
Chapter 1: Designate a Strategic Leadership Team, Review Your Capacity for Adoption and Implementation, and Create a Timeline for Adoption and Preliminary Implementation

This chapter consists of a discussion of the need for and role of your state’s strategic leadership team in coordinating, driving and monitoring the adoption and implementation of the NGSS; a diagnostic tool for assessing your state’s current capacity to adopt and implement the NGSS; and guidelines for setting a timeline for adoption and preliminary implementation of the NGSS.

Action Steps

Step 1: Designate a strategic leadership team and understand its role.

Step 2: Complete a diagnostic assessment of your state’s capacity to adopt and implement.

Step 3: Establish an adoption and preliminary implementation timeline.

Step 1: Designate a Strategic Leadership Team and Understand Its Role

Ownership of the NGSS will sit in many different places across the state and even within the state education agency, which can pose a challenge for adoption and implementation. Thus, your state should put together a strategic leadership team tasked with creating an overall vision for the NGSS and a timeline, phase-in strategy and work plan for both adoption and implementation. The strategic leadership team ought to include a balance of leaders with the skills to drive implementation. Strategic leadership team members must be skilled at working with and coordinating a team. Thus, they will need strong problem-solving skills, interpersonal and relationship management skills, and “run room” from the senior leadership. The strategic leadership team should include representatives who are knowledgeable about your state’s current science standards, have the capacity to consider and make recommendations about each of the elements that should be in the adoption and implementation plan, and ultimately can execute and oversee such a plan. The team must have knowledge of the state education agency’s priorities and timing for action. The team also must be able to embed the NGSS work in and communicate with policymakers about how these elements of a broader agenda fit together and/or reinforce one another in a coherent way. In addition, the team needs to be cognizant of the political landscape and the levers of influence related to NGSS adoption.

The team should include representatives from the state department of education (curriculum and instruction, assessment, data, district support, special education, English language learners, etc.), higher education, the legislature, the governor’s office and the business community. It is also critical that the team have deep expertise in relevant policies, budget and communications. The state may also want to include representation from leading districts and schools, including teachers, administrators and content area experts.

From the outset, identifying how the NGSS will be adopted in your state is critical and may influence your team’s composition. Begin by considering the “who, what, when, why, where and how” questions. For example, *who* has the authority to adopt standards varies across states — from the state board of education to the legislature and, in some cases, the chief state school officer. States also differ with respect to *how* statutory requirements, public comment periods and hearings shape their standards adoption processes. (Preparation and documentation of *how* the state has been engaged in the standards development process may also be a helpful resource.)



Your strategic leadership team needs to grapple with a host of questions to create an adoption strategy, which you will explore in the remainder of this workbook. These questions include:

- What is the big-picture aspiration — or end goal — that grounds and focuses your NGSS efforts; allows for you to build the necessary coalition for adoption; and when challenges arise, allows for perseverance to implement the standards with fidelity? (See Chapter 2.)
- When do you anticipate the NGSS reaching the classroom? In all grades? Working backward, what are the elements that must be addressed in your plan and by when? Who has authority to make decisions in each of those areas? What expertise exists, and what capacity gaps remain? How will you know whether or not your state is on track? If full implementation takes years, how will you sustain your efforts over time? (See Chapters 1 and 4.)
- What supports will your state provide educators, and how do those needs inform the state’s implementation timeline? What sort of professional development will be provided — and by whom? Will there be an effort to create curriculum frameworks and other instructional materials for classroom teachers? (See Chapter 4.)
- How will this work be funded? Have you had conversations with key legislators on appropriate committees to help them understand the purpose and timing of adopting the NGSS? Have you had internal budget discussions to identify various state and federal funding streams that can support this work? (See Chapter 4.)
- What impact will implementation of the NGSS have on the state’s existing college- and career-ready policies and priorities? How can this effort move forward coherently to reinforce the state’s goals for college and career readiness? (See Chapters 2 and 4.)
- Does your state have a coalition of supporters of the NGSS — including those both inside and outside the government — and how can you make certain that they are engaged around the adoption and implementation of the NGSS? (See Chapters 2 and 6.)

The strategic leadership team will help develop and monitor a strategy to engage stakeholders, provide briefing materials and timely updates to policymakers, and establish and monitor key feedback loops. (See Chapter 4.) Focusing on stakeholder engagement well before adoption of new standards is critical: Who needs to be engaged in the work? Who needs to be kept informed, and how you are going to interact with the various stakeholders? Informing and involving key state board of education members and legislators in discussions around adoption and implementation strategy is essential. Your state education agency public information officer and communications staff will need a plan and will need to reach out to a broader coalition of key stakeholders to build and maintain support for your efforts. These critical partners must be engaged from the beginning.

