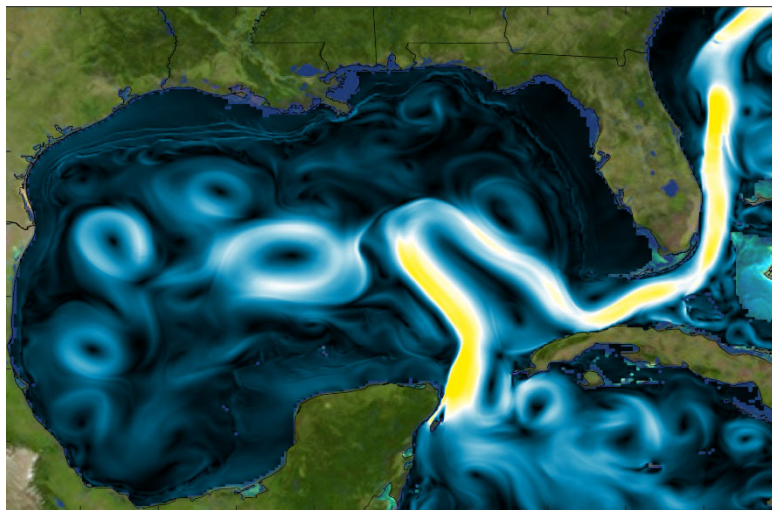


About this Curriculum

The “Modeling the Gulf” middle school science curriculum was compiled and developed to align with research being conducted by the [Consortium for Ocean-Microbial Interactions in the Ocean \(CSOMIO\)](#). The CSOMIO project is working to fill critical gaps in our ability to numerically model the transport and fate of oil in coastal waters. CSOMIO is funded by the [Gulf of Mexico Research Initiative \(GoMRI\)](#), a research institute established in 2010 with the stated goal to improve society’s ability to understand, respond to, and mitigate the impacts of petroleum pollution and related stressors of the marine and coastal ecosystems.



This middle school science curriculum contains five lesson plans related to ocean modeling, including the fields of biogeochemistry, fluid dynamics, and microbiology. This curriculum will be developed using the “5-E” instructional framework. Each of the 5 “E”s describes a phase of learning: **Engage**, **Explore**, **Explain**, **Elaborate**, and **Evaluate** (see page 3 for more information). The 5E instructional framework allows students and teachers to experience common activities, to use and build on prior knowledge and experience, to construct meaning, and to continually assess their understanding of a concept.

Each of the curriculum activities are aligned with Florida science standards in order to provide the most value to teachers and each focuses on the Gulf of Mexico and Florida’s water system. As this is highly tailored to a particular geographic area so students residing in Florida as well as other Gulf states will find relevance in science and have a better understanding of how these sometimes esoteric and technical fields directly impact their own lived experiences, which can shift their perception of what science is used for, and how they can participate and understand these topics in a meaningful way.

In addition to teacher guides that provide material lists and lesson plans, this curriculum includes student worksheets, maps, articles, and answer keys with rubrics. The answer keys offer possible answers to the questions but are meant for use at the teacher’s discretion. There are accommodations and additional resources in the appendices. The contents of this curriculum may be copied and shared for educational purposes with credit.

This curriculum is available online at
<https://csomio.org/education-and-outreach/modeling-the-gulf-middle-school-curriculum>

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