



# Integrated Science (Second Science) Integrated Science (Second Science) (S

Change is much easier when you use a flexible, tested, comprehensive model as a launchpad. Join us.



# Welcome, Brave Innovators

Our journey began with a love of learning, a bit of daring, unrelenting determination, and a willingness to live with uncertainty. We also knew about real-world classrooms and what teachers and students need to thrive. After nearly a decade working inside schools to teach, design and lead teams of teachers in the creation of interdisciplinary models, I founded EduChange in 2000 to develop a broader vision for systemic change.

To design truly functional learning and assessment systems for secondary schools from the ground up, I knew we had to deconstruct the policies, past precedents, and bureaucratic red tape that prevented forward movement. We engineered flexible, dynamic designs that ensured rigor was real, anxiety was absent, and creativity found a seat in the classroom.



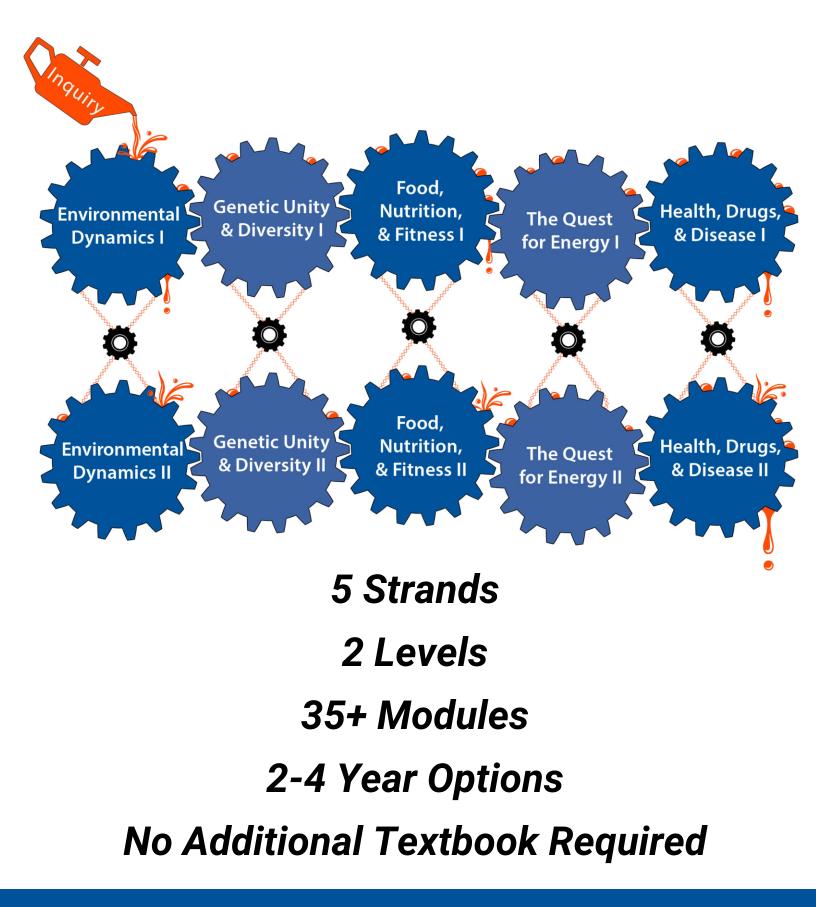
It's funny to think about the early days—before Smartphones, WeChat, and TikTok trying to explain an 'internet curriculum' that integrates all disciplines, replaces textbooks in high school science, tracks and assesses skills along with content, and trusts both teachers and students as content creators. I got puzzled looks and empty stares. I learned that real innovation starts in a very lonely place.

Over two decades later, I'm proud to report that vision matters. Open Learning Architecture is real, thanks to a group of dedicated teachers, students, researchers, scientists, engineers, administrators, and instructional designers who were willing to see differently. I am forever grateful to those who shared our vision and laughed with us along the way. It is so important to feel connected and supported when you are trying something new, something truly innovative. We have taken great care, over twelve years of small-scale implementation, to develop right-sized models and four possible progressions to ensure the best possible fit. Our designs make teachers and students successful. You need to be brave, but we won't let you be lonely. That is what a real professional learning community is all about. Join us. We continue to map new territory every day, and we never stop learning.