Adopting the standards in a state represents the beginning, not the end, of the process. The goal is for the content standards to actually affect teaching and learning in the classroom. As the implementation effort proceeds, your strategic leadership team will likely need to create other working teams to delve into specific issues, such as professional development design, and recommend how to proceed. Consider what mechanisms are in place to ensure fluid communication among the department of education, governor’s office and other state education entities such as your higher education system or your teacher licensing board. Consider also what mechanisms can be used to provide project oversight to the agency’s leadership team (e.g., the chief and key deputies).

EXERCISE 1: Designate Your Strategic Leadership Team

Objective(s) for participants:

- Identify the members of the strategic leadership team.
- Develop a strategy for engaging each member to support NGSS adoption and implementation.
- Identify the role(s) each member can play in creating an overall vision, timeline, adoption strategy and phase-in strategy for implementation. Discuss existing mechanisms that strategic leadership team members can use to execute, monitor and reinforce the state's efforts.

Instructions:

- Brainstorm possible members of the strategic leadership team, casting the widest net possible.
- Narrow the list by excluding those who would be unlikely to support the work.
- Evaluate the list using criteria such as diversity, balance, potential to work together, etc.

Materials needed:

- Flipchart paper
- Markers

Template for Exercise 1

Potential Member of the Strategic Leadership Team	Current Level of Engagement and Awareness of the NGSS (very low, low, high, very high)	Sphere of Influence (content knowledge, policy expertise, stakeholder engagement, etc.)	Specific Role	Next Steps



Step 2: Complete a Diagnostic Assessment of Your State’s Capacity To Adopt and Implement

The diagnostic tool includes a category for each of the critical elements of NGSS adoption and implementation that are explored in each chapter of the workbook. Each of these critical elements contains a series of guiding questions for discussion and a description of what types of evidence to consider when answering the questions. Completing this assessment with your strategic leadership team before reading further will enable you to identify areas of relative strength and challenge and may help focus preliminary conversations around adoption and implementation planning. The diagnostic questions also appear at the beginning of each chapter to help your state team gauge the extent to which you have already addressed the action(s) in question.

FIGURE 2: Diagnostic Tool

Diagnostic Questions	Types of Evidence To Consider
Strategic Leadership Team	
<ul style="list-style-type: none"> • Is there a designated strategic leadership team with the focus, tools and skill set needed to drive adoption? • Do members of the strategic leadership team have a shared understanding of the specific details about your state’s standards adoption process? • Is there clear ownership of each of the policy elements related to the NGSS? • Is there a clear understanding of the political landscape and levers of influence as they relate to adoption? 	<ul style="list-style-type: none"> • The state education agency has specified a clear point of accountability or defined multiple points of accountability for adopting and implementing the NGSS.
Aspiration	
<ul style="list-style-type: none"> • Have we articulated a vision for what the NGSS will deliver for every student? • Have we identified how the NGSS contribute to our vision for education and how adoption of the NGSS fits into our state’s STEM plan? • Have we identified how the NGSS contribute to our state’s economic development strategy? • Is that vision connected to our aspiration for college and career readiness across the state, including efforts to implement the CCSS? • Is that vision shared by a guiding coalition of state leaders, and are we doing enough to maximize the impact of their support? • Does that vision coalesce around the connection between college and career readiness and science? If so, is that aspiration shared? Does the aspiration align with priorities within the system (policies, funding, etc.)? • Can that vision be broken down into measurable goals for improving student outcomes and closing achievement gaps? 	<ul style="list-style-type: none"> • People inside and outside the state education agency can name the aspiration. • External evidence relays the imperatives of adopting the NGSS for the state (e.g., employer demand, future jobs, poor performance), and these imperatives can be relayed by all supporters. • A P–20 focus/effort exists around college and career readiness and science.

Diagnostic Questions	Types of Evidence To Consider
Past and Present Performance	
<ul style="list-style-type: none"> • Have we arrived at a clear view of our current performance in science relative to subgroups within our state, district comparisons, other states and other countries? • Have we identified key areas of strength and weakness based on this evidence? • Have we analyzed the root causes of students’ academic achievement — both successes and areas in need of improvement? • Have we established clear goals for student performance? • Have we identified how much instructional time is devoted to science in K–12? • Have we identified how the current classroom practice aligns to the NGSS shifts? • Based on past and present performance, have we derived implications for our NGSS implementation plan? • What are the workforce projections for our state? How many STEM-capable jobs will be added? 	<ul style="list-style-type: none"> • Participation, scores and/or passage rates on third-party national assessments (e.g., Advanced Placement, International Baccalaureate and dual enrollment) • Course-taking and passage rates for rigorous science courses at the high school level • National Assessment of Educational Progress science proficiency or proficiency on internationally benchmarked science assessments • Closing equity gaps between disadvantaged students and their peers • Rates of proficiency on existing science exams • Number/percentage of high school graduates who enroll in college with the intent of majoring in a STEM discipline • Number/percentage of high school graduates who begin careers in fields that require STEM knowledge and skills (many of which require some postsecondary experience but not a four-year degree) • Number/percentage of college graduates who graduate with majors in a scientific discipline

