

Investigating Cells

SCIENCE Age 14-16



Susan



Rebecca



Irmo, Richland,
South Carolina, USA

Learning Aims:

- To introduce parts of a cell at the beginning of a unit on the parts and processes of a cell.
- The goal was to help students visualize microscopic particles that cannot be seen readily by the human eye.

CONTEXT

At our high school, the Digital Integration Specialist (DIS), Susan, co-planned with a STEM biology teacher, Rebecca, to determine what videos and/or photos would be best to use. Because this was designed to review cells with students, we found and imported a 360-degree video of an animal cell. We had seven different biology classes with three different teachers participating over the course of two days. Before each class arrived, the DIS had content loaded on the headsets and placed them at each table. Each teacher brought his/her class in for about 35 minutes.

PRACTICAL SESSION



Animal Cell 3D

The DIS first reviewed a brief Google Slides presentation about the content we'd be viewing and the purpose of the day. At their tables, the students then drew and labelled diagrams of a cell and listed as many organelles as they could. We reviewed these organelles together to help anticipate what they would be seeing.

We first showed the video without sound. This was an intentional choice to let students see the parts of the cell and make an educated guess about the parts they were seeing. While the DIS handled the technology and troubleshooting, the biology teacher would ask the students questions. We also paused and used the ClassVR program to focus the students in on a particular part of the scene such as the Golgi apparatus (using the "dynamic point of interest"). Once we had been through the video without sound, we took the headsets off for some more reflection and discussion. In pairs, students shared what were the biggest/smallest organelles they had seen, which ones were moving, and what else they saw. We then reviewed as a whole class before watching the video again with the sound on so they could hear the narration. To conclude we let them independently look at the Animal Cell 3D model from ClassVR.

IMPACT ON LEARNING

Viewing the animal cell from the inside gave the students a clear picture of things that are normally too small for them to ever see. This activity helped them understand the different parts of a cell and how they move and work together. Being able to see the organelles in 360 made them come alive for the students and introduce them to the unit on cells. Next year, we plan to use the cell video both to introduce and review the unit on cells.

