TRUE ROBOTICS

PAVING THE WAY WITH TREADS

GRADES K–3

This document lists the South Carolina 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 South Carolina Department of Education.

39	44	17	6	106
MATH	ELA	CS	SCIENCE	TOTAL STANDARDS

MATHEMATICS

39 STANDARDS

Based on the South Carolina state standards

GRADE	CODE	STANDARD
K–3	MPS.PS.1	Make sense of problems and persevere in solving them strategically.
K	K.DPSR.1.1	Sort pictures or objects into at least two categories. Count to determine how many are in each category. Limit to 20 pictures or objects.
K	K.MGSR.1.2	Directly compare two objects using words including shorter, longer, taller, lighter, and heavier.
K	K.MGSR.2.1	Identify and describe the attributes of triangles, squares, rectangles, circles, cubes, and spheres to include everyday situations.
K	K.MGSR.2.2	Describe relative positions of objects by appropriately using terms including below, above, beside, between, inside, outside, in front of, or behind.
K	K.NR.2.1	Count forward by ones and tens to 100 and backward from 10 by ones.
K	K.NR.2.3	Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.
K	K.PAFR.1.4	Solve add-to/joining, take-from/separating, part-part-whole (total unknown), part-part-whole (both addends unknown) real-world situations to find sums and differences within 10.
1	MPS.AJ.1	Use critical thinking skills to reason both abstractly and quantitatively.
1	1.DPSR.1.2	Create survey questions and collect data with up to three categories. Create charts and graphs with a single unit scale to display the data. Use the graph to draw conclusions. Limit to one-step add-to, take-from, and part-part-whole questions.
1	1.MGSR.1.1	Order three objects by length from shortest to longest and longest to shortest using direct comparison.

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GRADE	CODE	STANDARD
1	1.MGSR.1.2	Use nonstandard physical objects to estimate and then measure the length of an item as the number of same size units of length with no gaps or overlaps.
1	1.MGSR.2.2	Identify and describe the attributes of two-dimensional shapes and three-dimensional shapes. Limit to triangle, square, rectangle, rhombus, hexagon, circle, cone, cube, cylinder, square pyramid, and sphere.
1	1.NR.1.2	Represent and explain that whole numbers 1 through 99 are organized into groups of tens and ones, and a digit has a different value depending on its placement.
1	1.NR.3.1	Compare representations of two numbers up to 100 using the phrases is greater than, is less than, or is equal to (the same value as).
1	1.PAFR.1.3	Solve add-to, take-from, and part-part-whole real-world situations to find sums and differences within 20. Situations include result or change unknown, both addends unknown, and total or one part unknown.
2	2.DPSR.1.1	Create a survey question and collect data with up to four categories. Create tally charts, picture graphs, dot plots, and bar graphs with a single-unit scale to read the graph, answer questions, and draw conclusions. Limit to one-step add-to, take-from, part-part-whole, and comparison questions.
2	2.MGSR.1.1	Select and use appropriate tools to estimate and measure the length of an object or distance to the nearest customary unit. Limit to inches, feet, and yards.
2	2.MGSR.1.3	Determine the value of mixed sets of coins or bills in mathematical and real-world situations and record the value using a ¢ or $ symbol. Limit to pennies, nickels, dimes, and quarters up to a dollar; one-dollar bills, five-dollar bills, ten-dollar bills, and twenty-dollar bills up to $100, and add-to or take-from problem types.
2	2.MGSR.2.1	Identify and describe a given shape in everyday situations to include two-dimensional shapes and three-dimensional shapes. Limit to triangle, quadrilateral, pentagon, hexagon, octagon, circle, cone, cube, cylinder, rectangular prism, square pyramid, and sphere.
2	2.MGSR.2.3	Classify two-dimensional shapes as triangles or quadrilaterals and justify each classification.
2	2.NR.1.1	Read, write, and represent numbers up to 999 using concrete models, drawings, standard form, base ten language, and equations in expanded form.
2	2.NR.1.2	Represent and explain that whole numbers 1 through 999 are organized into groups of hundreds, tens, and ones, and a digit has a different value depending on its placement.
2	2.NR.3.1	Compare representations of whole numbers up to 999 and write a comparison statement using words and symbols. Limit to is equal to (=), is less than (<), and/or is greater than (>).
2	2.NR.4.1	Partition in multiple ways squares, rectangles, and circles into two or four equal sized parts, and describe the parts using the words halves, fourths, a half of, and a fourth of (not quarters).
2	2.PAFR.1.1	Use a strategy to accurately find sums and differences of two-digit numbers within 100 and justify the sum or difference.
2	2.PAFR.1.3	Solve one-step add-to, take-from, part-part-whole, and additive comparison real-world situations through 99 with the unknown in any position.

