

Lesson Title:	Subject:	Grade(s):
Blender Introduction - Importing Blender into Adobe Aero	Digital Media / Graphic Design (ADST)	8-12
Name:	Date:	Lesson #
		2.1

Rationale:
(lesson context and reasons why lesson matters)
These lessons are intended to provide a basic understanding of the Blender software, enabling students to use these basic understandings to allow them to develop greater skills and 3D modelling in future projects.

Curriculum Connections : https://curriculum.gov.bc.ca
Core Competency
Creative Thinking
Curricular Competency
<p>Identify appropriate tools, technologies, materials, processes, and time needed for production.</p> <p>Construct prototypes, making changes to tools, materials and procedures as needed</p> <p>Identify and assess skills needed for design interests, and develop specific plans to learn or refine them over time.</p>
Content:
<p>Methods and principles of 3D Graphic Design</p> <p>2D, 3D, Audio, and video digital media editing tools, including paid, freeware, open source, and cloud-based solutions.</p> <p>Tools and techniques for image manipulation</p>

Learning Intentions	Activity	Assessment
Students Will be able to:		
Import an exported Blender File and successfully import it into Adobe Aero	Students will create QR Codes of their AR Experience and we will share their designs around the class.	Formative: Teacher will evaluate student progress through walking around and ensuring students are focused and working on activity.

Prerequisite Concepts and Skills:
For student success
<p>Basic understanding of Blender and the UI</p> <p>Creation of various mesh tools and the ability to alter them</p> <p>How to add Materials and Shaders, including the mixing within Shader Editor / Nodes</p>

Materials and Resources with References/Sources:	
For Teacher	For Students
<p>Computer</p> <p>Projector</p> <p>Blender (Free Software)</p> <p>Import / Export Blender File and Adobe Aero (Instructions)</p> <p>Apple Mobile Device (iPhone / iPad)</p> <p>Printer with Paper</p>	<p>Computer</p> <p>Blender (Free Software)</p> <p>Import / Export Blender File and Adobe Aero (Instructions)</p> <p>Apple Mobile Device (iPhone / iPad)</p>

Differentiated Instruction (DI):
Accommodations
<p>Students may be able to create shapes or play with the program at their own pace. As this is introductory, much of the Blender program at this stage is exploratory.</p> <p>Students that are not comfortable sharing their AR Designs with their peers don't have to print off and share their AR experience, but should provide the teacher with a QR code.</p>

Organizational/Management Strategies:
Anything special to consider?
<p>It is highly recommended to have a projector in a spot where all students are able to view and see the content easily.</p> <p>It is strongly suggested that teachers familiarize themselves with Blender and Adobe Aero prior to teaching any lesson to reduce teacher frustration / confusion.</p> <p>Teacher should create succinct steps when discussing new programs such as Blender and Adobe Aero</p> <p>Concrete plans or instructions should be considered beforehand.</p>

Possible Aboriginal Connections / First Peoples Principles of Learning
http://www.bced.gov.bc.ca/abed/principles_of_learning.pdf https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/aboriginal_education_bc.pdf
Learning takes patience and time.

Lesson Activities		
Teacher Activities	Student Activities	Pacing
Introduction		
<p>Teacher prepares Blender Software and projector to begin class.</p> <p>Once students are settled, take attendance making note of who is not available for this introductory lesson.</p>	<p>Students take their seat and log into their computers.</p> <p>Students will raise hand / provide attendance.</p> <p><i>Teachers may have students complete daily task / activity to settle the class prior to or during attendance.</i></p>	5-10 mins
Body		
<p>Teacher will grab students attention and inform them of what the focus of the day is:</p> <ul style="list-style-type: none"> - Continued Work on their snowman - Importing / Exporting Blender file with Adobe Aero 	<p>Students will listen and understand what they're expected to learn for today's lesson.</p>	<5 mins

