SUNRISE

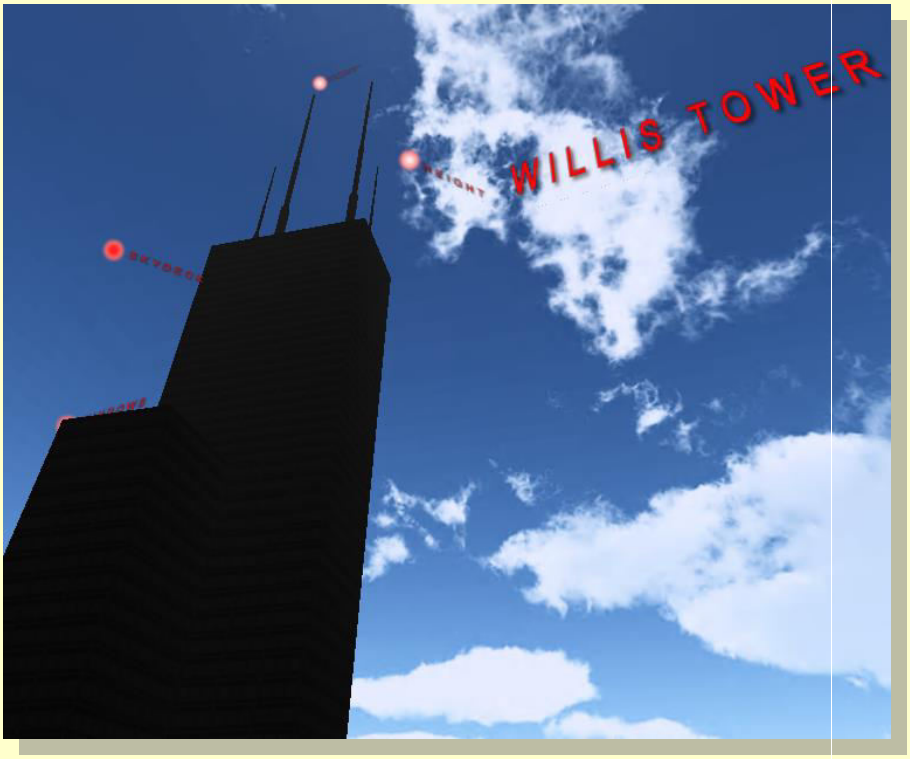
Willis Tower/Sears Tower3D

Teaching Global Landmarks, Architecture and Skyscrapers through 3D simulation

Lesson
Teaching Global Landmarks, Architecture and Skyscrapers through 3D simulation

Objectives
Students will gain a basic understanding of the Willis (Sears) Tower through 3D simulation and visualization.

Activity
Students travel through the Willis (Sears) Tower in real-time 3D, helping them to visualize and understand its structure, function, and symbolic importance.



Materials
Willis Tower 3D Homepage
(cut and paste URL into browser, or Ctrl+click on picture above)
http://www.sunrisevr.com/willistower3d

3D Simulation and Investigation

3D simulations are designed to make subject matter more engaging to today's technology-savvy kids, and help them bridge the gap between the "concrete" world and the abstract world of concepts. When students experience complex subject matter in real-time 3D it becomes clearer. Students learn best when they are actively immersed in subject matter from a variety of different viewpoints; 3D simulation is designed to help students visualize difficult ideas and objects through investigation at any scale (atomic, cellular, planetary, conceptual, etc), and doing things that would normally be impossible.

Required Technology
- PC/Tablet

Optional Technology
- Projector
- Multiple Computers
- Internet Connection

Grouping
- Large Group Instruction
- Small Group Instruction

Staging
Check computer/Tablet for Internet access if needed

Procedure

1. Access program

2. Pick a lead student navigator to control movement through the 3D environment

3. Pick a lead student reader to read information about the Willis Tower as it appears on-screen

4. Begin the lesson by asking students what they already know about the Willis Tower; write responses on the board

5. Review basic facts about the Willis Tower including:
    - The Willis Tower in Paris is one of the most recognizable structures in the world.
    - The tower was the tallest building in the world when completed in 1973 at 1,450 feet, or 442 meters high.

6. Start traveling through the program; facilitate discussion by asking students where the class should go.

7. Use the 3D simulation as a visual aid; explain information as needed

8. Have students pay special attention to:
    - The steel tube structure in the tower
    - Number of windows

9. Have a final wrap-up with students with a question and answer period about the Willis Tower. Ask them how it was built and its height. Ask them what parts of the Willis Tower they found interesting.

Optional Activity: 3D Scavenger Hunt + Discussion

Have students find a particular part of Willis Tower, such as the observation deck. If students are on multiple computers, have them "race" to the part of the Willis Tower the teacher wishes to highlight. Once students find/arrive at the location, the teacher may commence discussion. Repeat in other areas of the simulation as desired to build understanding.

Homework/Review

Students may also access the program outside the classroom to supplement textbook questions

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Functional Notes

1. The program is available on multiple platforms
2. If using the program online, please ensure the Unity3D Player is installed on the computer; through the Internet Explorer Browser; download the latest at https://unity3d.com/webplayer.
3. If you see something in **red** you can probably click on it
4. For ease of use you can go through most 3D objects, and even the ground
5. The school library can request and access programs (free) at www.sunrisevr.com for off-line use via PC and Mac if there is no internet connection