Section 2: Connection to the BC Digital Literacies Framework

Digital Literacies and Curriculum that apply to the problem:

The table below shows the digital literacies taken from the BC Digital Literacy Framework (2016) that apply to the grade 5 Rube Goldberg machine project. It connects the Digital Literacy BC Framework to the BC Grade 5 Science, English, and Career Education Curriculum (2016) used in the goal of creating Rube Goldberg Machines.

BC Digital Literacies Framework (2016)	BC Grade 5 Curriculum (2016) (Specific curriculum in brackets)	Connection to Rube Goldberg Machine Project
Research and Information Literacy:		
• Determines criteria for rating informational websites and apply them to an assigned site and understands that all websites are not equally good sources of information. (Gr. 3-5)	• Identify key features or user requirements	• Use teacher allocated websites for the students to see a range of good examples of Rube Goldberg machines.
• Knows strategies to increase the accuracy of his/her keyword searches and is able to make inferences about the effectiveness of the strategies. (Gr. 3-5)	• Choose an idea to pursue • Recognize how different texts reflect different purposes. (English, Learning Standards)	• Students will research project ideas with correct phrases or terms to find appropriate research results
• Understands and interprets data, and reports results. (Gr. 3-5)	• Discuss observations (Science, Processing and analyzing data and information) • Evaluate whether their investigations were fair tests (Science, Evaluating) • Demonstrate an understanding and appreciation of evidence (Science, Evaluating)	• Uses examples to explore ideas for students' projects and understands what is a plausible idea and what is not appropriate. • Students will test, evaluate, modify, and retest their ideas.
• Judges the validity of content found on the Internet, how to find appropriate material, and what sources can be trusted. (Gr. 3-5)	• Identify key features or user requirements • Generate potential ideas and add to others' ideas (ADST, Ideating)	• Determine key word searches for finding information, and appropriate sources upon researching the topic

Critical Thinking, Problem Solving, and Decision Making:		
Collects and analyzes data to identify solutions and/or make informed decisions. (Gr. 3-5)	• Make connections between ideas from a variety of sources and prior knowledge to build understanding (English, Learning Standards) • Identify possible sources of error (Science, Evaluating) • Make observations in familiar or unfamiliar contexts (Science, Questioning and predicting) • Suggest improvements to their investigation methods (Science, Evaluating) • Generate and introduce new or refined ideas when problem solving (Science, Applying and innovating) • Demonstrate an openness to new ideas and consideration of alternatives (Science, Processing and Analyzing Data and Information) • Compare data with predictions and develop explanations for results (Science, Processing and Analyzing Data) • Identify new design issues (ADST, Sharing)	• Students watch and observe examples and identify what ideas are valid. • Students can make notes that could improve their original ideas and considerations to make improvements throughout the process of prototyping and testing and innovating. • Students will test, evaluate, modify, and retest their ideas.

	• Test the product (ADST, Testing) • Make changes and test again, repeating until satisfied with the product (ADST, Testing) • Construct the final product, incorporating planned changes (ADST, Making) • Designs can be improved with prototyping and testing (ADST, Big Idea) • Use innovative thinking when solving problems (Career Ed)	
• Is able to build meaningful knowledge through interaction with digitally available resources (Gr. 3-5)	• Use sources of information and prior knowledge to make meaning (English, Learning Standards) • Transfer and apply learning to new situations (Science, Applying and innovating)	• Transfer ideas from other videos and media and apply them to the student's original work to improve the product.
Creativity and Innovation:		
• Uses a variety of digital media (text, images, audio, and movie) to express him/herself creatively. (Gr. K-9)	• Construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data (Science, Processing and Analysing Data and Information) • Choose a design opportunity (ADST, Defining)	• Share information about their project, the process and product, using digital media.