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Catherine Saldutti President & Founder

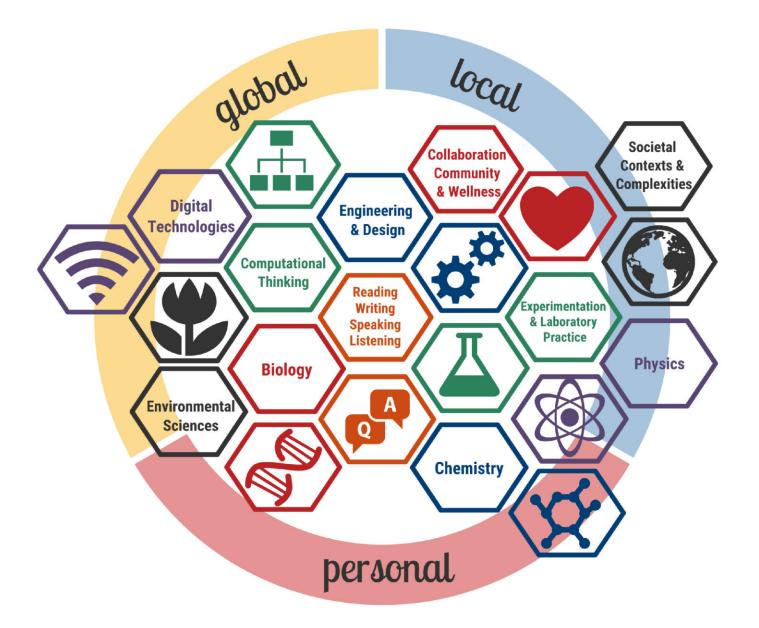
# **Designs for 21st-Century Learning**



EduChange, Inc.

# **Multi-faceted Integration**

Integration has many connotations. Our main objectives with integration were to **break down disciplinary silos** in science; add **substantive math**, **engineering and technology** learning; embed **inquiry-based** pedagogies in a **growth model of spiraled learning**; and **drive content organization through real-world, real-time issues that impact individuals, local communities and the world**. While many courses and pathways inside the school can benefit from similar approaches, we selected a single multi-year pathway—science class—as a leadership site. We made transitions easier for schools, which has proven wise. **Non-science teachers can join us to expand and deepen learning across the school.** Teacher-driven expansions and student-driven projects evolve organically.



#### **Real-World Contexts Fuel Authentic Learning**

The Information Age is not organized like textbook chapters or siloed courses. It is essential that students learn content inside real-world contexts, particularly those prioritized by leading STEM researchers and global organizations. We trusted that teachers and students would find the same issues compelling, and it proved true. And guess what? All **TEKS science course content can progress systematically through these real-world issues**, because we have a multivariate, spiraled learning architecture supporting the back-end design! Students deepen their understandings as natural phenomena connect in different contexts. These connections will ultimately steer humanity toward more effective innovations. All content is continually peer reviewed for accuracy and relevance by practicing STEM professionals.

Microbiomes			
Global Land Use & Soil Degradation	Global Air Quality	Puberty & Aging	
Strength, Flexibility & Card	io	Antimicrobial Resistance	
Sports & Fitness at Depth or Elevation	Ocean Acidification	<sup>n</sup> Clean Water Access	
	Satellite Pollution	Biofuels	
Coral Bleaching The Evolution of Flight: Birds & Planes			
Photovoltaics	Adolescent Hea	Ith & Safe Driving Behaviors	
⊢ Big Data & Genomics	larmful Algal Bloom	s & Nutrient Pollution	
Climate Science	Medical Diagnostics		
Environmental Resilience & Conservation The Promise & Peril of Hydropower			
Sustainable Palm Oil Solutions Childhood Asthma			
Building a Bike-Friendly City	Added Sugar	& Ultra-processed Foods	
Fukushima Then & Now	Eco-frien	dly Sunscreens & Cosmetics	

## #TeachSDGs

The Sustainable Development Goals were crafted by the United Nations in 2015 as a framework for global action. These 17 goals highlight the **social**, **environmental**, **industrial**, **informational**, **energy**, **agricultural**, **and medical** realms that must be addressed as a global society if we are to sustain a healthy planet. And wouldn't you know? Those 17 SDGs fit snugly into our transdisciplinary model! With help from a team of global STEM experts, we have unveiled a layer of explicit work with the SDGs, including possibilities for student-led projects. The SDGs are far more complex than the friendly icons imply. We help students learn about systems, patterns, perspective-taking, and action-oriented citizenship!

#### See the Video:

#### https://educhange.com/teachsdgs/

### THE GLOBAL GOALS

For Sustainable Development



#### **Customized for Schools**

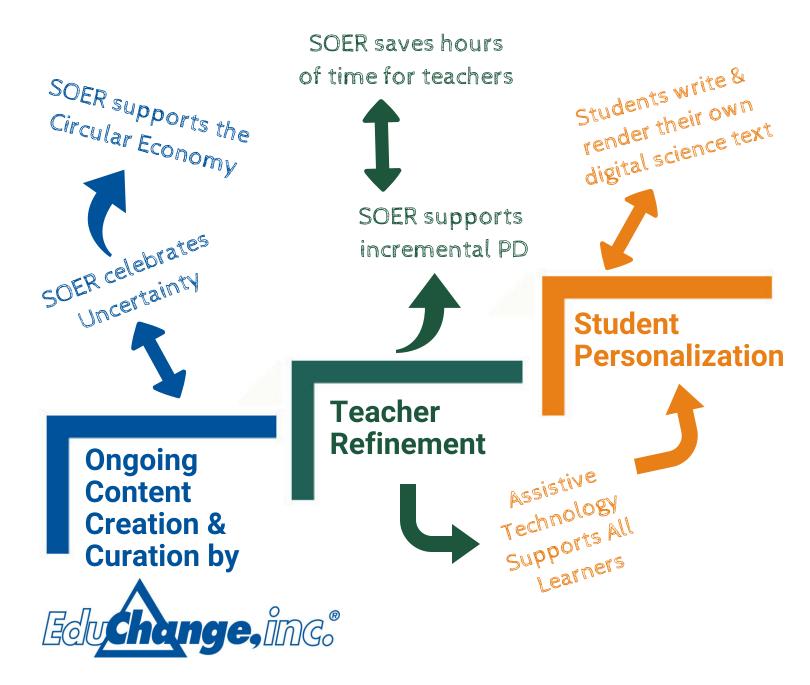
The Planning Year is a time for customization. **EduChange customizes pacing guides** for your school's bell schedule and science instructional time. We ensure that **the Revised Science TEKS and local graduation requirements** are documented and aligned. We collaborate with educators to **build local place-based learning experiences**, **curate regional scientific data sets**, **and identify local STEM partners** willing to forge relationships with the school. See some of our partners and field experiences below!



EduChange, Inc.

### **Sustainable Open Education Resources**

We've been pioneers in Open Education Resources (OER) since 2002, delivering materials to classrooms that not only can be modified, but are intentionally designed to invite user-generated content. *We now know that OER is insufficient*. In an ever-evolving Information Age, OER must go far beyond basic maintenance. We have developed Sustainable Open Education Resources (SOER) as a solution to this problem. We curate just-right resources, design 15% new material annually, and follow authentic STEM storylines in real time. This supports ongoing PD for teachers! **Students LOVE the relevance & knowledge creation**.