<p>Teacher will ask students to open their snowman from the previous day. Teacher will indicate that they will have 15-20 minutes to work on anything from the previous lesson. (Materials, Shaders, Environment...etc.).</p>	<p>Students will open their Snowman blender, working on smoothing out their snowman, adding additional materials as well as finding an HDRI background to implement into their design.</p>	<p>10-15 mins</p>
<p>Teacher will stop the class with roughly 5 minutes prior to moving onto the next lesson to inform students to save, and package their resources if they're wanting to continue using this snowman in other Blender Projects.</p>	<p>Students will save their work, and ensure that their resources are packed.</p>	<p>5 Mins</p>
<p>Teacher to ask students who has access to an Apple Mobile Device (iPhone, iPad).</p>	<p>Students will raise their hand if they are in possession of an Apple mobile device (iPad/iPhone)</p>	<p><2 mins</p>
<p>Assuming the majority of the class has an Apple iPhone or iPad, teacher will go through the process of discussing and demonstrating how to export their Snowman onto Adobe Aero.</p>		
<p>For students that do not have an Apple Device, teacher will pair students up. <i>Note: Groups should be no larger than 3.</i></p>	<p>Students will get into groups or pairs if necessary and prepare for the discussion and demonstration.</p>	<p>5 mins</p>
<p>Discuss and Demonstrate:</p>		
<ol style="list-style-type: none"> 1) Students must have Adobe Aero installed, along with 'Files' (Standard Apple Application) 2) Recommended students have either Google Drive or Gmail (or the email of their preferred choice). <ol style="list-style-type: none"> a) For paired groups, come to a single email or method to accessing / sharing projects to the one user with an Apple Device. 		

<p>Teacher will demonstrate how to export their file from Blender.</p> <p>File → Export → glTF 2.0</p> <p>Teacher will encourage students to name their snowman export, and to save it on their computers to a spot they can easily find it once again, and navigate the classroom assisting students that are having issues with exporting.</p> <p>Teacher will demonstrate either method of getting their file from their Computers to their Apple Device.</p> <ul style="list-style-type: none"> - Gmail (Email Method) - Google Drive (Dropbox Method) <p>Teacher will provide time for groups or students to add / import their exported blender files onto their devices in preparation for placing it inside of an Adobe Aero program.</p> <p>Teacher will demonstrate how to import their Blender file into Adobe Aero once it is on their Apple device.</p> <p>Teacher will discuss the following within Adobe Aero</p> <ol style="list-style-type: none"> 1) How to rotate and scale the object 2) How to add a behaviour in Adobe Aero <ol style="list-style-type: none"> a) Example: Spin and Bounce 3) How to preview an behaviour 4) How to export their AR Scene <p>Teacher will ask that students create an AR sequence with some sort of AR Behaviour and export their creations as a QR code to be shared with the rest of the class. Depending on what is available to the teacher, the QR codes may be shared digitally using an Learning Management</p>	<p>Students will export their snowman blender projects and save them onto their computers as glTF 2.0 files.</p> <p>Students will work on getting their exported files onto the Apple Device.</p> <p>Students watch and understand how to import their file from their Apple Device to inside the Adobe Aero application.</p> <p>Student watch and ask questions while teacher discusses and demonstrates some of the features within Adobe Aero.</p>	<p>30-40 mins</p> <p>10-15 mins</p>
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<p>System (LMS, Example: Google Classroom) or they may print off their WR codes through emailing the QR Code back to their computers and printing on the classroom printer.</p> <p><i>Note: If students are not willing to share, that's okay! However, they must share a QR code with the teacher to ensure they understand how to operate and use Adobe Aero.</i></p> <p>Teacher will navigate classroom ensuring that students are working on their AR experiences, and working in their teams (if required).</p> <p>Before the end of class, teacher will remind students to save any progress they made on their Blender projects.</p>	<p>Students will create a behaviour sequence and export their AR experience using the QR code option. They will submit their QR code either via paper from the printer, or digitally to share with the class.</p> <p>Students will save any possible work they may have completed using Blender.</p>	<p>30-40 mins</p> <p><5 mins</p>
Closure		
<p>Teacher will ask students to log off their computers, push in their chairs and prepare for the next lesson.</p>	<p>Students will log off their computers, and prepare for their next class.</p>	<p><5 mins</p>

Post Lesson Reflections: