



Thinking With Data Suggestions for Administrators

This document contains recommendations and considerations for administrators who are considering implementation of Thinking With Data (TWD) into their school's or district's curriculum. The TWD unit consists of a sequence of four modules that are designed to teach data literacy skills at the middle school level. The data literacy objectives of the TWD unit focus on asking and answering data-based questions; using appropriate data, data manipulation tools and data representations; and developing and evaluating data-based explanations and inferences.

Activities and materials are designed around student investigations of water issues in the Tigris-Euphrates basin and in six US watersheds, using real world data. Data manipulation across the unit centers on the notion of proportional reasoning, an important part of the middle school mathematics curriculum and the foundation for higher mathematics.

Scheduling

- Each TWD module is two weeks in length (45-minute lessons), and should be taught in the following sequence: Social Studies, Mathematics, Science, and English Language Arts.
- Modules do not have to be taught back to back, but if your school is not organized around teams, parameters should be established so that **all** students are exposed to **all four** modules in the correct sequence.

Teacher Professional Development / Teacher Collaboration

- Professional development provisions should be made for introducing the TWD unit and underlying pedagogical principles to the implementing teachers, using the support materials in the teacher overview section of the website. These materials address the overarching ideas that run across the unit – world water issues, data literacy, preparation for future learning, and argumentation – as well as approaches to each of the modules – Social Studies, Mathematics, Science, and English Language Arts.
- One way to approach professional development could be to make individual teachers “experts” in each of these areas and ask them to introduce the topics and lead a discussion of them.
- Provide opportunities for teachers to collaborate before and during the implementation of the TWD curriculum. Collaboration between TWD teachers is crucial in order to maximize student learning. Teachers should be continuously aware of how their module fits into the overall unit and how students transfer from module to module.

Technology

- All TWD materials are available online, including lesson plans, supporting materials, and assignments. Teachers and students should have access to at least one computer with Internet access in their classroom.
- If your school/district uses a file server for student work, all TWD assignments can be done electronically and saved to student folders.