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GRADE	CODE	STANDARD
2	2.PAFR.1.6	Apply the Associative Property of Addition to find the sum (through 20) of three addends and explain that the value can be found using various grouping strategies.
3	3.DPSR.1.1	Collect and organize categorical and numerical data based on observations, surveys, experiments, and investigations with whole number values using tables, scaled picture graphs, scaled bar graphs, or dot plots. Use titles and labels. Limit scales to multiples of 1, 2, 5, and 10.
3	3.DPSR.1.2	Solve one-step, real-world situations using whole number data represented in tables, scaled picture graphs, scaled bar graphs, or dot plots. Limit scales to multiples of 1, 2, 5, and 10.
3	3.MGSR.1.1	Determine the area of squares and rectangles presented in relevant problems by covering the space with square units and counting the total number of units needed.
3	3.MGSR.2.4	Estimate and measure length/distance to the nearest half inch and nearest whole centimeter.
3	3.MGSR.3.1	Describe and draw right, acute, obtuse, and straight angles. Identify these angle types in two-dimensional figures including triangles and quadrilaterals.
3	3.NR.1.1	Read, write, and represent whole numbers through the thousands period (0 to 999,999) on a number line and in standard form, base ten language, word form, and equations in expanded form.
3	3.NR.2.1	Identify unit fractions as the quantity formed by one part when a whole is partitioned into 2, 3, 4, 6, or 8 equal-sized parts. Express each part as a unit fraction of the whole.
3	3.NR.2.2	Represent fractions from 0 to 1 using concrete, set, area, and linear models, and write them in standard form and word form. Limit denominators to 2, 3, 4, 6, and 8.
3	3.PAFR.1.2	Multiply whole numbers (factors 0–10) and divide whole numbers (divisors 1–10) using a model and write a corresponding equation.
3	3.PAFR.2.1	Determine the unknown whole number in a multiplication or division real-world situation relating three whole numbers when the unknown is a missing factor, product, dividend, divisor, or quotient.
3	3.PAFR.2.2	Solve one- and two-step real-world situations using addition and subtraction up to 1,000.

ENGLISH LANGUAGE ARTS

44 STANDARDS

Based on the South Carolina state standards

GRADE	CODE	STANDARD
K–1	ELA.C.4	Demonstrate command of standard English grammar and conventions when writing.
K	ELA.K.F.1.3	Recognize and produce pairs of rhyming words and distinguish them from non-rhyming pairs using pictures and/or spoken words.
K	ELA.K.F.1.6	Orally identify initial, medial, and final phonemes in two- and three-phoneme (i.e., VC and CVC) words, excluding CVC words ending with /l/, /r/, or /x/.
K	ELA.K.F.2.2	Demonstrate one-to-one correspondence by pointing to words, noting that there are spaces between words.

