

2016-2017

Lumberton Middle School Science

IQWST

Investigating and Questioning our World
Through Science and Technology

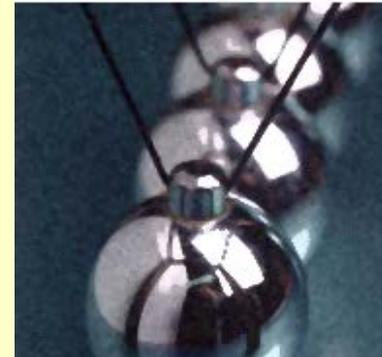
Teaching the Next Generation
Science Standards



Exciting!

After deeply studying the Next Generation Science Standards (NGSS) with a team at Rider University and conducting an exhaustive search of available materials, we selected IQWST for the following reasons:

- It was developed by science education, literacy, and learning science specialists from several universities & Weizmann Institute of Science and therefore combines solid understandings of science and effective instructional practices.
- The program is completely digital, supporting the technology integration goals highlighted in the Strategic Planning process.
- Its format is engaging for students.
- It was developed through grant funding from the National Science Foundation and completely aligns to the new standards.



Student inquiry takes center stage

Each unit is launched with a “Driving Question”.

- The driving question motivates students for learning.
- Students identify what information they need to acquire in order to arrive at a scientifically sound answer to the driving question.
- At the conclusion of the unit, students use all of the content they have learned to devise an answer to the driving question.



Students engage in scientific thinking

1. Students generate questions that will help them arrive at the information they need in order to respond to the driving question.
2. Students plan and conduct investigations to arrive at the information.
3. Through the process, students carefully record their observations and evidence.
4. Students are taught to provide “Claim, Evidence, and Reasoning” as they discuss theories and/or conclusions.



Question: “What happened to good old traditional science teaching?”

Answer:

Of course students still learn scientific information through reading, as they always have. However, much of the text will be digital. They will also view instructional videos, visit informational websites, and engage in classroom discussions, all focused on teaching them the scientific content.

The content they learn in the traditional ways will be combined with the information they learn from their scientific investigations and used to arrive at a complete understanding that enables them to answer the driving question.



Overview of a Unit- Grade 6 Life Science

The driving question: “What can cause a population to change?”

1. Students choose an organism to study. They take field notes, listing their observations and evidence.
2. Students are introduced to a “trout mystery” in which a river’s trout population decreased from 1930 to 1990.
3. Students read about other scientific “mysteries” and how they were solved. They use what they learn from their reading to design an investigation of the trout mystery.
4. Students learn information related to the topic.
5. Students develop evidence-based explanations for the trout mystery



Our students are rising to the challenge!

The NGSS demand critical thinking, not just memorizing information. Students must use scientific principles and apply their learning. With IQWST, we are pleased to see them doing that very thing!

