


## Introduction

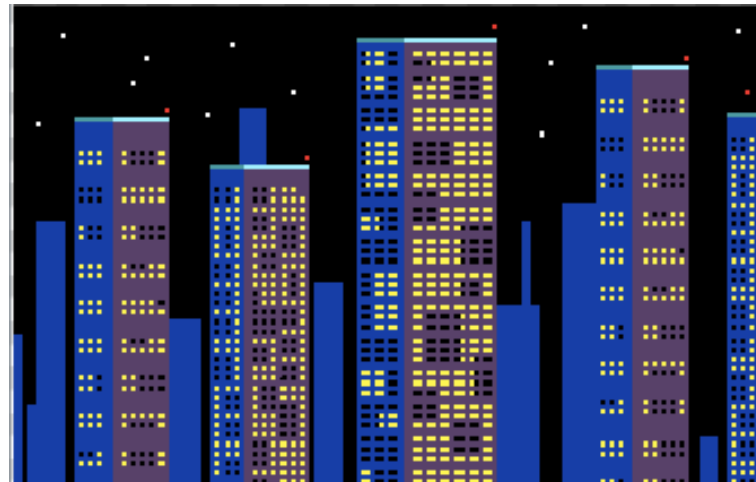
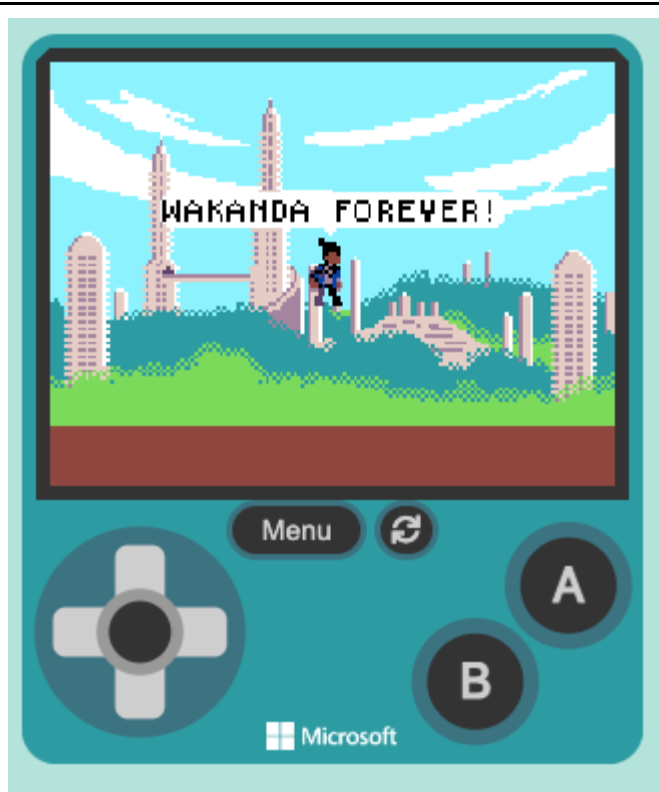
Section/Description	Week	Copy
<b>Section 1:</b> Title	Week 1	<i>Start Your Journey</i>
<b>Section 2:</b> Intro	Week 1	<p><i>By Becoming Inspired by the World-Leading Scientists from Black Panther: Wakanda Forever</i></p> <p>In Marvel Studios' <i>Black Panther: Wakanda Forever</i>, Shuri is the princess of Wakanda and lead scientist of the Wakandan Design Group. As a bonafide STEM whiz, Wakanda relies on her vibranium-powered inventions to propel all of their endeavors.</p> <p>Shuri's innovations require her to consider the purpose each piece of technology serves, the creative design, and the programming required to bring it to life. Shuri's vast understanding of computer science allows her to utilize vibranium and other Wakandan resources when designing technology that will forever change Wakanda and the world.</p> <p>Use these strategic skills inspired by Shuri to immerse yourself in coding with MakeCode Arcade!</p>
<b>Section 3:</b> Overview	Week 1	<p>Inspired by Wakanda, we created lesson plans to immerse you in the world of coding!</p> <p>Here you'll find...</p> <ul style="list-style-type: none"><li>• A self-guided deck for learners like Shuri and you!</li><li>• A beginner and intermediate lesson that you can take at your own pace.</li><li>• M'baku-inspired sections should help you test your knowledge.</li></ul> <p>Take a moment to look through the documents and prepare for the adventure ahead!</p>