#### **Professional Immersion**



Our program began as an immersive professional development experience that used instructional materials and assessment systems to build ongoing dialogue between individual teachers and coaches. The time lag between a traditional PD workshop and classroom implementation is too long, and largely unreliable (that's the truth). To understand a truly innovative learning model, you need to feel it in your bones. And for a little while, you agree to let us help you. **PD costs may be shared across single classrooms at different schools, and between small schools in different districts.** 

Teachers & students receive orientation workshops

EduChange coaches engage with teachers for a planning year & as the program launches Build a learner-centered classroom from go

Unpack the multi-layered design as \*you\* experience it

#### **Assessment for Growth**

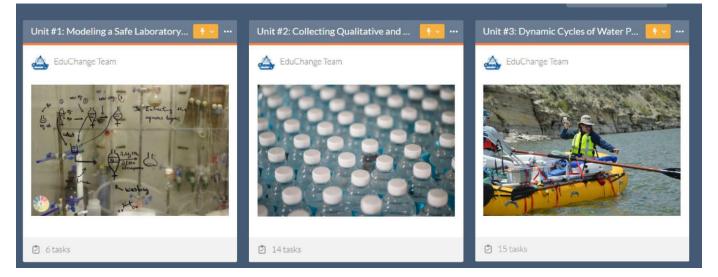
If we want to instill a disposition for lifelong learning in our students, we must change the way we assess at the secondary levels. In 2008 we made a bold design move: we decoupled assessments of mastery from an "end-of-unit" timeline to liberate teachers and students from a one-and-done assessment model forever. Students are assessed in every module, **building proficiency in ~70 competencies that they continually revisit** across a variety of contexts and increasing complexity. **All assessments are performance-based**, requiring students to think critically and construct or render a response. We help you translate this growth to letter grades, if needed, and help teachers map the system to school policies.

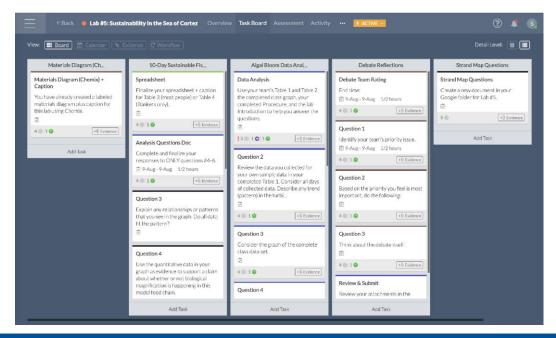


# Partnership with Headrush Learning

Through <u>our partnership with Headrush Learning</u>, we offer schools a robust platform that supports transitions to competency-based assessment and integrated science. EduChange and Headrush pre-load all competencies, rubrics, assessments, and student rosters into the platform for teachers (YES!!). And if you already use Headrush, we can port content onto their platform, too. Unlike other LMS, Headrush delivers robust analytics for competency-based reporting, complete with a parent communications portal. **Schoolwide use is possible.** 







Analyzing and Interpreting Data (Discussion)



#### Four Possible Progressions

Our program interleaves content and competencies from various STEM disciplines and the Arts, with a robust literacy focus. Open Learning Architecture taps the Sciences of Learning and Development (SoLD) to foster **deep conceptual understandings and multiple opportunities for practice & application**. It is a laboratory-based program, designed to be implemented during science class time. We have four possible progressions spanning 2, 3 or 4 years. This kind of flexibility took years to design—and you're worth it! **The earliest starting level is Grade 8**, but later grades are possible entry points. **The 2-year progression is the minimum** commitment, which exceeds the requirements for **TEKS Biology and Integrated Chemistry and Physics (IPC)**. **The 3-year progression** adds **additional TEKS** courses and may culminate in the **AP Environmental Science** exam.

#### Choose a progression: https://educhange.com/texas23



# Eligibility

#### **Digital Delivery**

This program is delivered digitally. **We can deliver the OER on any platform, LMS or CMS currently in use**. Many schools choose Microsoft Office or Google Classroom file formats, which EduChange prepares and then delivers directly onto their system. Students should have basic digital proficiency with the type of docs you request. Teachers should be comfortable with the platform and docs you request to use. **OER is shared directly with teachers, not students**. Schools must have a password-protected platform & all participants must abide by our Academic Honesty Policy.

#### **Devices & Connectivity**

All students must have access to their own laptop for each and every class period. Schools need high-speed internet connectivity that is relatively reliable. We understand occasional outages, but this program is designed for ongoing access. Students also must have access to a device (need not be the same device) and wireless access to complete independent practice, which many students can complete before departing the school building. Most students prefer to have a personal/assigned wireless-ready device. Equity is critical. EduChange can provide Assistive Tech trainings.