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GRADE	CODE	STANDARD
K	ELA.K.F.3.4	Identify the vowel and produce the vowel sound in a printed syllable or word when decoding: a. in a closed syllable (VC: at; CVC: bat); b. in an open syllable (e.g. he, so, me, go, hi); and c. in a vowel-consonant-e (VCe) syllable with prompting and support.
K	ELA.K.F.4.1	Read high-frequency words commonly found in grade-appropriate text with accuracy and automaticity.
K	ELA.K.AOR.8.1c	identify and explain descriptive words and phrases that suggest feelings or appeal to the senses.
K	ELA.K.R.1.1	Ask and answer questions (who, what, when, where, why, and how) about print and non-print sources to obtain and refine knowledge.
K	ELA.K.C.2.1	Use a combination of drawing, dictating, and writing to compose informative/explanatory pieces about a topic with supporting details.
1	ELA.F.3	Know and apply phonics and word analysis skills in decoding and encoding words.
1	ELA.1.F.3.4	Identify the vowel and produce the vowel sound in a printed syllable or word to: a. decode regularly spelled one-syllable words (syllables include: closed, open, and vowel-consonant-e) including words with blends in initial and final position; b. decode regularly spelled one-syllable words with vowel-r syllables (i.e., ar, er, ir, or, and ur); and c. decode two-syllable words using knowledge of syllables (i.e., closed, open, vowel-consonant-e, vowel-r, common vowel teams, and consonant-le), including compound words that fit multiple syllable types.
1	ELA.1.F.3.4a	decode regularly spelled one-syllable words (syllables include: closed, open, and vowel-consonant-e) including words with blends in initial and final position;
1	ELA.1.F.3.4c	decode two-syllable words using knowledge of syllables (i.e., closed, open, vowel-consonant-e, vowel-r, common vowel teams, and consonant-le), including compound words that fit multiple syllable types.
1	ELA.1.F.3.8f	Decode and encode words using: VCe;
1	ELA.F.4	Read and reread grade-appropriate texts with accuracy and expression at an appropriate rate to support comprehension.
1	ELA.1.F.4.1	Read high-frequency words commonly found in grade-appropriate text with accuracy and automaticity.
1	ELA.1.R.1.1	Ask and answer questions (who, what, when, where, why, and how) about print and non-print sources to obtain and refine knowledge.
1	ELA.1.C.4.1f	identify and use nouns (proper and collective), pronouns (personal), verbs (present, past, and future tense); descriptive adjectives, and common conjunctions;
1	ELA.1.C.4.1g	form and use regular and frequently occurring irregular nouns;
1	ELA.1.C.7.1	Present information orally in a logical order of events using complete sentences, appropriate volume, clear pronunciation, conjunctions, and temporal words (e.g., before, after).
2	ELA.2.F.3.4	Identify the vowel in a printed syllable or word to: a. decode multisyllabic words with common syllable patterns (i.e., closed, open, vowel-consonant-e, vowel-r, vowel teams, consonant-le, and schwa syllables); and b. apply knowledge of multisyllabic word construction and syllable division principles to decode grade-appropriate multisyllabic words. Examples: rab-bit (CVC/CVC); o-pen (V/CVC); cab-in (CVC/VC); li-on (CV/VC).

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GRADE	CODE	STANDARD
2	ELA.2.F.3.8f	Decode and encode multisyllabic words using: variable vowel teams and vowel diphthongs (i.e., oi, oy; ou, ow; au, aw; oo, ew, ue; ee, ea; igh, ie; ai, ay);
2	ELA.2.F.3.8m	Decode and encode multisyllabic words using: contractions with am, is, has, not, have, would, and will.
2	ELA.2.AOR.6.1	Retell a text to enhance comprehension: a. include main story elements in a logical sequence for a literary text; and b. include a central idea and supporting details for an informational text.
2	ELA.2.AOR.7.1a	use sentence-level context clues (e.g., definitions, examples) to determine the meaning of a word or phrase;
2	ELA.2.C.1.1	Write opinion pieces about a topic.
2	ELA.2.C.3.1	Write narratives to develop real or imagined experiences.
2	ELA.2.C.4.1e	use apostrophes to form possessives;
2	ELA.2.C.5.1	Improve writing by planning, revising, editing, and building on personal ideas and the ideas of others to strengthen writing.
2	ELA.2.C.7.1	Present information orally to tell a story or recount an experience with appropriate facts and details.
2	ELA.2.C.7.1b	identify and use appropriate digital tools to enhance verbal communication with support from adults.
3	ELA.3.OE.5	Cite evidence to explain and justify reasoning.
3	ELA.3.F.4.3d	Read texts by: generalizing phonic skills to unknown words;
3	ELA.3.AOR.2.1	Identify and explain an explicit theme in a literary text and how it is developed by key details.
3	ELA.3.AOR.2.2	Determine and explain a stated central idea and supporting details in an informational text.
3	ELA.3.AOR.6.1a	Summarize a text to enhance comprehension: include plot, theme, and key details for a literary text;
3	ELA.3.AOR.7.1	Determine or clarify the meaning of known and unknown words and phrases, choosing from an array of strategies: a. use sentence-level context clues (e.g., definitions, examples) to determine the meaning of a word or phrase; b. consult print and digital reference materials to build and integrate background knowledge; and c. consult print and digital reference materials to find the pronunciation, part of speech, and to determine or clarify the precise meaning of words and phrases.
3	ELA.3.AOR.8.1	Determine an author's use of words and phrases in grade-level literary, informational, and multimedia texts: a. distinguish between literal and nonliteral meanings of words and phrases (e.g., take steps); b. identify real-life connections between words and their use (e.g., describe people who are helpful); and c. determine relationships between words (e.g., synonyms and antonyms) to better understand each of the words.
3	ELA.3.AOR.8.1b	identify real-life connections between words and their use (e.g., describe people who are helpful);
3	ELA.3.AOR.9.1	Identify and use derivational morphemes, prefixes, suffixes, and phonic patterns to determine the meaning of words in grade-level content.

