

About OpenSciEd

OpenSciEd brings together science education leaders from partner states, expert curriculum developers, national education leaders, and classroom teachers to develop, release, and support a complete set of robust, research-based, openly licensed K-12 science instructional materials and associated professional learning resources.

We believe that access to high quality science instructional materials and professional learning is critical for teachers, students, and our nation. This effort is designed to support educators reimagining and retooling their practice to achieve the vision for science education embodied in standards based on the Framework for K-12 Science Education, specifically the Next Generation Science Standards (NGSS). Supporting this shift in practice includes the creation and wide distribution of curricular materials at lower cost to schools and districts; freeing instructional materials budgets for use in supporting teachers with professional learning. Therefore, OpenSciEd's development of professional learning content is key to the widespread use of the classroom curriculum in ways that foundationally shift teachers' practices and change the way students experience science learning.

OpenSciEd is a project of the National Center for Civic Innovation. OpenSciEd's staff is provided guidance and recommendations from an Advisory Board and a State Steering Committee. The Advisory Board membership consists of national education leaders and meets quarterly. The State Steering Committee (SSC) consists of science education leaders from each of the core partner states and meets monthly.

The SSC voice is foundational to the development of OpenSciEd materials. The state leads provide vision, guidance, approval, and field testing of classroom as well as professional learning materials. The developers of OpenSciEd materials benefit from monthly SSC gatherings in which the state leads provide feedback and direction during development and field testing of the curriculum.

OpenSciEd brings together the necessary organizations for the development, revision, validation, and release of state-of-the-art science instructional and professional learning materials. Along with state leadership, OpenSciEd partners with best-in-class curriculum developers, learning scientists, and researchers. The goal of the project is to develop a K-12 program designed to address the NGSS. OpenSciEd began this journey in the middle school grades and publicly released the full program in February 2022. OpenSciEd high school science materials are currently under development and we will begin to release completed units in the 2022/23 school year with a complete three year sequence publicly available in early 2024.

All OpenSciEd materials, classroom and professional learning, are publicly released as they are completed (after field testing, revision, and external validation) and are available as CC-BY-4.0 content that can be freely used and adapted by others, including for commercial purposes.

This RFQ is being posted in order to start the next phase of development, K-5 science curriculum. We are looking to hire a consortium of curriculum developers who are able to work with our state partners to write a K-5 curriculum aligned to NGSS and the OpenSciEd Elementary School Design Specifications. The responses to this RFQ will allow us to select the teams we invite to submit a response to an upcoming Request for Proposal.

OpenSciEd, Elementary School Phase

As has proven successful in developing the middle and high school materials, OpenSciEd will bring together multiple collaborators for the elementary school effort, including science leaders from partner states, a team of expert curriculum developers, distinguished national education leaders, and funders. This Request for Qualifications asks interested parties to assemble a team who are able and interested in developing elementary school science materials designed for the NGSS.

The team chosen for this development will work within OpenSciEd's structure of partnering with states to build supply and demand for high quality curriculum and professional learning materials.

Timeline

The work on the elementary school curriculum will begin in September 2022 and conclude with a release of the full K-5 program by Spring 2026.

Budget

The total budget for this work is not to exceed 7.5 million dollars, inclusive of indirect costs which are capped at a rate of 15%.

Design Specifications and Principles

OpenSciEd has developed specifications that describe the design of the instructional materials for our elementary school development that can be found at www.openscienced.org/design-specifications/. For professional learning, OpenSciEd has developed design principles that will guide the developers in creating the teacher learning materials. They can be found at <https://www.openscienced.org/pd-design-specifications/>.

Intellectual Property

OpenSciEd will host the official versions of the instructional and related materials (including professional development resources) on openscienced.org. The development team will make final versions of the product—print and digital—available under a Creative Commons, Attribution 4.0 International (CC-BY-4.0) license and make final versions of digital tools and software available under Apache License 2.0. Attribution in the Creative Commons license for all materials shall be to OpenSciEd.