#### Literacy Levels

Students who enter our program <u>need to be ready to read our texts</u> <u>autonomously</u>. We give teachers the opportunity to run a trial with some of our materials in order to ensure this is the case. English Language Learners and Special Needs students are welcome, and have proven successful in our program. **Students can begin at any** grade level from Grade 8 (Age 13) onwards.

#### Lab Supplies

Schools must provide standard lab materials, but no expensive hightech equipment is needed. **Most schools already implementing a lab-based science program have what they need.** We provide schools with complete supply lists and ordering support during the planning year, and help you conduct an inventory to ensure that equipment and consumables are ready to go.

#### Timeline for 2024-2025 Launch

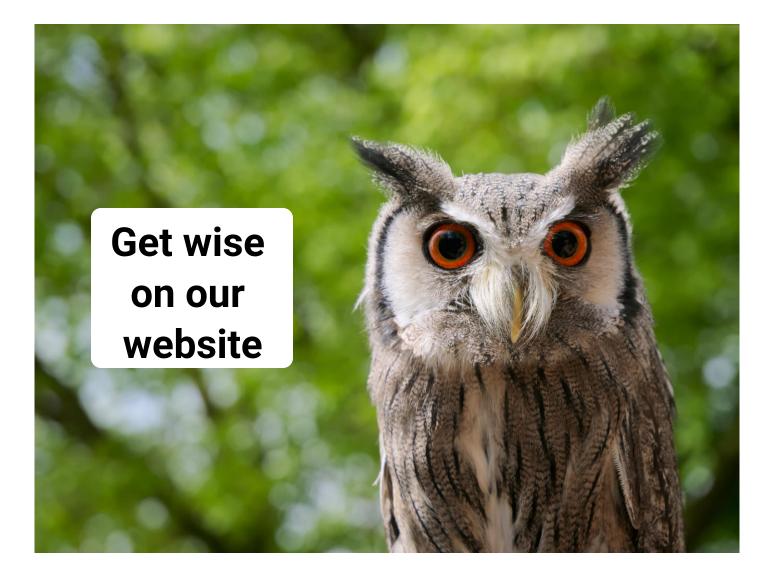
After over 15 years of implementation, we have this process down to a science! **There are two possible paths for 2024-25, but we need to begin the conversation ASAP**:

Implementations & Pilots of ANY size---single classroom, home school setting, small school, large school, district---launch the program with the first grade level (Gr. 8, 9 or 10)

We can launch a planning year in 2024-25, when professional development and materials customization begin in early Fall. The program launches with students in 2025-26.

Learn	<ul> <li>January - February 2024: Administrators &amp; Faculty learn about the program, meet with EduChange, hold internal meetings, and review sample materials. Different implementations are possible, and we work with your chosen standards!</li> </ul>
Plan	<ul> <li>February - March 2024: If your school or certain classrooms would like to launch in 2024-25, planning begins now. EduChange begins customization and schedules PD. It may be possible to schedule a school site visit if we plan ahead.</li> </ul>
Regroup	<ul> <li>March - April 2024: Some schools may wish to conduct a planning year in 2024-25, aiming to launch the program with students in 2025-26. This decision should be made by the end of April and school visits/PD scheduled.</li> </ul>
Build	<ul> <li>Spring 2024: EduChange continues the materials build-out and meets virtually with science teachers &amp; specialists before summer break. Summer institute dates are finalized. It may be desirable to schedule 1 school visit for schools launching in 2024-25.</li> </ul>
Prepare	<ul> <li>Summer 2024: EduChange conducts in-person and virtual preparations with teachers, parents &amp; students prior to the school year.</li> </ul>
Launch	<ul> <li>2024-25 School year: Ready, set, launch! Virtual PD continues for teachers &amp; leaders throughout the launch year, with 2 additional onsite workshops. PD and site visits also commence for schools and classrooms entering their planning year.</li> </ul>

### **More...and Different**



#### https://educhange.com/intscioverview

# Our website contains more, and different, information