Diagnostic Questions	Types of Evidence To Consider
State's Role and Approach	
<ul style="list-style-type: none"> • Is there a designated strategic leadership team responsible for selecting the strategies — a coordinated set of activities designed to achieve our goals in science — and for ensuring delivery? • Is there clear ownership of each of the policy elements related to the NGSS? • Is there a clear understanding of the political landscape and levers of influence as they relate to <i>adoption</i>? • Have we identified what districts need for <i>adoption</i>, what their highest priorities are and what assistance they need from the state? • Have we identified what the state's role in NGSS <i>implementation</i> will be and how it may need to be different from the current state role? • Have we specified strategies for the state's role in NGSS <i>implementation</i> that are based on evidence? • Are we confident that the strategies for the state's role in NGSS <i>implementation</i> will facilitate the shifts required by the standards in every classroom? • To what extent are the strategies for the state's role in NGSS <i>implementation</i> coherent with CCSS implementation, teacher/leader effectiveness work and other significant initiatives? • Have we defined <i>feedback loops</i> — evidence that identifies whether implementation is on track — that we can use to monitor the likelihood that this plan will deliver its promised results? 	<ul style="list-style-type: none"> • Those responsible for specific strategies (e.g., instructional materials, professional development, etc.) can name the core priority activities. • Confidence is high that these activities are the ones with the highest potential for impact. • Measures of success have been articulated to determine whether the combination of levers and strategies (e.g., instructional materials, professional development, etc.) has been successful. • Analysis shows how completing this strategy successfully will result in improved outcomes for students.
Targets and Trajectories	
<ul style="list-style-type: none"> • Do the appropriate leaders have access to the data needed to determine past and present performance? How easy or difficult is pulling historical or real-time data? Is there a culture of using data to shape state goals and track progress against them? • Have we estimated the impact that each of our strategies will have on these goals over time? • Do we have confidence that the strategies will be sufficient to help us achieve our goals? 	<ul style="list-style-type: none"> • There is a shared understanding of the expected baseline for performance. • Specific, measurable, ambitious, realistic and time-limited (SMART) targets have been set for each of the student outcome goals that are defined by the aspiration and based on where performance is now (baseline) and where it has been (historical progress).

Diagnostic Questions	Types of Evidence To Consider
Stakeholder Engagement Strategy	
<ul style="list-style-type: none"> • Have we created core messages for our adoption and implementation plan? • Have we identified the stakeholders whose support we will need? Do our messages speak to them? • Do we have a plan for engaging stakeholders, including champions in the field and the public at large? • Have we identified our key opponents and their points of opposition, and do we have a strategy for addressing the challenges they may pose? 	<ul style="list-style-type: none"> • Teachers, principals and superintendents in the field understand how their work environments are going to change as a result of the NGSS and are supportive. • Key stakeholders understand their role in supporting adoption and implementation of the standards.
Routines for Monitoring Progress	
<ul style="list-style-type: none"> • Have we established regular performance dialogues to monitor our progress toward achieving our goals and the likelihood that we will achieve them in the future? • Is there clear ownership of each of the policy elements related to the NGSS? • Do these routines rely on a broad evidence base, including the feedback loops in the implementation plan, to arrive at a regular and shared view of progress? • Do these routines help leaders identify and solve the most challenging problems as they arise? • Do these routines build on established processes and mechanisms for management that are already in place? • Do we regularly communicate our progress/decisions internally to the state education agency and externally to those interested and/or affected (e.g., districts, state board, key legislators)? 	<ul style="list-style-type: none"> • Performance data are frequently discussed by the system leader and those who are accountable at the state education agency. • Performance dialogues are regular and/or consistent — from the point of view of the chief and the point of view of those accountable. • In the course of a given month, the routines give the system leader the right performance information at the right level of depth to drive decisionmaking.

EXERCISE 2: Review Capacity To Adopt and Implement the NGSS

Objective(s) for participants:

- Arrive at a consensus on current areas of strength and challenge in the critical elements of NGSS adoption and implementation.

Instructions:

- Read through the diagnostic tool and take notes individually on evidence of strength or challenge for each critical element.
- Determine who has access to/holds the evidence.
- Use the evidence to arrive at an individual rating for each critical element.
- Share individual ratings (weak = 1 to strong = 4) with the group by marking on flipchart paper.
- Discuss and come to consensus as a group on areas of relative strength and challenge across the critical elements.

