## Lesson Preparation

<table>
<thead>
<tr>
<th>Lesson Date</th>
<th>To be determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level and Subject Area</td>
<td>7th Grade Intro to Alice Coding and Battle of the Books (ELA)</td>
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</tbody>
</table>
| Content Standard(s) | NC Essential Standards for Information and Technology  
  7.T.T.1 Use technology and other resources for assigned tasks. |
| Content Objectives for the Week | 1. Students will be able to create an Alice World Quiz with ten Battle of the Books questions.  
  a. All questions must be in the format, “In which book does ...”  
  2. Students will be able to create and use a variable.  
  3. Students will be able to use the IF/ELSE command to generate different responses to correct and incorrect inputs by the player.  
  4. Students will be able to add a scoreboard to their Alice World. |
| Language Objectives for the Week | 1. Students will be able to present their Alice world to the class.  
  2. Students will produce questions that are grammatically correct. |
| Vocabulary | Program - set of instructions that tell a digital device (or a person) what to do.  
  Alice Worlds - each project in Alice is called a “world”.  
  Objects - any 3D item that you place in your Alice world is an object, including characters, animals, furniture, buildings, and 3D text (similar to sprites in Scratch).  
  Methods - lists of commands and instructions that direct objects to do specific tasks (similar to scripts in Scratch). You build a complex Alice program by putting together methods for individual tasks.  
  Events - run methods when a condition is met (such as when the mouse is clicked or the space key is pressed).  
  Duration - how long it takes to do something. |
| Supplemental Materials | MacBook Air Cart with Alice downloaded onto each individual laptop  
  - assign students to specific numbered MacBook Air so they can save and return to Alice Worlds.  
  Apple TV or projector connected to teacher laptop for demos  
  Copies of directions (see below) for each student  
  Rubrics for peer evaluation. |
## Lesson Delivery - Day 1

<table>
<thead>
<tr>
<th>Time</th>
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<th>Teacher Action</th>
<th>Student Action</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Introduce Project  ● Build a quiz game with 10 BOB questions  ● Use the Alice program  ○ Note that students will create 3D “worlds” in Alice  ● Read objectives</td>
<td>Listen.</td>
<td></td>
</tr>
<tr>
<td>5 min</td>
<td></td>
<td>Demo a completed project, BattleBooksQuiz.a2w  ● Select students to enter correct and incorrect responses  ● Mention that we will start out with a simpler game and students may add features.  ○ The teacher will demo the steps to make your own quiz - we’ll work together</td>
<td>Watch demo.  Provide answers for the quiz game.</td>
<td></td>
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<tr>
<td></td>
<td>Lesson Closure</td>
<td>Students who don’t finish the tutorial - come to the media center at lunch or after school to use the MacBook Air.</td>
<td></td>
<td>Homework: Select ten BOB questions (each from a different book) and submit to Ms. Fountain.</td>
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</table>

## Lesson Delivery - Day 2
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<tr>
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</table>
| Day 2 | Time | 2 min | Review Objectives for the Day: Students will be able to  
   ● open a new Alice World  
   ● identify the work spaces on the Alice screen  
   ● add a character to an Alice World  
   ● set the opening camera position  
   ● Stabilize the ground | | |
| | | 10 min | Distribute directions (see below)  
Demo opening a new Alice World. | Students open a new Alice World. | Teacher circulates to check that each student opened a new world and named their world. |
| | | 10 min | Review work spaces on the Alice screen. | Label work spaces on directions. | Labeled screenshot of Alice workspaces. |
| | | 8 min | Demo adding a character to an Alice World. | Add a character to an Alice World. | |
| | | 8 min | Demo setting the camera position at the beginning of the project. | Set the opening camera position. | |
| | | 8 min | Demo stabilizing the ground. | Stabilize the ground. | |
| | | 2 min | Lesson Closure | Homework: Select ten BOB questions (each from a different book) and submit to Ms. Fountain. | |

