

## **Lesson Plan: Exploring Machu Picchu or Antarctica with Oculus 2 and National Geographic App**

**Grade Level:** Grades 8-12

**Duration:** 60 minutes

**Objective:** Students will explore Machu Picchu or Antarctica using the Oculus 2 and National Geographic App, collaborate in groups, conduct research, and present their findings.

### **Materials Needed:**

- Oculus 2 headset
- National Geographic App
- Laptops or tablets
- Internet access
- Research materials (books, articles, online resources)
- Presentation tools (PowerPoint, posters, etc.)

### **Lesson Outline:**

#### **1. Introduction (10 minutes)**

- Briefly introduce Machu Picchu and Antarctica.
- Explain the objectives of the lesson and the roles of each group member:
  - **Explorer:** Uses the Oculus 2 to explore the virtual environment.
  - **Guide:** Watches the exploration on a laptop and guides the Explorer.
  - **Researcher:** Conducts research on the location being explored.

#### **2. Group Activity (30 minutes)**

- **Exploration (15 minutes):**
  - The Explorer uses the Oculus 2 to navigate through Machu Picchu or Antarctica.
  - The Guide provides directions and helps the Explorer focus on key areas.
  - The Researcher gathers information about the location, noting interesting facts and historical context.
- **Collaboration (15 minutes):**
  - Groups discuss their findings and experiences.
  - The Explorer shares what they saw and felt.

- The Guide discusses the navigation and key points observed.
- The Researcher presents the gathered information.

### 3. Reflection (10 minutes)

- **Group Reflection:**
  - Discuss what they learned about the location.
  - Reflect on the experience of using the Oculus 2 and collaborating as a team.
- **Individual Reflection:**
  - Each student writes a brief reflection on their role and what they learned.

### 4. Presentation (10 minutes)

- Each group presents their findings to the class.
- Include visuals from the Oculus 2 exploration and research highlights.

## Key Websites for Research

### Machu Picchu:

- [Oxford Research Encyclopedia of Latin American History](#)<sup>1</sup>
- [Britannica - Machu Picchu](#)<sup>2</sup>
- [National Geographic - Machu Picchu](#)<sup>3</sup>

### Antarctica:

- [National Geographic - Antarctica](#)<sup>4</sup>
- Britannica - Antarctica
- Cool Antarctica

## Guiding Questions for the Guide

1. What do you see around you? Describe the landscape and any notable features.
2. Can you find any historical landmarks or significant sites? What do they look like?
3. How does the environment (weather, terrain) affect the way people might live or have lived here?
4. What animals or plants can you see? How do they adapt to this environment?
5. Are there any signs of human activity or ancient structures? Describe them.

## Presentation Template

**Title:** Exploring [Machu Picchu/Antarctica] with Oculus 2

**1. Introduction:**

- Briefly introduce the location explored.
- State the objectives of the exploration.

**2. Exploration Experience:**

- **Explorer:** Describe the virtual journey, key sights, and personal impressions.
- **Guide:** Highlight the navigation process and significant observations.
- **Researcher:** Present interesting facts and historical context gathered.

**3. Visuals:**

- Include screenshots or images from the Oculus 2 exploration.
- Add maps or diagrams to illustrate key points.

**4. Learnings and Reflections:**

- Summarize what the group learned about the location.
- Reflect on the experience of using the Oculus 2 and working as a team.

**5. Conclusion:**

- Recap the main findings.
- Open the floor for questions and discussions.

**Four-Point Grading Rubric**

<b>Criteria</b>	<b>4 - Excellent</b>	<b>3 - Good</b>	<b>2 - Satisfactory</b>	<b>1 - Needs Improvement</b>
<b>Collaboration</b>	Actively engaged, excellent teamwork, and communication.	Engaged, good teamwork, and communication.	Some engagement, teamwork, and communication.	Little to no engagement or teamwork.

<b>Criteria</b>	<b>4 - Excellent</b>	<b>3 - Good</b>	<b>2 - Satisfactory</b>	<b>1 - Needs Improvement</b>
<b>Research</b>	Thorough, accurate, and well-presented information.	Accurate and well-presented information.	Somewhat accurate, with minor errors.	Inaccurate or incomplete information.
<b>Exploration</b>	Effectively used Oculus 2, detailed observations.	Used Oculus 2 well, good observations.	Basic use of Oculus 2, some observations.	Struggled with Oculus 2, few observations.
<b>Presentation</b>	Clear, engaging, and well-organized presentation.	Clear and organized presentation.	Somewhat clear, with minor issues.	Unclear or disorganized presentation.

### **Connections to the BC Curriculum**

#### **Social Studies (Grades 8-12):**

- **Big Ideas:** Understand the impact of exploration and colonization on societies.
- **Curricular Competencies:**
  - Use inquiry processes and skills to ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions.
  - Assess the significance of people, places, events, and developments at particular times and places.
  - Explain different perspectives on past or present people, places, issues, or events, and compare the values, worldviews, and beliefs of human cultures and societies in different times and places.

#### **Science (Grades 8-12):**

- **Big Ideas:** Understand the interactions between humans and the environment.

- **Curricular Competencies:**

- Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal, local, or global interest.
- Communicate scientific ideas, information, and perhaps a suggested course of action, for a specific purpose and audience, using appropriate scientific language, conventions, and representations.

### **Applied Design, Skills, and Technologies (Grades 8-12):**

- **Big Ideas:** Design and creation can be used to solve problems and enhance understanding.

- **Curricular Competencies:**

- Identify and use appropriate tools, technologies, and materials to complete tasks safely and effectively.
- Critically evaluate the success of a solution to a problem, and identify possible improvements.

### **Additional Technology Integration**

#### **1. Interactive Maps and Virtual Tours:**

- Use interactive maps (e.g., Google Earth) to allow students to explore the geography of Machu Picchu or Antarctica in more detail.
- Virtual tours from websites like 360Cities can provide panoramic views and additional context.

#### **2. Collaborative Tools:**

- Utilize collaborative platforms like Google Docs or Microsoft OneNote for students to share their research and reflections in real-time.
- Use tools like Padlet or Jamboard for group brainstorming and idea sharing.

#### **3. Augmented Reality (AR):**

- Incorporate AR apps like Google Expeditions to provide additional layers of information and interactive experiences.
- Use AR to overlay historical images or data onto current views of the locations.

#### **4. Multimedia Presentations:**

- Encourage students to create multimedia presentations using tools like Prezi, Canva, or Adobe Spark, integrating videos, images, and interactive elements.
- Students can record their Oculus 2 explorations and include these videos in their presentations.

#### **5. Digital Storytelling:**

- Use platforms like StoryMapJS or MyHistro to create digital stories that combine maps, timelines, and multimedia elements.
- Students can create a narrative of their exploration, integrating their research and reflections.

#### **6. Data Analysis Tools:**

- Introduce basic data analysis using tools like Excel or Google Sheets to analyze environmental data from Antarctica or historical data from Machu Picchu.
- Use data visualization tools like Tableau Public to create interactive charts and graphs.