

PAVING THE WAY WITH TREADS

GRADES K-3

This document lists the Idaho 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 Idaho State Department of Education.

42

MATH

40

ELA

20

CS

5

SCIENCE

107

TOTAL STANDARDS

MATHEMATICS

42 STANDARDS

Based on the Idaho state standards

GRADE	CODE	STANDARD
K-3	MP.1	Make sense of problems and persevere in solving them.
K	K.CC.A.1	Count to 100 by ones and by tens.
K	K.CC.B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
K	K.OA.A.1	Represent addition and subtraction of two whole numbers within ten. Use objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
K	K.OA.A.2	Solve addition and subtraction word problems within ten by using physical, visual, and symbolic representations.
K	K.MD.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K	K.MD.A.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	K.MD.B.3	Classify objects into given categories; count the numbers of objects in each category (up to and including ten) and sort the categories by count.
K	K.G.A.1	Describe objects in the 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	K.G.A.2	Correctly name shapes regardless of their orientations or overall size.
1	MP.2	Reason abstractly and quantitatively.

GRADE	CODE	STANDARD
1	1.OA.A.1	Solve addition and subtraction word problems within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using physical, visual, and symbolic representations.
1	1.OA.A.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 by using physical, visual, and symbolic representations.
1	1.NBT.B.2	Understand 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.MD.A.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
1	1.MD.A.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.
1	1.MD.C.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 are in one category than in another.
1	1.G.A.1	Compare defining attributes and non-defining attributes of two- and three-dimensional shapes; build and draw shapes that possess defining attributes.
1	1.G.A.2	Compose two-dimensional (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 compose new shapes from the composite shape.
2	2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using physical, visual, and symbolic representations.
2	2.NBT.A.1	Understand 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 from 0 to 1,000 using standard form, expanded form, and word form.
2	2.NBT.B.5	Fluently add and subtract whole numbers within 100 using understanding of place value and properties of operations.
2	2.MD.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2	2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.
2	2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to \$10), using \$ and ¢ symbols appropriately and whole-dollar amounts.
2	2.MD.D.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Organize and record data on a line plot (dot plot) where the horizontal scale is marked off in whole-number units.

GRADE	CODE	STANDARD
2	2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph.
2	2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, squares, rectangles, rhombi, trapezoids, pentagons, hexagons, octagons, and cubes.
2	2.G.A.3	Partition circles and rectangles into two, three, or four equal shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
3	3.OA.A.1	Interpret a product of whole numbers as a grouping of sets, e.g., 5×7 as five groups of seven objects each.
3	3.OA.A.3	Use multiplication and division within 100 to solve word problems involving equal groups, arrays, and measurements by using visual and symbolic representations, with a symbol for an unknown number.
3	3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
3	3.OA.B.5	Apply the properties of operations to multiply and divide.
3	3.NF.A.1	Understand a fraction $1/b$ as the quantity formed by one part when a whole (a single unit) is partitioned into b equal parts; understand a/b as the quantity formed by a parts of size $1/b$.
3	3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram.
3	3.MD.B.3	Draw a scaled picture graph and 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	3.MD.B.4	Generate measurement data by measuring lengths of objects using rulers marked with halves and fourths of an inch. Record and show the data by making a line plot (dot plot), where the horizontal scale is marked off in appropriate units—whole numbers, halves, or fourths.
3	3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.
3	3.MD.C.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and nonstandard units).
3	3.G.A.1	Understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category. Compare and classify shapes by their sides and angles. Recognize rhombi, rectangles, squares, and trapezoids as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

ENGLISH LANGUAGE ARTS/LITERACY

40 STANDARDS

Based on the Idaho state standards

GRADE	CODE	STANDARD
K	K.FR-1f	Understand that words are separated by spaces in print.
K	K.FR-2a	Identify and produce rhyming words.
K	K.FR-3b	Associate the long and short sounds for the five major vowel letters.
K	K.FR-3c	Read common high-frequency words with automaticity by sight (e.g., the, of, to, you, she, my, is, are, do, does).
K	K.VD-2d	Identify real-life connections between words and their use (e.g., note places at home that are cozy).
K	K.ODC-2	With support, confirm understanding of a text read aloud or information presented orally by asking and answering questions.
K	K.GC-2	Recognize and name end punctuation.
K	K.GC-3	Spell words phonetically, drawing on knowledge of sound-letter relationships.
1	1.FR-2a	Distinguish long from short vowel sounds in spoken single-syllable words.
1	1.FR-2c	Isolate and pronounce initial, medial vowel, and final sounds in spoken single-syllable words.
1	1.FR-3	Use knowledge of grade-level phonics and word analysis skills in decoding words.
1	1.FR-3b	Decode regularly spelled one-syllable words.
1	1.FR-3c	Know final -e and common vowel team conventions for representing long vowel sounds (e.g., ai, ay, ee, ea, oa, and oe).
1	1.FR-3h	Recognize and read grade-appropriate irregularly spelled words (e.g., what, said, have).
1	1.RC-4	Read grade-level text with accuracy, appropriate rate, and expression to support comprehension in successive readings.
1	1.ODC-2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
1	1.ODC-4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
1	1.GC-2	Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.
1	1.GC-3	Use knowledge of spelling in writing.
2	2.FR-3a	Know spelling-sound correspondences for common short and long vowel teams (e.g., head, hook, boat, weigh) including diphthongs (e.g., toil, cloud).
2	2.FR-3b	Decode regularly spelled two-syllable words with long and short vowels.
2	2.VD-1a	Use sentence-level context as clues to the meaning of words or phrases.
2	2.VD-2a	Identify real-life connections between words and their use (e.g., describe weather that is freezing or windy).