Description of Work

The scope of work for the elementary school phase consists of six related and interdependent work streams: (1) program structure and scope and sequence, (2) curriculum development, (3) professional learning design and coordination, (4) field testing, (5) data collection and analysis, and (6) management.

1. Program Structure & Scope and Sequence

OpenSciEd elementary school materials will consist of 6 grade level courses, Kindergarten through 5th grade. The selected development team will work with OpenSciEd and the State Steering Committee (SSC) to develop a scope and sequence that bundles the grade level NGSS Performance Expectations (PEs) within instructional units for each grade. These grade-level courses will cover the full scope of the NGSS for each grade, K-5. The number of units per grade level will be determined collaboratively with OpenSciEd and the State Steering Committee.

OpenSciEd's K-5 scope and sequence will represent one way the standards can be bundled to lead to coherent science instruction that takes the progressions of the standards into account. The Elementary School Development Consortium will work with the SSC and OpenSciEd to determine the number of science instructional hours per grade, the extent of integration with English language arts and mathematics instruction, and the sequential or modular nature of the grade level units. The final scope and sequence will map out how the elements of each of the three dimensions of the NGSS build coherently across the program to address the full scope of the NGSS.

2. Curriculum Development

The team will develop student materials and teacher guides using the OpenSciEd Elementary School Design Specifications. The SSC will be brought into the development process at junctures where feedback from the field will be most impactful (including, but not limited to, the identification of the Anchor Phenomenon and determining revisions based upon the field test). As the scope and sequence has yet to be determined, the length of the units may vary from

grade to grade or within courses.

- All materials will be authored in [Learning Tapestry's Learning Content Management System](https://bit.ly/2AS9FW2) (<https://bit.ly/2AS9FW2>).
- All materials will employ the OpenSciEd instructional model as described in the Design Specifications.
- The new OpenSciEd units may be created from scratch or use existing CC-BY-4.0 material.
- All units will be externally evaluated using the [EQulP Rubric for Science](#) in both the field test form and the proposed final form. Final form of units will not be publicly released until they earn a mark of quality from the external evaluator. It is the responsibility of the Elementary School Development Consortium to coordinate any necessary revisions to earn at least an E/I rating from the EQulP review.
- OpenSciEd instructional materials must be thoroughly tested and subsequently revised for both effectiveness and practicality. The consortium will work with the partner states to ensure that the curriculum is field tested in settings that represent the national diversity of teachers and students. All instructional units will receive limited release as a field test version and be revised by the development team to incorporate findings from the external evaluation and field test into a final version that will be widely distributed. Note that the field test version needs to be "feature complete," so that field test teachers can effectively use the units in their classroom.
- Each unit must have a prepared equipment and materials list; a single vendor must be identified who will provide equipment kits for the field test sites to purchase. The [Design Specifications](#) provide additional detail about the criteria regarding the kits including cost limitations.
- The deliverable schedule for field test and public release will be negotiated between OpenSciEd and the chosen development team. Units and/or courses will be publicly released as they are completed and earn a mark of quality from the EQulP Rubric for Science review.

3. Professional Learning Design & Coordination

The OpenSciEd curriculum-based professional learning (PL) program will support teachers and PL facilitators in enacting the units as the context for transformational learning experiences. The PL team will develop and deliver a curriculum based PL program for teachers implementing OpenSciEd and for facilitators supporting these teachers. The PL materials and experiences (for both teachers and professional learning facilitators) should follow a coherent and consistent design across the program. The professional learning program must be in line with the [OpenSciEd Professional Learning Design](#) Principles. Along with meeting the expectations of the SSC and OpenSciEd, these materials should be designed specifically for the unique science instruction needs of elementary school teachers. Given the limited PL time allocated for science in grades K-5 and the heavy emphasis on ELA instruction (particularly in K-2), the structure of the OpenSciEd PL materials need to take into consideration these constraints while also providing facilitators and teachers the support necessary to enact a transformative curriculum.