[Week 1 \(BEGINNER LESSON\)](#) -Link to Facilitator version

Section/Description	Week	Copy
<b>Section 4A:</b> Beginner Lesson	Week 1	<ul style="list-style-type: none"><li>• Before you begin, get familiar with <a href="#">Microsoft's MakeCode</a>.<ul style="list-style-type: none"><li>○ "Microsoft MakeCode brings computer science to life for all students with fun projects, immediate results, and block and text editors for learners at different levels."</li></ul></li><li>• As we begin to code, we'll come across terminology that might be new to us. <a href="#">Read this reference page</a> to understand the new terms and concepts you'll need to know. Then, when you're done, take this <a href="#">Microsoft Forms</a> to test your knowledge.</li></ul>
<b>Section 4B:</b> Launch Lesson	Week 1	<p>Now that you're familiar with some of the components of MakeCode's platform, let's start creating! Today, you'll start with a game tutorial that shows you the basics of creating a game. If you finish early, you can move on to the next game(s).</p> <ul style="list-style-type: none"><li>• The games will teach you the basics of Game Design and Development/ Programming; what makes each journey different is its outcome.</li><li>• Begin with the foundational tutorial! When you've completed it, give me a thumbs up so I can stop by and celebrate with you. Then, you can move on to either game tutorial 2 or 3.</li></ul> <p>Below you'll find instructions for:</p> <p><a href="#">Game Tutorial 1</a> <a href="#">Game Tutorial 2</a> <a href="#">Game Tutorial 3</a></p>

<b>Section 4C:</b> (Beginners)	Week 1	<p><b><u>Activity Overview!</u></b></p> <p>Vibranium is the heart of most of Wakanda's innovations, just as coding is the heart of many technological advancements. Luckily you have a resource inside of you that is pivotal to changing the world.</p> <p>Test your knowledge of MakeCode Arcade terminology and tutorials by completing this activity!</p> <p>Design a game on MakeCode Arcade with <b>this objective:</b></p> <p>Put Shuri in Wakanda and have her exclaim her love for her nation!</p> <p>Using the MakeCode Arcade, write a Program where the:</p> <p><b>Sprite</b> </p> <ul style="list-style-type: none"> <li>* Looks like SHURI</li> <li>* Moves by pressing arrows</li> <li>* Says, "WAKANDA FOREVER!"</li> </ul>
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## Section 5B

### Setting up Your Sprites (PART 1)

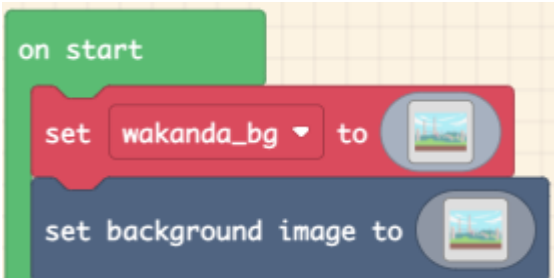

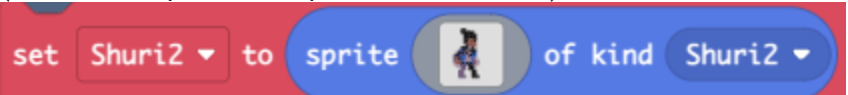





Week 2

#### 10 min:

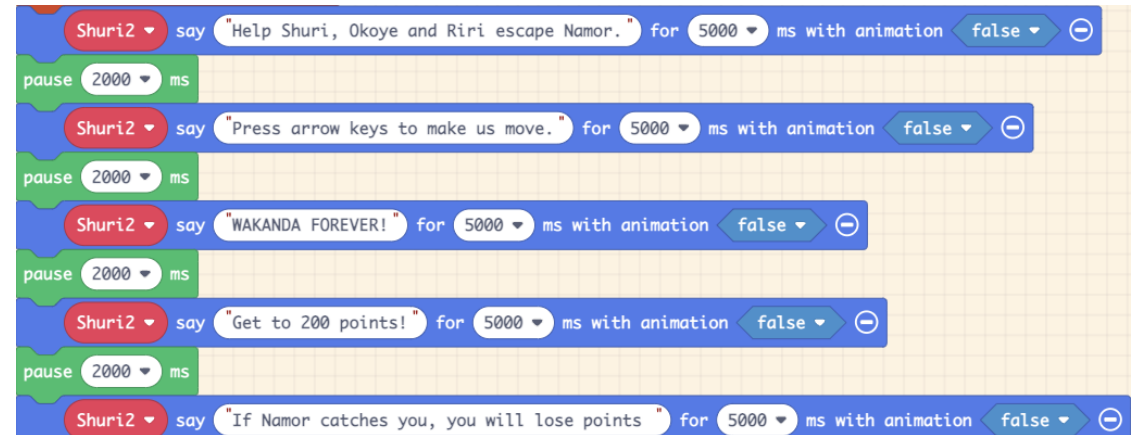
Follow the directions below to [use the MakeCode Arcade](#) with the following objective:

**Help Shuri, Okoye, and Riri Williams escape Namor.**

- “The Block Toolbox Area is color-coded by the function of the commands. We will start in the Scenes section, which is gray. This section is to create our background. Make sure to select the tilemap and background image of wakanda\_bg.”

		<p><b><u>Response:</u></b></p>  <ul style="list-style-type: none"> <li>“Now, we need to add a Sprite/Character into our background. Specifically, our Sprite is Shuri2. Go to the blue section with the paper airplane, drag and drop the command that says  (Make sure to place under previous commands.)</li> </ul>  <ul style="list-style-type: none"> <li>“Edit the part of the sprite to Shuri by clicking on  (gray box) then,  (My Assets)</li> </ul>  <p>and select Shuri2.”</p>
<p><b>Section 5C</b> Sprite Movement (PART 1)</p>		<p><b><u>35 min:</u></b></p> <p>Excellent! Let’s make Shuri move. Select the Controller and the following command . Rename the <i>mySprite</i> to Shuri2.”</p>  <ul style="list-style-type: none"> <li>“Let’s have Shuri speak. Drag &amp; Drop the following commands. Make sure you write the correct</li> </ul>

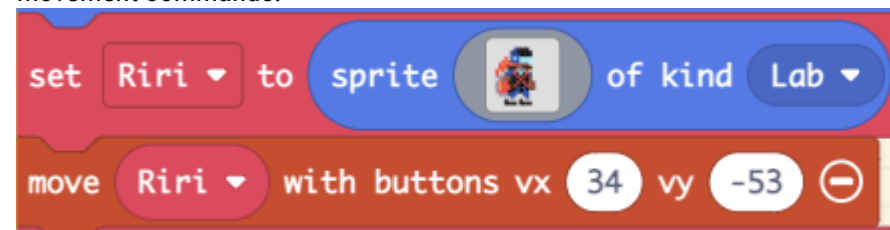
milliseconds and include the pause command in between. The pause commands, make it flow into a more natural conversation."






- "Next, we will add other Sprites to interact with our initial Sprite, Shuri2. We will change the settings to reflect our Wakanda game ⬇"


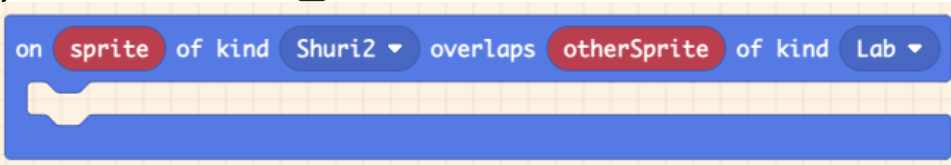
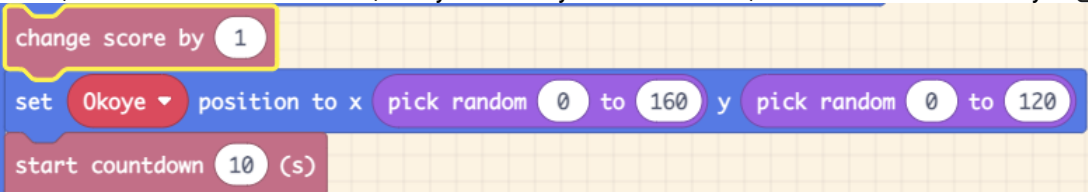


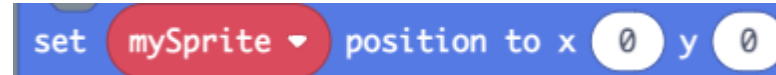
- Rename the Sprite to Riri, and after *kind*, it must say *Lab*, as shown below. Included below, add the movement commands.



