

SOSx Mobile Uses and Resources



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SOS Explorer: SOSx Mobile Uses and Resources

The SOS Explorer (SOSx) Mobile app is a tool that can be used in many ways. In this section we describe some examples of how we have used SOSx Mobile and provide lesson examples to help you get started.

Why use data visualization in education?

- Data visualization allows analysis and understanding of complex data
- Data visualization helps bridge understanding of observations versus computer modeling
- Data visualization lets you see things that would otherwise go unnoticed - trends, behavior patterns, curious relationships
- Big data is an emerging trend in - marketing, sales, business, science, customer relations, technology...

What skills are practiced using SOSx Mobile?

- Data literacy
- Reading colorbars & legends
- Determining trends
- Estimating values
- Increasing scientific literacy
- Comparing data
- Geographic awareness

What topics can be covered with SOSx Mobile datasets?

- Earth systems
- Environmental impacts
- Atmospheric chemistry
- Climate change
- Plate Tectonics
- Weather
- Seasons
- Satellites
- Geography
- Land cover
- Solar System
- Space Weather

How to use SOSx Mobile in the classroom?

- Browse our [Phenomena Based Learning Modules](#) (tagged as "Available for: SOSx")
- Use this list of [SOSx Guided Questions and Supplemental Materials](#) as a jumping off point for a discussion, investigation, or activity
- Flip your classroom
- Presentation / Lecture / Demonstration
- Group discussion
- Student-led inquiry
- Authentic question generation
- Drumming up excitement at the beginning of a lesson
- Tie it all up by summarizing a lesson
- Knowledge assessment visual
- Direct hands-on learning

Flipped Classroom

Nearly every students has access to some type of mobile device. For older students, ask them to download SOSx Mobile on a device, go to a particular topic on our NGSS paired [Phenomena Based Learning Modules](#),

and answer the guiding questions or just have them generate their own authentic questions for discussion.

Presentation/Group Discussion

Just as Science On a Sphere is often used as a docent-led presentation tool, SOS Explorer Mobile can be used in this way. For instance, when introducing or concluding a unit of study or a concept, a dataset can be displayed on a projector screen or a large monitor in front of the class and discussed. Likewise, multiple datasets can be strung together to tell a story or complete a learning goal.

Direct Hands-on Learning

If you download SOS Explorer Mobile onto multiple devices in your classroom or students' personal devices, it is possible to use it as a direct learning tool. For example, in the Global Climate Change and Carbon Dioxide Lesson, students are given instructions for loading multiple datasets (i.e. CarbonTracker and Biosphere: Marine Chlorophyll and Land Vegetation) and asked to make correlations between them as well as diagrams and websites regarding climate change and the greenhouse effect.

Student-led example lessons:

- [Global Climate Change and Carbon Dioxide Lesson \(6-12th\)](#)
- [Global Climate Change and Carbon Dioxide Lesson - Teacher version \(with answers\)](#)

Inquiry & Scientific Literacy

SOSx Mobile datasets can be a powerful tool for inquiry. In large part, this is because upon first glance, SOSx Mobile datasets can be complicated. This makes them perfect for inquiry learning and initiating deeper scientific and geographic research topics. In addition, each SOSx Mobile dataset has a written description and can be good practice in scientific literacy.

Combining inquiry and literacy, here are a few lesson examples in a modified KWL format. KWL is a commonly used graphical organizer using the themes: Know, Want to know, Learned.

Using these examples, a teacher could display the dataset, have students fill out the boxes Know and Want to Know, come up with good questions about what they see, read the dataset description, fill out the box Still Want to Know, and plan a research investigation to answer one of their questions. What the student Learned might be shared, presented or written.

Inquiry and Science Literacy lessons:

- [Atmospheric Chemistry – GEOS 5 Model \(6-12th\)](#)
- [Biosphere: Marine Chlorophyll Concentration and Land Vegetation \(6-12th\)](#)
- [CarbonTracker - 2005-2010 \(6-12th\)](#)