PAVING THE WAY WITH TREADS

GRADES K–3

This document lists the Arkansas 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 Arkansas Division of Elementary & Secondary Education.

44	44	14	5	107
MATH	ELA	CS	SCIENCE	TOTAL STANDARDS

MATHEMATICS

44 STANDARDS

Based on the Arkansas state standards

GRADE	CODE	STANDARD
K	K.NPV.1	Count to 100 by ones and tens; count forward by ones from any given number up to 100.
K	K.NPV.2	Count a set of objects up to 20 using one-to-one correspondence, demonstrating that the last number stated indicates the number of objects in the set regardless of the arrangement.
K	K.CAR.1	Use objects, fingers, mental images, drawings, sounds, acting out situations, or verbal explanations to represent addition and subtraction from 0 to 10.
K	K.CAR.5	Solve real-world problems involving addition and subtraction within 10, using objects, drawings, or equations to represent the problem.
K	K.GM.1	Describe the positions of objects and geometric shapes in the environment.
K	K.GM.2	Name shapes correctly regardless of their orientation or overall size.
K	K.GM.6	Make direct comparisons of the length, capacity, weight, and temperature of objects, recognizing which object is shorter/longer, lighter/heavier, warmer/cooler, or holds more.
K	K.DA.1	Collect, sort, and organize data into two or three categories, using real-object graphs and picture graphs.
1	1.NPV.3	Explain the place value of ones and tens in two-digit numbers, using concrete models, diagrams, numbers, or words.
1	1.NPV.7	Compare two two-digit numbers using symbols (<, =, >) based on the value of tens and ones in the given numbers.
1	1.CAR.6	Solve real-world problems involving addition and subtraction within 20.
1	1.CAR.7	Solve real-world problems involving addition of three whole numbers whose sum is less than or equal to 20.

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GRADE	CODE	STANDARD
1	1.GM.1	Understand the difference between defining attributes (e.g., triangles are closed and three-sided shapes) and non-defining attributes (e.g., color, orientation, overall size), using that understanding to build and draw shapes that exhibit defining attributes.
1	1.GM.2	Create a composite shape using two-dimensional or three-dimensional shapes.
1	1.GM.3	Express the length of an object as a whole number of units by laying multiple copies of a shorter object end-to-end, understanding that the length of one object is equal to the number of same-size units that span the object with no gaps or overlaps.
1	1.GM.4	Order three objects by their length, indirectly comparing the lengths of two objects by using a third object.
1	1.DA.1	Organize, represent, and interpret data with up to three categories (e.g., tally tables, picture graphs, bar graphs).
1	1.DA.2	Ask and answer questions about the total number represented such as how many in each category and how many more or less in one category compared to another.
2	2.NPV.2	Identify the value of hundreds, tens, and ones place in a three-digit number.
2	2.NPV.3	Read, write, and represent whole numbers up to 1,000 using concrete models or drawings, number names, and a variety of expanded forms.
2	2.NPV.6	Partition circles and rectangles into two, three, or four equal shares, describing the shares using the words halves, thirds, and fourths (or quarters).
2	2.NPV.7	Recognize that equal shares of identical wholes need not have the same shape.
2	2.CAR.2	Use computational fluency to add and subtract within 100 using strategies based on place value, properties of operations, or the relationship between addition and subtraction.
2	2.CAR.7	Solve one and two-step real-world problems involving addition and subtraction within 100 in situations of adding to, taking from, putting together, taking apart, and comparing unknowns in all positions.
2	2.GM.1	Identify, describe, and draw two-dimensional shapes.
2	2.GM.2	Identify and describe three-dimensional shapes based on the shape, number of faces, number of edges, and number of vertices.
2	2.GM.3	Select appropriate measurement tools to estimate and measure the length of an object to the nearest whole inch or whole centimeters.
2	2.GM.8	Partition a rectangle into rows and columns of same-size squares, counting the total number of squares to find the area.
2	2.GM.12	Count collections of mixed coins and solve real-world problems involving quarters, dimes, nickels, and pennies within 99¢ and whole dollar amounts.
2	2.DA.1	Use bar graphs, picture graphs, and line plots to organize and represent data, interpreting data with up to four categories.
2	2.DA.2	Ask and answer simple put together, take apart, and compare problems, using information presented in the bar graphs, picture graphs, and line plots.
3	3.NPV.7	Partition squares, regular hexagons, and equilateral triangles into parts with equal shares, explaining the shares of each part as a unit fraction of the whole.