The team developing the professional learning program and materials must be distinct from the curriculum development team. Obviously, these teams will need to work hand-in-hand to develop high quality teacher experiences, yet the professional learning team will need different leadership, team members, and have full responsibility for delivering the PL materials.

The professional learning development team will:

- Develop a complete scope and sequence for all professional learning, tailored to the specifics of each field test unit. This scope and sequence should describe how and what teachers at each grade level will learn over the course of the field testing and lay out a tentative schedule for delivery.
- The scope and sequence should also establish the format (number of hours/days; face-to-face/virtual; and synchronous/asynchronous) for the final professional learning materials. This format should take into account research on the effectiveness of various formats of professional learning along with the practical realities of the time that will be available to K-2 and

3-5 teachers for science professional learning.

- Coordinate a process to acquire feedback, review, and approval of the professional learning scope and sequence by the SSC and OpenSciEd.
- Develop a style guide for professional learning materials that is consistent with the instructional materials and ensure that this style guide is adhered to across the professional learning materials.
- Develop, field test, and revise a complete set of presenter slide decks, facilitator guidance, and handouts to be published on the OpenSciEd website under the CC-BY 4.0 license. These materials should include classroom videos that allow implementing teachers to see how OpenSciEd materials live in classes with diverse student populations. Final versions of professional learning should include video captured during the field test process.
- The structure of the field test professional learning will be determined by OpenSciEd and the State Steering Committee. It will likely contain a mix of face-to-face events, synchronous online delivery, and asynchronous teacher supports. It will mirror the proposed final professional learning materials as much as possible within limitations of budgets, assuming there are no travel restrictions.
- Design and facilitate professional learning for partner state facilitators to prepare them to deliver to field test teachers.
 - Quickly revise the professional learning for teachers based on feedback from partner state facilitators in time for them to deliver the revised versions in their respective states.
- Procure and deliver all materials necessary for field test professional learning for facilitators and for events that support field test teachers. This includes but is not limited to laboratory equipment, handouts, and consumables.
- Provide technical support to the partner states as they facilitate the professional learning in their state and gather data and information about how the sessions went.

- Revise both facilitator professional learning and the teacher professional learning based on feedback throughout the field test process from facilitators and participants and to reflect revisions made to the curriculum as a result of the field test and reviews.

4. Field Test Coordination

The consortium will work with each partner state to coordinate the location, materials, registration, and logistics of all field testing of both professional learning and classroom materials.

With partner states and participating districts and schools, the Elementary School Development Consortium will:

- Work to ensure ongoing engagement and participation of field test teachers, schools, and/or districts.
- Work with partner states to make certain that field test participation of teachers and students represents the demographics of the country as a whole. Among the characteristics to consider in making up the pool of teacher participants include ethnicity, gender, years of teaching experience, amount and quality of NGSS professional learning experienced, urban/suburban/rural, etc. Among the characteristics to consider in student make up include gender, ethnicity, home language, special needs, socio-economic status, etc, with particular focus on student populations that are underrepresented in STEM fields, such as African American, Latinx, emerging multilingual students, and students with special needs.
- Aid partner states in the recruitment of teachers and districts to participate by providing recruiting materials, including handouts and slide decks that describe the commitments and benefits of being a field test teacher.
- Ensure timely acquisition of institutional review board (IRB) approval and that all rules are followed for the field testing and all privacy and data-collection procedures are addressed.

