Building Virtual Reality Monuments and Museums

Name of Project: Building VR Monuments and Museums - Lesson Add on		Duration: 3-5 45 min sessions
Grade Level(s): 3 (can easily be used 3-12)	Teacher:	ELA/Grade 3
Big Idea:	VR is a way to supercharge student engagement. It provides a pathway to meet many computer science and digital literacy competencies. This project provides a way that teachers can add a VR component in any situation where students are demonstrating their learning.	
Authentic Purpose: (Why does this matter to your students?)	Digital media is highly motivational for students, and leveraging this natural motivation with student learning is a powerful combination. The rise of the Metaverse will change how we work, play, and interact with the physical world. This lesson seeks to build student capacity for the changes that VR and AR will usher in and see them as a work tool, not just a toy.	
Future-Ready Competencies: ___x_Collaboration ___x_Communication ___x_Critical thinking/Problem Solving ___x_Creativity & Innovation ___x_ Computational Thinking	Objectives: - Students will learn to model 3d digital objects that relate to their writing and research work in class. - Students will collaborate with their peers to create a virtual world that houses their digital models. - Students will code their models to communicate their learning (a story they wrote or research they conducted). - Students will collaborate on debugging issues that arise in their code. - Students will assess each other's projects using a reflection sheet.	
Project Statement: (Include: issue, problem or challenge; student role, purpose, beneficiary, and desired outcomes)	Create a virtual world that shares facts about the animal you researched. Record your voice for one of the facts. Use an information panel for another fact about the animal. If you want to challenge yourself, include a quiz panel to test what the viewer has learned.	
Empathy Anchor: (How will students develop empathy and care about this problem)	Students will practice respecting the work and effort of others in the shared digital space.	
Public Audience & Reveal: (Experts, audiences, or product users students will engage with during and at the end of the project)	Student work will be shared with their classmates using VR goggles. Student work will be shared with a broader audience (parents and other classes) using embedded versions of their VR worlds on a website.	
Knowledge Construction: (How are students going to construct content knowledge and practice it) Students will learn the VR building workflow through an *I-do, We-do, You-do* presentation. Productive struggle will be encouraged with a *3 Before Me* protocol. Before a student raises their hand for help, they should first exercise their own persistence in problem-solving; second,		Student Assessment: Students will use a template to provide feedback to their peers.

<table>
<tr><td colspan="2">they can refer to the review videos the teacher has provided and finally, ask a peer for help before asking the teacher.</td><td></td></tr>
<tr><td>Design Process:
1. Discover
2. Research & Empathize
3. Brainstorm
4. Choose
5. Build
6. Test
7. Communicate
8. Redesign</td><td colspan="2">Describe what (& how) students are going to do in each step:
1. Students will be shown an example of a VR book report.
2. Students will research an animal and create a written report.
3. As a group, students will discuss how they can share via VR what they have learned about their animal.
4. Students will build a virtual model of the animal they researched. The models will be transferred to a VR space and coded to convey facts from their research.
5. Students will test their products with their peers.
6. Students will communicate bugs and glitches that are discovered.
7. Students will debug based on the feedback of their peers.</td></tr>
<tr><td>Resources needed:
(On-site people, facilities, tools, technology, materials, community connections)
Tinker - Cad Cospaces
VR Headsets (loaded with CoSpaces)</td><td>NYS Standards (content + CS & DF):

2-3.CT.6 Create two or more algorithms for the same task
2-3.CT.8 Identify steps within a task that should only be carried out under certain precise conditions.
2-3.CT.9 Identify and debug errors within an algorithm or program that includes sequencing or repetition.
2-3.CT.10 Develop and document a plan that outlines specific steps taken to complete a project.
2-3.DL.2 Communicate and work with others using digital tools to share knowledge and convey ideas.
2-3.DL.4 Use a variety of digital tools and resources to create digital artifacts.
2-3.DL.7 Understand what it means to be part of a digital community and describe ways to keep it a safe, respectful space.</td><td>Student Reflection:

Students will revise their work based on the feedback of their peers.</td></tr>
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