		<div data-bbox="1255 207 1354 337" data-label="Image"> </div> <ul style="list-style-type: none"> <li>• “In the same command, for the Sprite , make sure to select the <i>Riri</i> Sprite in the Assets section.”</li> <li>• “Let’s not forget the <i>Okoye</i>! <i>Okoye</i>’s commands are similar to <i>Shuri</i>’s”</li> </ul> <div data-bbox="816 446 1640 634" data-label="Image"> </div> <div data-bbox="1247 703 1360 816" data-label="Image"> </div> <ul style="list-style-type: none"> <li>• “In the same command, for the Sprite , make sure to select the <i>Okoye</i> Sprite in the Assets section.”</li> <li>• “As part of our storyline, we must add <i>Namor</i> since he is trying to catch <i>Shuri</i>, <i>Okoye</i>, and <i>Riri Williams</i> as well. The next line of code is ⬇️”</li> </ul> <div data-bbox="816 959 1843 1076" data-label="Image"> </div> <div data-bbox="1247 1076 1346 1174" data-label="Image"> </div> <ul style="list-style-type: none"> <li>• “In the same command, for the Sprite , make sure to select the <i>Namor</i> Sprite in the Assets section.”</li> <li>• “Now, we must have <i>Namor</i> move WITHOUT the same buttons that we used for <i>Shuri</i>, therefore add this command ⬇️”</li> </ul>
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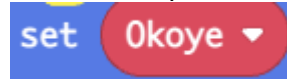


		
Section 5D Reflection	Week 2	<p><b>LET'S PAUSE &amp; REFLECT</b></p> <ul style="list-style-type: none"> <li>Before you continue, take a moment to reflect on the following questions:             <ul style="list-style-type: none"> <li>→ Why do you think we have to be <b>specific</b> in our commands?</li> <li>→ How can we use the <b>skills</b> from Game Development <b>in the classroom</b>?</li> <li>→ How are we using <b>Math</b> in the programming so far?</li> </ul> </li> </ul>
Section 5E Countdown to Game Time!	Week 2	<p><u>35 min:</u></p> <ul style="list-style-type: none"> <li>"Go to the Sprites section and select. As you see below, I edited the <i>Player</i> and <i>kind</i> sections. Alter yours, so it reflects mine ⬇"</li> </ul>  <ul style="list-style-type: none"> <li>"Now, we will add commands so, every time Okoye touches Shuri, the score INCREASES by 1 ⬇"</li> </ul>  <ul style="list-style-type: none"> <li>"Next, we want the Okoye to glide and move around but, there is a multi-step process to make it happen. First, use this command ⬇"</li> </ul>



set mySprite position to x 0 y 0

- “From the dropdown, select Okoye ⬇”



set Okoye

- “As previously mentioned, now we add more Math into our program. If you look closely, it states the “position to x and y”. Yes, the command is talking about the same connection that you see in Math Class with the coordinate plane. Inside the “0” section, we are adding two separate commands. Now, your command looks like this ⬇”



set Okoye position to x pick random 0 to 160 y pick random 0 to 120

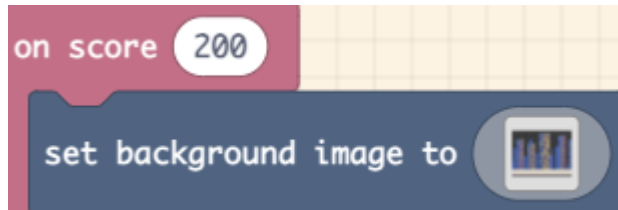
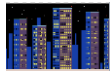

- “Last part of this section; we are adding a countdown. You can edit the seconds to any number, for this example, let’s alter it to 10 seconds.  
By the way, ANY part of the command with the white circle means you can edit ⬇”

- “This is similar to our previous section. The only difference is with Namor as a Sprite and change score by -10. ⬇”



on sprite of kind Namor overlaps otherSprite of kind Lab  
change score by -10  
set Riri position to x pick random 0 to 160 y pick random 0 to 120  
start countdown 10 (s)

- “The time has come for our last part, we are adding a condition. When the score is 200, the background image changes to the city.”

		<div data-bbox="814 238 1428 446">  </div> <ul style="list-style-type: none"> <li>• “In the same command, for the Background Image, make sure to select the <i>City Asset</i>  in the Assets section.”</li> <li>• “Additionally, include the commands below. These commands have Shuri speak when the score is 200.”</li> </ul> <div data-bbox="814 695 1774 862">  </div> <ul style="list-style-type: none"> <li>• “We are done! Your code should look like this.”</li> </ul>
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Section 5F	Week 2	<p>Congratulations on completing your official MakeCode Arcade! Before you officially end your session, complete this <a href="#">Exit Ticket</a>.</p> <p><b>**Potential certificate of completion or badge.</b></p>