5. Data Collection and Analysis

OpenSciEd views field testing as an essential component in this work. The data collection team is expected to produce instruments, collect data, and provide analyses to improve the overall development of materials that support equitable science learning for all students. The data collection team must be from an organization that is fully separate and distinct from the management lead, professional learning development, and curriculum development organizations. Specifically, the development team will:

- Collect data from field test professional learning events (those designed for facilitators and those designed for teachers) and from field test classrooms.
- Design instruments to collect appropriate field test information from teachers and students that can be used to revise the classroom and professional learning materials. Note that tools from previous OpenSciEd field testing will be available for the development team to use and modify as appropriate. The instruments used should take into account the preeminence of ELA instruction in K-5 and therefore measure student and teacher sense of ELA development/use in science.
- Ensure (with states and school districts) that all institutional review board (IRB) rules are followed for the field testing, and all privacy and data-collection procedures are followed and addressed.
- Collect data from district science leaders, professional learning facilitators, field test teachers, and students in participating school districts.
- Analyze data and produce reports that enable the development team, SSC, and OpenSciEd staff to make the appropriate revisions to materials and manage field testing.

6. Management

Manage and coordinate the collective work as described above. This includes, but is not limited to the following:

- Prepare for and participate in regular meetings with the State Steering Committee (SSC) and the OpenSciEd staff to maintain strong working

relationships.

- With OpenSciEd and the SSC, co-develop and design the materials and support their public release.
- Provide regular and transparent data about development progress, field testing, and fiscal management to the SSC and OpenSciEd staff.
- Coordinate all external communications regarding OpenSciEd with the OpenSciEd staff.
- Track action items, report on project status, and ensure on-time deliverables.
- Approach the work with the patience, flexibility, and resourcefulness as appropriate for a complex, politically sensitive project involving multiple stakeholders across multiple jurisdictions.
- Manage the development team’s budget and invoice OpenSciEd monthly with detailed description of the work completed.

Development Consortium Configuration

OpenSciEd requires a single development team conducting this work, performing under one contract, consisting of multiple organizations. Organizations may include, but are not limited to: Local Education Agencies (“LEAs”); public or private Institutions of Higher Education (“IHEs”); systems of public IHEs, so long as the particular institutions participating in the project, and the services they will provide, are identified in the proposal; not-for-profit and for-profit organizations, companies or agencies; or a consortium of any of the above.

We acknowledge the different capacity and skill sets needed to perform all of these functions, but desire to maintain management clarity for states and OpenSciEd. Successful responses to this request for qualifications will include development teams consisting of the following.

- Clarity about which teams and organizations will provide the scope and sequence, curriculum development, professional learning, field test

coordination, data collection, and management services. The configuration must be in keeping with the descriptions above.

Qualification Package Substance

Development teams who are interested in potentially becoming eligible to respond to the upcoming Request for Proposals should prepare the following qualification package:

Component 1: Proposal Narrative

Include a single proposal narrative for the entire development team, not to exceed 20 single-spaced pages. Links to subsequent documents, like evaluation reports or curriculum samples, are welcome in the narrative to provide additional evidence, but the importance and context of what is in those documents and how it supports the narrative should be clearly explained. If possible, embed the relevant information directly into the narrative to ensure reviewers know exactly what you want them to see. .

Your narrative should include the following sections:

1. Coordination of Responsibilities

Describe and explain the configuration of your team, including which organizations will be in the roles of management, curriculum development, professional learning design and coordination, field test coordination, and data collection teams. Include how all team members will divide and manage responsibilities. Identify the key individuals in lead project roles. Describe past curriculum development products and collaborative efforts between all key team members. Remember that professional learning and curriculum development teams should have little to no overlap and the data collection and analysis team needs to be a separate organization from those doing the rest of the development work.

2. Approach

Explain your approach for writing materials designed for the NGSS and the OpenSciEd Elementary School Design Specifications, as well as any additional unique design and development practicalities that your team believes will be

necessary. Provide your initial thinking about what the work entails and the processes you will use to complete the products within the timeline. Our work demands co-design with diverse teachers and partner state leaders to ensure OpenSciEd's materials meet the needs of teachers across the nation. Explain how you would include the states (and educators from states) in a way that is truly collaborative. Identify any prospective prototype materials you could use to develop the full set of OpenSciEd courses.

