

About OpenSciEd

OpenSciEd is a project of the National Center for Civic Innovation that 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 led by a small staff housed at the National Center for Civic Innovation. The organization 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.

OpenSciEd brings together the necessary organizations for the development, revision, validation, and release of state-of-the-art science instructional and professional learning materials designed for the NGSS. Along with state leadership, OpenSciEd partners with best-in-class curriculum developers, learning scientists, and researchers. The eventual 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 is scheduled to complete the grades 6 through 8 program by February 2022. All OpenSciEd units of instruction 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 by others, even for commercial purposes. As a distinction from other Open Education Resources (OER) developers, OpenSciEd is providing the field with both freely available classroom and professional learning materials. This RFQ is being posted as it is now time to start building our next phase of development, high school.

OpenSciEd, High School Phase

As has proven successful in developing the middle grades materials, OpenSciEd will bring together multiple collaborators for the high 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 high school science materials designed for the NGSS.

The team chosen for this development will work within OpenSciEd's structure of partnering with states to provide direction and field testing in order to bring practitioner voices to the forefront of the development process as well as build demand for high-quality curriculum and professional learning materials.

Timeline

The work on the high school curriculum will begin in January 2021 and conclude with a release of the full program by January 2024.

Budget

The total budget for this work is not to exceed 7 million dollars, inclusive of indirect costs which are capped at a rate of 15%.

Design Specifications

OpenSciEd has developed a set of specifications that describe the design of both the instructional materials and the professional learning materials for our middle school development, both documents can be found at opensci.ed.org.

Developers of the OpenSciEd high school materials will write to very similar design specifications.

Intellectual Property

OpenSciEd will host the official and permanent versions of the instructional materials and related materials (including professional development resources) on opensci.ed.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 high school phase consists of six related and interdependent work streams: (1) scope and sequence, (2) curriculum development, (3) professional development, (4) field testing, (5) data collection and analysis, and (6) management. All products produced in the high school phase will be made freely available to all per the following OpenSciEd intellectual property guidelines.

1. Scope and Sequence

OpenSciEd high school materials will consist of three full courses: Biology, Physics, and Chemistry. The selected development team will work with OpenSciEd and the State Steering Committee (SSC) to develop a scope and sequence that places the NGSS Performance Expectations (PEs) within these courses. Earth and Space Science PEs will need to be threaded through these courses. The three courses will cover the full scope of the NGSS.

OpenSciEd's 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. While NGSS did not prescribe standards by courses for high school, the OpenSciEd scope and sequence will clearly outline which standards will be addressed by course in the OpenSciEd curriculum. The final scope and sequence will map out how the elements of each of the three

dimensions of the standards are addressed throughout the program.

2. Curriculum Development

The team will develop student materials and teacher guides using the design specifications referenced below for the 3 courses described in the scope and sequence. The SSC will be brought into the development process at junctures where feedback from the field will be most impactful (including 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 course to course 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 selection of a prototype course material is encouraged but not required; the new OpenSciEd units may be created from scratch.
- OpenSciEd instructional materials must be thoroughly tested and subsequently revised for both effectiveness and practicality. That means that field testing in settings that represent the national diversity of teachers and students will be a central component of the development process. All instructional units will receive limited release as a field test version and then be revised by the development team to incorporate findings from the 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 lists; a single vendor must be identified who will provide equipment kits for the field test sites to purchase.
- The deliverable schedule for this phase will be negotiated between OpenSciEd and the chosen development team. Units and/or courses will be publicly released as they are completed.

3. Professional Learning

Professional learning materials (for both teachers and Professional Learning

facilitators) should follow a consistent design for all sessions, focusing on the particular units and grades that teachers will enact during the field test.

- 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 particular groups of teachers will learn over the course of the field testing.
- 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.
- The developed materials should take into account the variety of delivery mechanisms that schools and districts will employ to support teachers. Among the ways that teachers will experience this content will be face-to-face full day sessions, shorter duration professional learning community gatherings, and asynchronous online delivery. Though the materials may be developed for one specific delivery method, guidance should be provided on how elements can be used in other settings.
- Deliver professional learning sessions for partner state designated Professional Learning facilitators in preparation for their delivery to field test teachers.
- Procure and deliver all materials necessary for face-to-face professional learning sessions in each core partner state, including but not limited to laboratory equipment, handouts, and consumables.

