# IXL Science in the Flipped Classroom

**Sossaman Middle School, Queen Creek, Arizona**

> "IXL is my crystal ball. It allows me to see the gears working inside my students' heads and empowers me as a teacher to address their individual needs."
>
> *Nancy Foote, 8th grade physics teacher*

Nancy Foote teaches 8th grade Conceptual Physics at Sossaman Middle School in Queen Creek, Arizona, a suburb of Phoenix. The school district is highly diverse, and her classes have varied science backgrounds and academic abilities. To help all of her students master honors-level physical science concepts, she has flipped her classroom to allow more time in class for individual support and active learning. IXL Science allows her to quickly identify misconceptions and focus her teaching on areas of need for her class and for individual students. It also allows students to practice and improve their science skills.

## Finding the Time for Personalized Instruction

"I have 180 hours with these kids every year, and not a minute more," Nancy explains. "Actually, with assemblies, absences, interruptions, and testing, it ends up being a lot less. And there is so much that I want them to learn in this time."

In Nancy's flipped classroom, students watch short video lectures at home for homework. Their time in class is spent doing hands-on labs and working together on problems and assignments. Nancy says that this flipped classroom model allows her to assign more difficult problems to her students, because they are doing them in class with support instead of at home alone.

However, managing a classroom of students with different backgrounds and abilities is a challenge. "We talk a lot about differentiated instruction and personalized learning, but with 150 kids, it's near impossible," she says. Nancy needed to find a faster way to identify areas of need for the whole class and for individual students so she could make the most out of her classroom time. IXL Science turned out to be the missing piece that enabled her to move towards a more personalized, mastery-based approach to teaching and learning.

## The Power of Data-Driven Instruction

Nancy hates to waste even five minutes of class time, so her students now use IXL Science for a few minutes at the beginning of every class. This allows students to use this transition time productively to work on their science skills. It also provides Nancy with valuable information that she uses to drive her instruction.

"With IXL, I can finally provide truly individualized instruction for my students," she says. "Now I know exactly which students are struggling and I can identify the specific skill gaps or misconceptions that are holding them back." Using the data from IXL Analytics, she can see which concepts students are struggling with across the board and change her instructional plans accordingly. She also uses the data to plan individual or small group interventions and make grouping decisions. "I may group students who are struggling with the same concept together so I can provide targeted support to the group. Or, I may pair a student struggling with a skill with another student who has already demonstrated mastery. IXL lets me use my limited class time more effectively."

She says that when she introduced IXL to her class, they were resistant the first day but were quickly won over by the immediate feedback and the lure of the IXL SmartScore (IXL's proprietary scoring system that measures how well a student understands a skill). "Now, even if I don't assign it, they ask for it," she says. For daily in-class practice, Nancy assigns IXL skills directly related to the topics students are working on. If students are struggling with a grade-level skill, she may ask them to go back and review concepts from earlier grades. Many students are also doing extra work on IXL on their own at home, which she can see in IXL Analytics.

## Moving to Mastery-Based Learning

IXL is helping Nancy move closer to her goal of 100 percent mastery for every student in her classes. "I want to see 100 percent on a post-test," she says. "If it's 90 percent, that means there is still 10 percent they don't know. In science, concepts build on each other; I want them to know all of it."

She finds that IXL motivates students to take ownership of their own mastery. "Feedback on IXL is immediate, personalized, and objective. They take that feedback much better from the program than they would from me," she says. Nancy notes that getting a SmartScore of 100 on IXL is really challenging and forces students to stretch intellectually. She further explains, "Students have to own the learning here."

She's already noticed results in her first few months with IXL Science, based on pre- and post-test results from her teaching units. For example, her students averaged a 23 percent gain between the pre- and post-tests for one of her units last year. This year, students made a 46 percent gain between the pre- and post-tests on the same unit. The only change she made this year was adding IXL Science. "Bottom line, it's making me a better teacher," she says. "I kick things out of my classroom if they don't work. IXL is a keeper."

# IXL

## A Model for Success at Sossaman Middle School

**Here's how 8th grade science teacher Nancy Foote is using IXL in her classroom:**

- Students use IXL Science for a few minutes each day at the beginning of the class period. Students know what they should be working on each day and can get started independently.

- Nancy assigns skills in IXL Science related to what they are working on in class. If students are struggling, they can go back to review concepts from earlier grades.

- Nancy uses IXL Analytics to adjust her teaching plans and make individual and small group intervention decisions.

- Many students are also motivated to practice on IXL at home to gain mastery and improve their skills.