• Creates original digital works as a means of personal or group expression. (Gr. 3-5)	• Record iterations of prototyping (ADST, Prototyping) • Demonstrate their product and describe their process (ADST, Sharing) • Identify the main objective for the design and any constraints (ADST, Defining) • Set realistic short- and longer-term learning goals, define a path, and monitor progress (Career Ed)	• Creates a digital story of the design process with the challenges and accomplishments of their project
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Digital Citizenship:		
• Understands that he/she should stay safe online by choosing websites that are good for him/her to visit and avoids sites that are not appropriate for him/her. (Gr. 3-5)	• Use equipment and materials safely, identifying potential risks (Science, Planning and Conducting) • Use materials, tools, and technologies in a safe manner, and with an awareness of the safety of others, in both physical and digital environments (ADST, Applied Skills) • Decide on how and with whom to share their product (ADST, Sharing)	• Using privacy guidelines, tools, parental consent, and password protected platforms to stay safe in online environments when sharing information and projects.

• Demonstrates responsibility and respectfulness in his/her online communications and communities. (Gr. 3-5)	• Consider different purposes, audiences, and perspectives in exploring texts. (English, Comprehend and connect) • Recognize the intersection of their personal and public digital identities and the potential for both positive and negative consequences (Career Ed)	• Students final products are showcased online for their peers, teachers and parents. • Students will collaborate and provide feedback for peers in a positive way.
• Understands the concept of plagiarism, and when and how it is okay to use the work of others. (Gr. 3-5)	• Transform ideas and information to create original texts (English, Create and communicate)	• Students are not to copy or plagiarize others' work, whether that be online or otherwise. They may adapt, borrow, and play with ideas.
• Communicates and collaborates with others in accordance with codes of conduct appropriate to the context. (Gr. 3-5)	• Cooperatively design projects (Science, Applying and Innovating) • Gather peer feedback and inspiration (ADST, Testing)	• Students must respect others and themselves both on and offline. • Students will collaborate and provide feedback for peers in a positive way.
Communication and Collaboration:		
• Collaborates with others to outline common expectations in order to build a strong digital citizenship community. (Gr. 3-5)	• Language and story can be a source of creativity and joy. (English, Big Ideas) • Stories can be understood from different perspectives (English, Big Ideas) • Exchange ideas and perspectives to build shared understanding (English, Learning Standards)	• Students will work together to create a safe on and offline community when sharing their work and ideas with one another. • Students will give and take constructive feedback in a thoughtful and respectful manner.

Technology Operations and Concepts:

• Understands the difference between hardware and software and how they work together. (Gr. 3-5)	• Use familiar tools and technologies to extend their capabilities when completing a task (ADST, Applied Technologies) • Choose appropriate technologies to use for specific tasks (ADST, Applied Technologies) • Machines are devices that transfer force and energy (Science, Big Idea)	• Whether using computer technology, hand tools, or digital software, students will learn and understand the tools they are working with and how they are inter-connected. • Students will use Apple iPads as a familiar and easy to learn to use tool.
• Uses basic applications to edit and create content (text, numeric, images). (Gr. 3-5)	• Communicate ideas, explanations, and processes in a variety of ways (Science, Communicating) • Gather information about or from potential users (peer viewers) (ADST, Understanding context) • Identify the skills required for a task and develop those skills as needed (ADST, Applied Skills) • Demonstrate a willingness to learn new technologies as needed (ADST, Applied Skills) • The choice of technology and tools depends on the task. (ADST, Big Idea)	• Students will use tablet/iPad cameras to film segments as they create, test, and re-create their Rube Goldberg Creations. • Students will learn to assemble their segments in iMovie to create a complete reflection piece/How-to Video.
• Uses digital media to learn and develop. (Gr. 3-5)	• Observe, measure, and record data, using appropriate tools, including digital technologies (Science, Planning and Conducting)	• Apply digital tools in sharing their communication • Students will work in collaborative groups, sharing and demonstrating their ideas to each other

	• Communicate ideas, explanations, and processes in a variety of ways (Science, Communicating)	
• Uses a digital environment for lifelong learning (formal or informal). (Gr. 3-5)	• Screen ideas against the objective and constraints (ADST, Ideating) • Demonstrate a sustained curiosity about a scientific topic or problem of personal interest (Science, Questioning and Predicting) • Skills are developed through practice, effort, and action (ADST, Big Idea)	• Students will use a number of internet searches to explore ideas and contribute to their ideation.