TRUE ROBOTICS

TAKING OFF WITH PILOT

GRADES 3–5

This document lists the Wyoming learning standards addressed by Taking Off with Pilot, True Robotics' grades 3–5 robotics curriculum. Standards are grouped by subject and grade level, with codes and wording as published by the Wyoming Department of Education.

19	3	3	25
MATH	SCIENCE	CS	TOTAL STANDARDS

MATHEMATICS

19 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
3	3.OA.7	Fluently multiply and divide with factors from 1 to 10 using mental strategies. By end of Grade 3, know automatically all products of one-digit factors based on strategies.
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.NBT.2	Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of addition, and/or the relationship between addition and subtraction.
3	3.NF.2	Understand and represent fractions on a number line diagram.
3	3.NF.3d	Compare two fractions with the same numerator or the same denominator, by reasoning about their size. Recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.
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.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.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.

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GRADE	CODE	STANDARD
4	4.OA.3	Solve multi-step word problems posed with whole numbers, including problems in which remainders must be interpreted.
4	4.NBT.5	Use strategies based on place value and the properties of multiplication to: a. Multiply a whole number of up to four digits by a one-digit whole number. b. Multiply a pair of two-digit numbers. c. Use appropriate models to explain the calculation, such as by using equations, rectangular arrays, and/or area models.
4	4.NBT.6	Use strategies based on place value, the properties of multiplication, and/or the relationship between multiplication and division to find quotients and remainders with up to four-digit dividends and one-digit divisors. Use appropriate models to explain the calculation, such as by using equations, rectangular arrays, and/or area models.
4	4.NF.2	Compare two fractions with different numerators and different denominators by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2.
4	4.MD.3	Apply the area and perimeter formulas for rectangles in real-world and mathematical problems.
4	4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
5	5.NF.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.
5	5.NF.3	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models or equations to represent the problem.
5	5.NF.6	Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem.
5	5.MD.5a	Find the volume of a right rectangular prism with whole number dimensions by multiplying them. Show that this volume is the same as when counting unit cubes.
5	5.MD.5b	Find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems given the formulas V=(l)(w)(h) and V=(B)(h) for rectangular prisms.

SCIENCE

3 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
3	3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
4	4-PS3-4	Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

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GRADE	CODE	STANDARD
4	3-5-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.

COMPUTER SCIENCE

3 STANDARDS

Based on the Wyoming state standards

GRADE	CODE	STANDARD
3–5	5.CS.HS.01	Model how information is translated, transmitted, and processed in order to follow through hardware and software to accomplish tasks.
3–5	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	5.AP.C.01	Using grade appropriate content and complexity, create programs that include sequences, events, loops, and conditionals, both individually and collaboratively.

SOURCES & NOTES

- The official mathematics, science and computer 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.

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