short vowel sounds in spoken single-syllable words.
1	1.RF.2c	Isolate and pronounce the initial, medial vowel, and final phonemes in spoken single-syllable words.
1	1.RF.3	Know and apply grade-level phonics and word analysis skills in decoding words.
1	1.RF.3b	Decode regularly spelled one-syllable words.
1	1.RF.3c	Know final -e and common vowel team conventions for representing long vowel sounds.
1	1.RF.3g	Recognize and read grade-appropriate irregularly spelled words.
1	1.RF.4	Read with sufficient accuracy and fluency to support comprehension.
1	1.L.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
1	1.SL.2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
1	1.SL.4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
2	2.RF.3a	Distinguish long and short vowels when reading regularly spelled one-syllable words.
2	2.RF.3b	Know spelling-sound correspondences for additional common vowel teams.
2	2.W.1	Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words to connect opinion and reasons, and provide a concluding statement or section.
2	2.W.3	Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
2	2.W.5	With guidance and support, focus on a topic and strengthen writing as needed by revising and editing.
2	2.L.1a	Use collective nouns.
2	2.L.1b	Form and use frequently occurring irregular plural nouns.
2	2.L.2c	Use an apostrophe to form contractions and frequently occurring possessives.
2	2.L.4a	Use sentence-level context as a clue to the meaning of a word or phrase.
2	2.L.5a	Identify real-life connections between words and their use.
2	2.SL.1c	Ask for clarification and further explanation as needed about the topics and texts under discussion.
2	2.SL.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
2	2.SL.4	Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

GRADE	CODE	STANDARD
2	2.SL.5	Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
3	3.RF.3	Know and apply grade-level phonics and word analysis skills in decoding words.
3	3.RL.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
3	3.RL.2	Recount and summarize stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral, and explain how it is conveyed through key details in the text.
3	3.W.3	Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
3	3.W.5	With guidance and support, develop and strengthen writing as needed by planning, revising, and editing.
3	3.L.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.
3	3.L.5	Demonstrate understanding of word relationships and nuances in word meanings.
3	3.SL.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SCIENCE

5 STANDARDS

Based on the Oregon state standards

GRADE	CODE	STANDARD
1	1.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.
1	1.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.
2	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.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.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 and science standards for Oregon, as published by the Oregon Department of Education.
- 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.
- Oregon publishes no computer science standards for grades K-3, so that section is omitted.