Lesson Delivery - Day 3
<table>
<thead>
<tr>
<th>Component or Feature</th>
<th>Task Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 3</td>
<td>Review Objectives for the Day: Students will be able to - use <code>say</code> commands to write an intro method - Add a scoreboard</td>
<td>Get out directions.</td>
</tr>
<tr>
<td>2 min</td>
<td>Model Step 8 in the directions, creating a method to introduce the game.</td>
<td>Create an introduction method.</td>
</tr>
<tr>
<td>5 min</td>
<td>Model Step 9, add the intro method to <code>world.My first method</code>.</td>
<td>Add the intro method to <code>world.My first method</code> in student projects. Click on Play to test methods.</td>
</tr>
<tr>
<td>20 min</td>
<td>Model Step 10, adding a scoreboard.</td>
<td>Add a scoreboard to students’ projects. Scoreboard appears onscreen.</td>
</tr>
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</table>
## Lesson Delivery - Day 4

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<tbody>
<tr>
<td>4 min</td>
<td>2 min</td>
<td>Review Objectives for the Day: Students will be able to&lt;br&gt;● Write a method to ask a question and respond to a correct or incorrect answer.</td>
<td>Get out directions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Model Steps 12-13 in the directions, creating a method to ask the player a question and respond to a correct or incorrect question.</td>
<td>Create a question method that includes&lt;br&gt;● creating a variable&lt;br&gt;● requesting an answer from the player&lt;br&gt;● using an IF/ELSE block to code responses to correct or incorrect answers&lt;br&gt;● setting the scoreboard to increase by 2 points when the player enters a correct answer.</td>
<td>Click on Play to test methods.</td>
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### Lesson Delivery - Days 5 and 6

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| 2 min | Days 5 & 6 | Review Objectives for the Day: Students will be able to  
- Write additional methods to ask more questions. | Get out directions. |  |
| | | Review Steps 12-13 in the directions, creating a method to ask the player a question and respond to a correct or incorrect question.  
Circulate and assist students as needed. | Create additional question methods. | Click on Play to test methods. |

### Lesson Delivery - Day 7

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| 2 min | Day 7 | Review Objectives for the Day: Students will be able to  
- Students will present their quiz games to the class. |  |  |
| | | | Students present quiz games.  
Students rate game with rubric. | Student presentations.  
Completed peer review rubrics. |
Creating a Battle-of-the-Books Quiz in Alice

Directions
1. Open a new Alice world.
   a. Click on the Finder icon (lower left corner of the dock)
   b. Click on Applications.
   c. Click on Alice 2.4
2. Select a background by clicking on one of the boxes displayed and clicking the Open button.
3. Name your Alice World. Click on File and Save As. Enter a name, such as BOBQuiz.
4. Investigate the Alice work space. Label the work spaces on the screenshot below.

   a. The **object tree** - upper left corner. The object tree lists the objects in the world, including characters, camera positions, backgrounds, and sounds.

   b. The **stage area**. You will begin building your world and adding characters in the stage area. As you build your world and write code, you can check your project by clicking on the Play button and running it on the stage area.

   c. The **Events box**. You will write code for actions that occur when certain conditions are met in the Events box.
d. The Methods Box. You will build methods, lists of coded directions to make specific tasks happen in your program, in the methods box.

e. Go to the World’s Details box in the lower left corner.
   i. Click on the “properties” tab. What do you see? What does this section of the workspace allow you to alter in your 3D Alice world?
   ii. Click on the “function” tab. What looks familiar? Will you need to use a function in your quiz game? Why or why not?
   iii. Click on the “methods” tab. Methods are similar to scripts in Scratch. Each method is a list of commands that direct the program to perform a specific task.

5. Add a character
   a. Click on the green button in the stage area that says, “Add Objects.”
   b. Click on the category titled, “People.”
   c. Scroll through the gallery and select a character to host your Battle of the Books quiz game. Click and drag the character up to the background.
   d. NOTICE that the character’s name is automatically added to the Object Tree in the upper left side of the screen.

6. Set the camera position for the beginning of your game. This will allow you to return to your opening scene if you get lost in your Alice world.
   a. Click on the button labeled, “more controls”.
   b. Click on the button labeled, “drop dummy at camera”.
   c. NOTICE a new button in the Object Tree, labeled “Dummy Objects”. Click on the button and change the label to “cameraViews”.
   d. Click on the small + in front of the cameraViews button.
   e. NOTICE another new button, labeled “Dummy”. Click on the button and change the label to “startView”.

7. Stabilize the ground.
   a. Click on “ground” in the Object Tree box.
   b. Click on “properties” in the Detail’s box below the Object Tree box.
   c. Click on the + in front of the phrase, “Seldom Used Properties”.
   d. Scroll down to the second button that appears, “isFirstClass = true”.
   e. Click on the tiny down arrow beside the word, “true” and select “false”.