4. Field Test Coordination

With each OpenSciEd state, coordinate the location, materials, registration, and logistics of all field testing.

With partner states and participating districts and schools:

- Work to ensure ongoing engagement and participation.
- 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, and awareness with NGSS, 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 have been underrepresented in STEM fields, such as African American, Latinx, emerging multilingual students, and special needs students.

- Aid partner states in the recruitment of teachers and districts to participate by providing 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

As described above, OpenSciEd views field testing as an essential component in this work. The development team is expected to produce instruments, collect data, and provide analyses to improve the overall effort. The development team must be from an organization that is fully separate and distinct from the management lead and curriculum development organization(s). Specifically, the development team will:

- Design instruments to collect appropriate field test information that can be used to revise the instructional materials and inform their implementation. Note that tools from the middle grades field testing will be available for the development team to use and modify as appropriate.
- With states and school districts, ensure 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 state and district science leaders and field test teachers in participating school districts.
- Analyze data and produce reports that enable the development team and OpenSciEd staff to manage field testing and implementation.

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 and the OpenSciEd staff to maintain strong working relationships.
- Co-develop and design this work with OpenSciEd and the State Steering Committee to meet the needs of teachers and students.
- Provide regular and transparent data about development progress, field testing, and fiscal management to the State Steering Committee 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 on a regular basis for work completed.

Development Team Configuration

OpenSciEd envisions a single development team conducting this work, performing under one contract, consisting of at least two different 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 consortia 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.

- One or more organizations may provide the curriculum development, professional learning, and field test coordination services.
- One organization shall be designated the management lead and shall be responsible for day-to-day coordination, overall budgeting, and fiscal management, and be the primary point-of-contact between the development team and OpenSciEd about this work.
- One organization must provide the data collection and analysis services, as part of the development team. This organization must be fully separate and distinct from the management lead and curriculum development organization(s).

Qualification Package Substance

Development teams who are interested in becoming qualified 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. In your narrative, links to subsequent documents, like evaluation reports or curriculum samples, are welcome, though providing context to the reviewers about those additional references will be helpful.

Your narrative should include the following sections:

1. Curriculum and Professional Learning Development Team(s)

Describe and explain the configuration of your curriculum and professional learning development team(s), including how all team-members will divide and manage responsibilities. Identify the key individuals in lead project roles. Describe past collaborative efforts between all key team members.

2. Approach

Explain your approach to the design and development challenge presented by the high school development phase of OpenSciEd. Provide your initial thinking about what the work entails and the processes you will use to

complete the work. Explain how you would work with states (and educators from states) on the technical aspects of curriculum development. Identify any prototype materials you will likely use to develop the full set of OpenSciEd courses. (This section will not be considered binding in the subsequent request for proposals if selected.)

3. Experience

Describe your development team's track record as it relates to the Framework for K-12 Science Education and the Next Generation Science Standards (NGSS), curriculum development, professional learning based on instructional materials, data collection and analysis, and managing large, complex projects with multiple stakeholders. Provide specific details, including links to products, artifacts, evaluation reports if available.

4. Qualifications

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 development team's commitment to and approach to diversity, equity, and inclusion. Your statement should:

- Highlight past experiences of each organization working with traditionally underserved populations, particularly those that are prevalent in states like the OpenSciEd states (<https://www.opensci.ed/about/partner-states/>).
- Describe how each organization exemplifies these commitments, in work undertaken, staffing, and management.
- Describe the efforts to establish a diverse team of developers.
- Articulate plans and strategies that each organization individually and the

development team as a whole will utilize to continue to promote issues of access and diversity in their work.

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, indicating an endorsement of this work should it 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 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 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 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 experience creating and implementing open educational resources.

- 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 email a single PDF that includes all five components described above via email to jryan@opensci.ed.org by 07/20/2020

Timeline

RFQ Launched	06/24/20
RFQ Webinar https://bit.ly/HS-RFQ	07/08/20
RFQ Due	08/12/20
RFQ Submissions Notified	08/21/20
RFP Sent to Qualifying Teams	08/24/20
RFP Webinar	09/03/20
RFP Due to OpenSciEd	10/16/20
Team Selected	11/02/20
Development Begins	01/01/21