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GRADE	CODE	STANDARD
3	3.NPV.8	Identify and represent a unit fraction as a number on the number line.
3	3.NPV.9	Identify and represent a non-unit fraction as a number on the number line, including fractions greater than one.
3	3.NPV.10	Decompose and compose a non-unit fraction a/b as the quantity formed by the sum of unit fractions.
3	3.CAR.3	Apply properties of operations as strategies to multiply and divide.
3	3.CAR.6	Solve real-world problems using multiplication and division within 100 involving equal groups, arrays, partitive and measurement division.
3	3.CAR.8	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
3	3.GM.1	Understand that quadrilaterals in different categories may share attributes; those attributes (e.g., four equivalent sides) can define a larger category (e.g., quadrilaterals) or subcategory (e.g., rhombus and square).
3	3.GM.3	Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, identifying and/or drawing examples of quadrilaterals that do not belong to any of these subcategories.
3	3.GM.4	Measure lengths of objects to the nearest half and quarter inch, using a ruler.
3	3.GM.5	Describe area as the number of unit squares that cover a plane figure without gaps and overlaps.
3	3.DA.1	Represent a data set with multiple categories, using a scaled picture graph, scaled bar graph, and a line plot.
3	3.DA.2	Solve one and two-step problems, using categorical data represented with a scaled picture graph, scaled bar graph, and a line plot.

ENGLISH LANGUAGE ARTS

44 STANDARDS

Based on the Arkansas state standards

GRADE	CODE	STANDARD
K	K.FR.3.CP	Point to words, using one-to-one correspondence to demonstrate that words are separated by spaces.
K	K.FR.5.PA	Isolate and pronounce the initial, medial vowel, and final sounds in three sound words.
K	K.FR.9.PD	Decode one-syllable words with single consonants and all short vowels (e.g., bag, sip, web, hog, cut).
K	K.FR.11.PD	Decode one-syllable words with single consonants and final long vowels (e.g., we, go).
K	K.FR.12.PD	Read high-frequency words.
K	K.FR.16.PE	Encode words phonetically, drawing on knowledge of sound-letter relationships.
K	K.W.6.P	Edit writing to include grade-appropriate conventions for publishing (e.g., capitalize the first word in the sentence, capitalize the pronoun "I," use end punctuation marks).

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GRADE	CODE	STANDARD
K	K.CC.2.OL	Ask and answer questions orally about what a speaker says to gather additional information and clarify understanding.
K	K.CC.4.P	Use visual displays to provide additional detail.
1	1.FR.4.PD	Decode one-syllable words with consonant clusters and predictable vowel patterns (e.g., blast, spell, dry, flake, star, swerve).
1	1.FR.6.PD	Decode one-syllable words with common vowel teams (e.g., rain, play; seed, beach; high, pie; boat, snow, toe; book; new, moon).
1	1.FR.9.PD	Decode two-syllable base words with grade level letter-sound correspondences (e.g., napkin, cupcake, poodle, super).
1	1.FR.10.PD	Read high-frequency words.
1	1.FR.11.PD	Decode words with inflectional suffixes (e.g., -ed, -ing, -s/es, -er).
1	1.FR.17.PE	Encode one-syllable words with initial or medial VCe patterns (e.g., use, lake, slime, choke, these).
1	1.FR.20.PE	Encode words phonetically, drawing on knowledge of sound-letter relationships.
1	1.RF.24.F	Orally read texts with accuracy, automaticity, and expression at an appropriate rate to support comprehension, self-correcting as necessary.
1	1.W.8.P	Edit writing to include K-1 language conventions for publishing.
1	1.CC.2.OL	Ask and answer questions orally about what a speaker says to gather additional information and clarify understanding.
1	1.CC.3.P	Use relevant details to express ideas and feelings when orally describing people, places, things, and events.
2	2.FR.1.PD	Decode one-syllable words with vowel teams (e.g., haul, straw, clue, chief, key, bread).
2	2.RC.3.RF	Retell (orally or in writing) a text read aloud including main idea and key details to demonstrate understanding of the central message or topic.
2	2.V.2	Use sentence-level clues to identify the meaning of words or phrases.
2	2.W.1.S	Write an opinion piece about a topic or text with details to support the opinion.
2	2.W.3.S	Write a narrative, using a logical sequence of events.
2	2.W.7.P	Revise writing to expand and combine simple sentences to create compound sentences.
2	2.W.8.P	Edit writing to include K-2 language conventions for publishing.
2	2.CC.2.OL	Ask and answer questions about what a speaker says to gather additional information and clarify understanding.
2	2.CC.3.P	Use relevant, descriptive details to orally share a story or experience that includes appropriate facts.
2	2.CC.4.P	Use visual displays to clarify ideas, thoughts, and feelings.
2	2.L.2.S	Use regular and irregular plural nouns (e.g., branches, elves; geese, sheep).
2	2.L.3.S	Use singular possessive common and proper nouns.