8. Create a method to introduce the game.
   a. Click on “world” in the object tree.
   b. Click on “create new method” in the method’s box.
   c. Type “intro” in the box that opens.
   d. Click on your character’s name in the object tree and make sure the methods tab is lighted up.
   e. Click on the “Do in order” tab at the bottom of the screen and drag it into the method editor box.
   f. In the details box, click on the fifth method that shows your character’s name and “say”. Drag the say method over the “Do in order” block in the method editor box.
   g. Click on “other” and type an introduction in the box, such as, “Welcome to the Battle-of-the-Books Quiz Game.”
   h. Click on the little arrow beside “more”. Click on “duration”. Change the time to 2 seconds.
   i. Add more “say” commands to explain that the character will ask questions and the player will have to type in the title of the book.

9. Add the “intro” method to the “my first method”.
   a. Click on the “edit” button beside “my first method”. Click and drag the “intro” button into the method editor.

10. Check that the “intro” method works by clicking on Play.

11. Import a scoreboard.
    b. Scroll down to the Scorekeeper Object.
    c. Click on the blue link, Scorekeeper.a2c to download the scoreboard.
    d. Return to your Alice world. Click on File and Import. Go to the Downloads list and click on Scorekeeper.a2c.
    e. A new object, named Scorekeeper, should appear in the object tree and a big 0 should appear on the stage.
12. Create Question 1.
   a. Introduce question
      i. Click on “world” in the object tree.
      ii. Click on “create new method” in the method’s box.
      iii. Type “Question1” in the box that opens.
      iv. Drag up a “Do in order” block from the bottom of the screen.
      v. Click on your character’s name in the object tree and drag a “say” command block into the “Do in order” block.
      vi. Type “Here’s the first question” in the box.
   b. Set a variable for the answers that the player will enter (book titles).
      i. Click on “create new variable”.
      ii. Enter the variable name, “answerTitle”, and click on “other” type and “string”.
   c. Set the variable to accept the player’s answer (the book title).
      i. Notice the new variable, answerTitle, on the variable line in the edit method box.
      ii. Click and drag the answerTitle variable beneath the say command. Make sure the variable is inside the “Do order” block.
      iii. Hover over “set value” and click on “default string”.
      iv. Click on the function tab in the details box.
      v. Scroll down to the purple button labeled, “ask user for a string”. Click and drag the button over the box that says, “default string” in the line you just created.
      vi. Click on “other” and type the question, “In which book does a character break a small ceramic box?”. 
   d. Use an If/Else command to respond to correct answers.
      i. Pull an If/Else block up from the bottom of the screen and drop it inside the “Do in order” block.
      ii. Click on “true”.
      iii. Click on the small arrow beside “true”. Click on “logic”. Click on “true or” and “true”.
      iv. Click and drag the answerTitle variable over the first “true” button.
      v. Click on answerTitle==
      vi. Click on “other” and type in the correct answer, “A Single Shard”.
      vii. Add another correct answer that is not capitalized. Click and drag the answerTitle variable over the second “true” button. Click on answerTitle== and “other”. Type an alternate acceptable answer, “a single shard.”
e. Add the response to a correct answer and add points to the scoreboard.
   i. Click on your character’s name in the object tree. Click on the methods tab.
   ii. Drag a say command into the green If/Else block, to cover the first line that says, “Do Nothing”.
   iii. Enter “That’s correct for two points!”
   iv. Go to the object tree and click on “scorekeeper”.
   v. Click on IncrementScore method and drag under the say command.
   vi. Enter 2 for how much to increase the score for a correct answer.

f. Add the response to an incorrect answer.
   i. Drag a say command to the second line that says, “Do Nothing,” beneath “Else” in the green box.
   ii. Enter, “Whoops. That is incorrect.” Set the duration for 2 seconds.
   iii. Drag another say command into the box.
   iv. Enter, “The correct answer is A Single Shard”. Set the duration for 3 seconds.

13. Return to world.my first method and add the Question1 method.
    a. Click on the tab labeled, “world.my first method”.
    b. Click on “world” in the object tree.
    c. Click and drag the Question1 method button beneath the Intro method.

14. Test your world by clicking the Play button.
15. If the project world works, repeat steps 12 and 13 to create 10 new question methods.