GRADE	CODE	STANDARD
2	2.W-2	Write arguments that express an opinion supported by details and reasons and provide a concluding sentence.
2	2.W-4	Write personal or fictional stories that recount a short sequence of events, include details to develop the characters or experiences, and provide sense of closure.
2	2.W-6	With support from adults and peers, strengthen writing as needed by revising and editing.
2	2.ODC-1	Engage in collaborative discussions about grade-level topics and texts with peers by gaining the floor in respectful ways, listening to others closely and building on others' ideas, and asking for clarification and further explanation to ensure understanding.
2	2.ODC-2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
2	2.ODC-4	Tell a story or retell an experience with relevant facts and descriptive details, speaking audibly in coherent sentences.
2	2.GC-1c	Form and use regular and frequently occurring irregular plural nouns (e.g., men, teeth, fish).
2	2.GC-2b	Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning: Apostrophes to form contractions and frequently occurring possessives.
3	3.FR-3	Use knowledge of grade-level phonics and word analysis skills to decode words.
3	3.RC-3	Ask and answer questions to demonstrate understanding of grade-level texts, referring explicitly to textual evidence as the basis for the answers.
3	3.RC-5a	Describe key details from stories (including folktales, fables, and tall tales) from diverse cultures and explain how they support the central lesson, moral, or theme.
3	3.VD-1	Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade-level reading and content, choosing flexibly from a range of strategies.
3	3.VD-2	Determine how words and phrases provide meaning and nuance to grade-level texts.
3	3.W-4	Write personal or fictional stories that recount an event or experience, include details to develop the characters or event(s), and provide a sense of closure.
3	3.W-6	With support from adults and peers, develop and strengthen writing as needed by planning, revising, and editing.
3	3.ODC-2	Determine the main ideas and supporting details of a text read aloud or information presented in a variety of media (audio, visual, and quantitative).
3	3.GC-1c	Use collective nouns (e.g., family, crew, assembly) matched to plural verb forms.

TECHNOLOGY: COMPUTATIONAL THINKING AND DIGITAL L

20 STANDARDS

Based on the Idaho state standards

GRADE	CODE	STANDARD
K-2	K-2.CT.1.1	Recognize that software is required to control all computing devices (e.g. programs, browsers, websites, apps).
K-2	K-2.CT.1.2	Use digital tools to create original artifacts.
K-2	K-2.CT.3.1	Share ideas in multiple ways using digital tools.
K-2	K-2.CT.4.1	Construct and test problem solutions using a block-based and/or visual programming.
K-2	K-2.CT.4.2	Construct an algorithm to accomplish a task.
K-2	K-2.CT.4.3	Follow the sequencing in an algorithm.
K-2	K-2.CT.4.7	Understand how technology is used to make a task easier or repeatable and can identify real-world examples.
K-2	K-2.DL.1.2	Understand that a wide range of jobs require knowledge or use of computing.
K-2	K-2.DL.2.1	Practice responsible digital citizenship and decision making using positive, safe, legal and honest behaviors in the use of technology systems and software.
K-2	K-2.DL.3.2	Demonstrate how to operate a variety of computing devices by turning on, navigating, opening/closing programs or apps as appropriate.
3	3-5.CT.1.2	Create step-by-step instructions that models intelligent behavior on computing devices.
3	3-5.CT.2.1	Use outcome data to solve a problem or answer a question.
3	3-5.CT.2.6	Navigate age-appropriate technologies and begin to transfer their learning to different tools or learning environments.
3	3-5.CT.3.3	Communicate ideas textually visually and graphically.
3	3-5.CT.3.5	Choose tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.
3	3-5.CT.5.2	Construct and test problem solutions using block-based and or text-based programming.
3	3-5.CT.5.5	Explain and debug the sequencing in an algorithm.
3	3-5.CT.5.6	Construct an algorithm to accomplish a task.
3	3-5.CT.5.7	Break down problems into smaller parts, identify key information, and propose solutions.
3	3-5.DL.3.2	Gather, manipulate, and evaluate digital data to explore a real-world problem that is of interest to the student.

SCIENCE

5 STANDARDS

Based on the Idaho state standards

GRADE	CODE	STANDARD
K	K-PS-1.2	With guidance and support, analyze data to determine if a design solution works as intended to change the motion of an object with a push or a pull.
K	K-ESS-2.2	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, local weather.
1	1-LS-1.1	Design and build a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
2	2-ESS-2.1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
3	3-ESS-2.1	Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

SOURCES & NOTES

- The official mathematics, English language arts, computer science and science standards for Idaho, as published by the Idaho State 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.
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- A lesson-level crosswalk is available on request at info@truerobotics.org.