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GRADE	CODE	STANDARD
3	3.FR.2.PD	Decode multisyllable base words with grade-level letter-sound correspondences (e.g., neighbor, suitcase, fascinate, suggest).
3	3.FR.3.PD	Decode words, using knowledge of most common Latin prefixes, bases, and suffixes including inflectional and derivational suffixes.
3	3.RC.1.RF	Ask questions about key details in a text.
3	3.RC.2.RF	Answer questions about key details in a text.
3	3.RC.3.RF	Summarize multi-paragraph texts, providing key details to demonstrate understanding of the central message or topic.
3	3.V.1	Determine or clarify the meaning of words and phrases in a text read aloud or independently.
3	3.V.4	Distinguish shades of meaning among related words.
3	3.W.3.S	Write a narrative with a logical plot (sequence of events, characters, and setting).
3	3.W.7.P	Plan and revise writing, using words, phrases, and sentences for effect.
3	3.W.8.P	Edit writing to include K-3 language conventions for publishing.
3	3.L.2.S	Use collective nouns (e.g., group, flock, herd).
3	3.L.16.S	Form contractions, using an apostrophe.

COMPUTER SCIENCE

14 STANDARDS

Based on the Arkansas state standards

GRADE	CODE	STANDARD
K, 1, 3	4.2.1	Identify common digital tools (e.g., laptop, iPads) and their on-screen elements (e.g., icons, buttons) that aid in learning, creativity, and productivity.
K–1	2.2.1	Replicate a given sequence (e.g., recreate a building block construction, hamburger and hotdog folds).
K–1	4.1.2	Demonstrate basic use and care of computer equipment (e.g., turning on and off, logging in and out, charging, handling).
K	4.1.3	Interact with apps and programs to complete tasks on a computer.
1–2	2.3.1	Explain that a program is a set of instructions that defines what a computer or device does.
1, 3	2.3.2	Construct a basic program using block-based coding.
1	1.3.1	Explain how to balance screen time with other activities and understand the potential negative consequences.
1	2.1.3	Decompose (break-down) a task (e.g., bedtime routine, decoding words) into simple steps.
2	4.2.3	Access and manage digital files and folders (e.g., open, save, locate, move).

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GRADE	CODE	STANDARD
3	1.1.4	Participate safely and appropriately in online school-based communication (e.g., learning management system, class email).
3	2.1.2	Create a clear and ordered set of instructions that can be followed to complete a given, familiar task.
3	2.2.2	Use debugging strategies to identify and correct errors in algorithms.
3	3.1.2	Formulate appropriate questions for data collection.
3	3.3.1	Create appropriate visualizations to communicate data insights.

SCIENCE: ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE

5 STANDARDS

Based on the Arkansas 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, computer science and science standards for Arkansas, as published by the Arkansas Division of Elementary & Secondary 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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