

Standard: AP.PD.01 Grade: 1

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Create a grade-level appropriate document to illustrate thoughts, ideas, or stories in a sequential manner (e.g., storyboard, story map, sequential graphic organizer).

Essential Skills

Present ordered steps to describe a process, to tell a story, etc. in a document.

Essential Questions

Why does the order of steps matter in a **computer program**, a process or a story?

How can you describe a computer program, a process, or a sequence of events in a story?

Explanation

Students will create a planning document to clarify the sequence of events that occur in the story or the steps that are needed to describe a process or create a **program**. The importance of sequence to the achievement of the expected outcome is an essential element of planning and students should be aware of the consequences to the expected outcome if the events occur in a different sequence. The planning document may be a storyboard, a graphic organizer, short video, or any appropriate artifact and should contain the end of the story or the expected result. Students at this stage may complete the planning process with help from their teachers. By second grade, the planning document should be used to order the steps of a **computer program**.

Think of this as similar to....

A recipe is a set of instructions in a certain order that helps you achieve your goal (a cake!) Recipes help you know what to do and when to do them--like put the ingredients in the bowl before you stir.

Implementation Examples—What would this look like in the classroom?

Title	Description	Link	Content Connection & Notes
<p>Dancing Alone</p>	<p>Grade K--Students use Scratch Jr. to create a silly dance for Scratch Cat using motion blocks. Students are introduced to creating sequences of code in Scratch Jr. Students use print outs of Scratch Jr. code blocks to plan their programs.</p> <p>Grade 1--Using the printouts of the programming blocks, students should identify how the order of the motion blocks determines the order of the dance and explain what they wanted the cat to do. Students should predict how changing the order of the blocks will change the dance, explain why the reasons for the changes and the reasons they make the changes in the code that they do and test their predictions.</p> <p>Grade 2--Students should use the printouts to create an algorithm and explain what they intend their program to do. They then program their algorithm and compare the outcome with their plan.</p>	<p>Dancing Alone and printouts of coding blocks</p>	<p>This lesson aligns with CS AP.A.01 and is similar to Getting Loopy.</p>
<p>Bug Dance</p>	<p>Grade 1--After reading the book Bug Dance, students will program their Bee Bot to perform the dance they learned in the book. Then, students will use the yellow command cards to program their own original sequential dance. The dance should have a clear beginning, middle and end to show that students understand how to create a program with sequential steps.</p>	<p>Bug Dance</p>	<p>This lesson aligns with ELA W.1.3 and uses Bee Bots or other floor robots, command cards and the book <i>Bug Dance</i></p>
<p>Ruby's Algorithms</p>	<p>Grade 1--Students are given directions to complete tasks, beginning with familiar tasks. Then, using the algorithm activity map, students create algorithms for Ruby to visit her four friends. Students use directional arrows to show the path she would follow.</p> <p>Grade 2--Students create algorithms to complete familiar tasks and then create algorithms for Ruby to visit her friends using the algorithm activity map. Student's document which algorithm should be used to visit which friend and other students check if the algorithms function as intended. "</p>	<p>Ruby's Algorithms</p>	<p>This lesson aligns with CS AP.A.01 and uses the book <i>Hello Ruby: Adventures in Coding</i>.</p>

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These annotations are a collaboration between [Maryland Center for Computing Education](#) and the [Maryland State Department of Education](#).