

PAVING THE WAY WITH TREADS

GRADES K-3

This document lists the Wyoming 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 Wyoming Department of Education.

27

MATH

40

ELA

1

CS

3

SCIENCE

77

TOTAL STANDARDS

MATHEMATICS

27 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
K-3	MP.1	Make sense of problems and persevere in solving them.
K	K.CC.1a	Count to 100 by ones and by tens.
K	K.CC.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
K	K.OA.2	Solve word problems using objects and drawings to find sums up to 10 and differences within 10.
K	K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)
K	K.G.2	Correctly name shapes regardless of their orientations or overall size.
K	K.G.6	Use simple shapes to compose squares, rectangles, and hexagons.
1	MP.2	Reason abstractly and quantitatively.
1	1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using objects, drawings, or equations with a symbol for the unknown number to represent the problem.
1	1.NBT.2	Understand that the two digits of a two-digit number represent amounts of tens and ones.
1	1.G.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); for a wide variety of shapes; build and draw shapes to possess defining attributes.

GRADE	CODE	STANDARD
2	2.OA.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 drawings and equations with a symbol for the unknown number to represent the problem.
2	2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; and demonstrate that:
2	2.NBT.1c	Three-digit numbers can be decomposed in multiple ways (e.g., 524 can be decomposed as 5 hundreds, 2 tens and 4 ones or 4 hundreds, 12 tens, and 4 ones, etc.)
2	2.NBT.4	Compare pairs of three-digit numbers based on meanings of the hundreds, tens, and ones digits, using the words "is greater than," "is equal to," "is less than," and with the symbols $>$, $=$, and $<$ to record the results of comparisons.
2	2.NBT.5	Add and subtract within 100 using strategies based on place value, properties of addition, and/or the relationship between addition and subtraction.
2	2.MD.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.8	Solve word problems up to \$10 involving dollar bills, quarters, dimes, nickels, and pennies, using \$ (dollars) and ¢ (cents) symbols appropriately.
2	2.G.3	Partition circles and rectangles into two, three, or four equal shares by:
3	3.OA.8	Solve two-step word problems (limited to the whole number system) using the four basic operations. Students should apply the Order of Operations when there are no parentheses to specify a particular order.
3	3.NF.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
3	3.NF.2	Understand and represent fractions on a number line diagram.
3	3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Use the data to create a line plot, where the horizontal scale is marked off in appropriate units--whole numbers, halves, or quarters.
3	3.MD.7a	Find the area of a rectangle with whole-number side lengths (dimensions) by multiplying them. Show that this area is the same as when counting unit squares.
3	3.MD.7b	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
3	3.MD.7c	Use area models to represent the Distributive Property in mathematical reasoning. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$.
3	3.G.1	Use attributes of quadrilaterals to classify rhombuses, rectangles, and squares. Understand 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

40 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
K	RF.K.1c	Understand that words are separated by spaces in print.
K	RF.K.2a	Recognize and produce rhyming words.
K	RF.K.3b	Associate the long and short sounds with common spellings (graphemes) for the five major vowels.
K	RF.K.3c	Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does).
K	SL.K.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.
K	SL.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.
K	L.K.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
K	L.K.5c	Identify real-life connections between words and their use (e.g., note places at school that are colorful).
1	RF.1.2a	Distinguish long from short vowel sounds in spoken single-syllable words.
1	RF.1.2c	Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
1	RF.1.3	Know and apply grade-level phonics and word analysis skills in decoding words.
1	RF.1.3b	Decode regularly spelled one-syllable words.
1	RF.1.3c	Know final -e and common vowel team conventions for representing long vowel sounds.
1	RF.1.3g	Recognize and read grade-appropriate irregularly spelled words.
1	RF.1.4	Read with sufficient accuracy and fluency to support comprehension.
1	SL.1.2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
1	SL.1.4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
1	L.1.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
2	RF.2.3a	Distinguish long and short vowels when reading regularly spelled one-syllable words.
2	RF.2.3b	Know spelling-sound correspondences for additional common vowel teams.
2	W.2.1	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 (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

GRADE	CODE	STANDARD
2	W.2.3	Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.
2	W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
2	SL.2.1c	Ask for clarification and further explanation as needed about the topics and texts under discussion.
2	SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
2	SL.2.4	Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
2	SL.2.5	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.
2	L.2.1a	Use collective nouns (e.g., group).
2	L.2.1b	Form and use frequently occurring irregular plural nouns (e.g., feet, children, teeth, mice, fish).
2	L.2.2c	Use an apostrophe to form contractions and frequently occurring possessives.
2	L.2.4a	Use sentence-level context as a clue to the meaning of a word or phrase.
2	L.2.5a	Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy).
3	RL.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
3	RL.3.2	Recount 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	RF.3.3	Know and apply grade-level phonics and word analysis skills in decoding words.
3	W.3.3	Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
3	W.3.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
3	SL.3.2	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.
3	L.3.4	Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.
3	L.3.5	Demonstrate understanding of word relationships and nuances in word meanings.

COMPUTER SCIENCE

7 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
K-2	2.CS.HS.01	Demonstrate and describe the function of common components of computing systems (hardware and software) (e.g., use a browser, search engine).
K-2	2.AP.A.01	With guidance, identify and model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks (e.g., verbally, kinesthetically, with robot devices, or a programming language).
K-2	2.AP.C.01	With guidance, independently and collaboratively create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing, conditionals, and repetition.
K-2	2.AP.PD.03	Independently and collaboratively debug (identify and fix errors) programs using a programming language.
3	5.AP.A.01	Using grade appropriate content and complexity, compare and refine multiple algorithms for the same task and determine which is the most appropriate.
3	5.AP.C.01	Using grade appropriate content and complexity, create programs that include sequences, events, loops, and conditionals, both individually and collaboratively.
3	5.IC.SI.02	Practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.

SCIENCE (ENGINEERING, TECHNOLOGY, & APPLICATIONS)

3 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
K	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.
1	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.
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.

SOURCES & NOTES

- The official mathematics, English language arts, computer science and science standards for Wyoming, as published by the Wyoming 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.