3. Experience and Qualifications

Describe your development team's track record as it relates to the development of instructional materials and transformational professional learning designed for the Framework for K-12 Science Education and/or the Next Generation Science Standards (NGSS).

In addition, describe your team's experience generally as it relates to K-5 science curriculum development, development and facilitation of curriculum-based professional learning, data collection and analysis, and managing large, complex projects with multiple stakeholders. Provide specific details, including links to products, artifacts, and evaluation reports if available.

Explain why your development team is uniquely suited to do this work. Include a description of any unique or specialized assets—including content, data, human resources, and/or media—the development team can bring to this project.

Component 2: Key Staff Resumes

Include resumes for all key staff who will be involved in leading this project and describe what their role will be on the project.

Component 3: Statement about Commitment to Diversity and Underserved Populations

Include a statement, not to exceed 5 pages, describing the team's commitment to and approach to diversity, equity, and inclusion in how you have developed curriculum and/or professional learning. Your statement should:

- Clearly articulate how your work will be structured to ensure that the voices of those students who are often marginalized in science classrooms will be heard in a way that will impact materials development.
- Clearly articulate how you will partner with states during field test teacher selection to ensure that populations of teachers who are under-represented in the elementary science teacher population (relative to the national diversity) will be intentionally and meaningfully included.
- Provide examples of how each organization has intentionally developed equitable curricula and/or PL learning experiences. This could include, but is not limited to, examples of how you selected, designed, and/or staffed these curricula or PL experiences.
- Describe the efforts and commitments to establish a diverse team of developers, if selected.

Component 4: Financial Statements

Include the most recent audited financial statement for each participating organization on the development team.

Component 5: Letters of Endorsement

Include one cover letter from each participating organization in the development team signed by the person with overall management of the organization. The letter should indicate an endorsement of this work, a commitment to do the work if it should be awarded, and an acknowledgment that all materials and work products generated will be made freely available under a CC-BY 4.0 license.

OpenSciEd seeks development teams that provide:

- A clear and compelling vision for the potential impact of these materials and professional learning for students, teachers, and communities.
- A clear explanation of how the development team will be organized, how the various team members will work together, and evidence that past

collaborative efforts have been successful.

- Evidence that the development team deeply understands the Framework and NGSS.
- Evidence that the development team has studied and understands the OpenSciEd Design Specifications.
- Evidence that the development team has successfully developed curriculum materials that both receive wide use in schools and contribute to efforts to improve student learning.
- Evidence that the development team understands how to design and implement professional learning experiences that are engaging and effective.
- Evidence that the development team understands the current and typical elementary school experience of students and teachers.
- Evidence that the development team understands how to collaborate with multiple state partners.
- Evidence that the development team has access to data, media, tools, and other resources necessary to design and build high-quality phenomenon-driven lessons and units.
- Evidence that the development team has successfully managed complex projects, with multiple stakeholders, and with considerable political sensitivities.
- Evidence that the development team includes knowledgeable and savvy individuals with diverse backgrounds and experiences who are well-prepared to lead this work (This is further described in Chapter 2 of the Design Specifications).
- Evidence that the development team has a firm commitment to diversity, equity, and inclusion that is manifest in organizational capacity, work to-date in the field, and future plans to prioritize and continuously improve in these

areas.

- Evidence that each participating organization of the development team is financially robust and has the appropriate cash reserves and fiscal controls to manage the work.
- Evidence that the proper individuals within each organization have appropriate responsibility for contracting and conducting the work.

Qualification Package Submission Process

To respond to this request for qualifications, please submit a single PDF that includes all five components described above via email to jryan@opensci.ed.org by 5/25/2022

Timeline

RFQ Launched	04/13/2022
RFQ Webinar	04/20/2022
RFQ Due	05/25/2022
RFQ Submissions Notified	06/02/2022
RFP Sent to Qualifying Teams	06/03/2022
RFP Webinar	06/09/2022
RFP Due to OpenSciEd	07/15/2022
Team Selected	08/01/2022
Development Begins	09/01/2022