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GRADE	CODE	STANDARD
3	ELA.3.R.1.1	Ask and answer questions about print and non-print sources to narrow or broaden thinking about a topic for inquiry.
3	ELA.3.C.3.1	Write narratives to develop real or imagined experiences.
3	ELA.3.C.5.1	Improve writing by planning, revising, editing, and building on personal ideas and the ideas of others to strengthen writing.
3	ELA.3.C.8.1a	enter a conversation appropriately, listen actively to others, and ask and respond to questions to clarify thinking and express new ideas;

COMPUTER SCIENCE AND DIGITAL LITERACY

17 STANDARDS

Based on the South Carolina state standards

GRADE	CODE	STANDARD
K	K.DL.2.1	Understand safety rules when using a computing device.
K	K.CS.2.2	Learn to handle computing devices with proper care (e.g., do not place food or drink near a computer or tablet; hold tablets or laptops with both hands when transporting them).
K	K.IC.1.1	List different ways in which computing devices are used in your daily life.
1	1.DL.1.2	Create a simple presentation with text and/or image.
1	1.IC.1.1	Recognize that many different careers use computing devices.
2	2.CS.2.2	Recognize software that controls computing devices (e.g., use an application to draw on the screen; use software to write a story or control robots).
2	2.CS.2.3	Use appropriate hardware and software to complete a given task.
2	2.NI.1.3	Use technology to work cooperatively and collaboratively with peers, teachers, and others.
3	Process Standard 3.d	Recognize that there may be multiple approaches to solving a problem.
3	3.DL.1.3	Format a presentation using presentation software to insert an image/video, change background colors, and change text color.
3	3.NI.2.1	Communicate electronically with others with support from peers, teachers, and others.
3	3.DA.2.1	Discuss appropriate tools for collecting data.
3	3.DA.2.2	Represent data with bar graphs.
3	3.AP.1.1	Describe a daily task as a sequence of steps.
3	3.AP.2.1	Describe, using picture models, an ordered list of steps to perform a simple task.
3	3.AP.4.1	Use picture directions to design a series of steps to complete a simple task.
3	3.AP.4.2	Test a series of directions to successfully complete a simple task.

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SCIENCE

6 STANDARDS

Based on the South Carolina state standards

GRADE	CODE	STANDARD
K	K-PS2-2	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.
K	K-ESS3-3	Obtain and communicate information to define problems related to human impact on the local environment.
1	1-PS4-4	Use tools and materials to design and build a device that uses light or sound to communicate over a distance.
2	2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
3	3-PS2-4	Develop possible solutions to a simple design problem by applying scientific ideas about magnets.
3	3-ESS3-1	Make a claim about the effectiveness 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 South Carolina, as published by the South Carolina 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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