**Technology A: Applying Technology**

**Guided Coding Experience**

**ICSS:**

* n/a

**Math-CCSS:**

* n/a

**NGSS:**

* 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.

**ELA-CCSS:**

* SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-lead) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
* SL.5.1.B Follow agreed-upon rules for discussions and carry out assigned roles.
* SL.5.1.C Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
* SL.5.1.D Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
* SL.5.4 Report on a topic or text or present an opinion sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

**Introduction to Robotics (Parent Lesson)**

**ICSS:**

* n/a

**Math-CCSS:**

* n/a

**NGSS:**

* 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.

**ELA-CCSS:**

* SL.5.1.B Follow agreed-upon rules for discussions and carry out assigned roles.
* SL.5.1.C Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

**Programming Logic and Math Reasoning**

**ICSS:**

* n/a

**Math-CCSS:**

* 3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.
* 4.MD.A.1 Know relative sizes of measurement units within one system of units including km,m, cm; kg, g; lb, oz.; L, mL; h, min, sec.
* 5.NBT.B.7 Add, subtract, multiply, and divide decimals to the hundredths.
* 5.NBT.A.4 Use place value understanding to round decimals to any place.
* 5. NF.B.5.A Interpret multiplication as scaling (resizing) by comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
* 6.RP.A.3.D Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

**NGSS:**

* 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraint on materials, time, or cost.
* 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.
* 3-5-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.

**ELA-CCSS:**

* RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words.
* RF.5.3.A Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
* RF.5.4 Read with sufficient accuracy and fluency to support comprehension.
* SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-lead) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
* SL.5.1.B Follow agreed-upon rules for discussions and carry out assigned roles.
* SL.5.1.C Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
* SL.5.1.D Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

**Robotics Challenge**

**ICSS:**

* n/a

**Math-CCSS:**

* 5.NBT.B.7 Add, subtract, multiply, and divide decimals to the hundredths.

**NGSS:**

* 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraint on materials, time, or cost.
* 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.
* 3-5-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.

**ELA-CCSS:**

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**Robo Loops**

**ICSS:**

* n/a

**Math-CCSS:**

* 4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

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* 3-5-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.

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**Coding the Road**

**ICSS:**

* n/a

**Math-CCSS:**

* 5.G.A.1Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and*y*-coordinate).
* 5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

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* 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.
* 3-5-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.

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