Materials needed:

- Copies of the diagnostic tool for each participant
- Flipchart paper and/or handouts with the template
- Markers

Exercise notes:

- Guiding questions for discussion:
 - What were some of the strongest ratings? What was the evidence behind them? What were the weakest ratings and their evidence?
 - Does our evidence match our ratings across elements? What adjustments do we need to make?
 - What does this tell us about where we need to focus?
- You may not need to bring the group to complete consensus; the discussion and agreement on evidence is more important than any specific rating.



Template for Exercise 2

Element	Rating (1–4)	What Is the Evidence — and What Is the Level of Transparency and Access to the Evidence?
Aspiration		
Past and present performance		
State’s role and approach		
Targets and trajectories		
Stakeholder engagement strategy		
Routines for monitoring progress		
Other		



Step 3: Establish an Adoption and Preliminary Implementation Timeline

A timeline is a useful tool for giving a broad overview of your plan; it should reflect your state’s strategy for incorporating these standards into the full range of education reforms unfolding in your state. As such, it is also a vital mechanism for communicating your adoption and implementation plan while making the case for adoption.

Developing this high-level implementation plan *prior* to adoption means anticipating the questions that policymakers and stakeholders will have about the timing, sequence and plan for implementation of the new standards. States should be careful not to underestimate what a preliminary implementation plan entails; it goes far beyond a timeline with teaching and assessment dates. This plan should be perceived as a living document that will change over time; it should be used to help structure and guide more detailed planning, especially as many areas are still under transition (e.g., science assessment, teacher evaluation, accountability). These areas may not be appropriate for inclusion today but will be important to improve the coherence of the overall NGSS effort in the future.

There are four major issues to consider in creating a timeline. First, what are the broad and general milestones? For example, does your team understand your state’s associated legal and legislative requirements for adopting new content standards (e.g., public hearings, feedback windows, fiscal impact analysis)? Second, what are the key milestones for each? If you have not done so already, defining these key milestones will help you further flesh out your strategies and form a view of how they fit together with each other and with your general milestones. Third, consider the rollout of your strategies. Most states do not implement standards in all grades simultaneously — but what is the best way for your state to sequence implementation? Be sure to consider pros and cons to each option and be able to support the decision with appropriate data and messaging. Options include:

- The state could roll out the standards in the early grades and incrementally add a new grade each year.
- The state could roll out the standards at key transition grades (K, 6 and 9) and then subsequently add three new grades per year.
- The state could focus its rollout on the middle grades (6–8) and then move to K–5 and 9–12.
- The state could stagger implementation by starting earlier in voluntary pilot districts and then moving statewide.

Fourth, leaders from across the state education agency and broader education stakeholders will be implicated in this work; engaging in this process will help you identify where those connections exist to strengthen communication and collaboration among leaders and managers responsible for moving the work forward.

These milestones can include, but are not limited to:

- Formal adoption of the standards:
 - Identification of the strategic leadership team;
 - Research on specific details about your state’s standards adoption process, rules, etc.;
 - Fulfillment of any associated legal and legislative requirements (e.g., public hearings, feedback windows, fiscal impact analysis);
 - Identification of the target date for adoption; and
 - Adoption of the standards by the state board, legislature or appropriate authority.
- Definition of your aspiration for what the NGSS will accomplish in your state:
 - Understanding of what the NGSS will require;



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- Development of a vision for what the NGSS will accomplish for students and for your state; and
 - Sharing of your vision with key stakeholders in your state and refinement of your vision.
 - Evaluation of past and present performance in science in your state:
 - Gathering of the relevant data;
 - Distillation of key performance patterns and identification of root causes; and
 - Identification of implications for adoption and implementation.
 - Development of a stakeholder engagement strategy for adoption and implementation of the NGSS:
 - Development of key three messages;
 - Identification and analysis of the stakeholders who are most critical to successful adoption and implementation;
 - Building of your guiding coalition;
 - Establishment of a process and plan to handle potential challenges; and
 - Development of a stakeholder outreach strategy.
 - Establishment of routines and solving of problems:
 - Reflection on existing performance management routines and consideration of how they can be adapted to monitor the progress of NGSS implementation; and
 - Organization of, preparation for and conducting of routines.
 - Other policy changes (e.g., course credit, graduation requirements).
 - Alignment with/creation of a STEM plan for your state (e.g., integration with STEM efforts, including increasing access to STEM courses/pathways for all students).
 - Development of educator preparation that reflects the NGSS, including preservice, in-service and licensure.
 - Transition of assessment practices, including formative, summative and high-stakes exit exams.
 - Transition of the accountability system.

There is no one-size-fits-all approach to establishing a timeline. To determine the best approach for your state, it will be important to consider implications for curricular transitions, budget and other drivers that may create specific urgency. For example, state leaders will need to determine how to reallocate or realign funding streams to support implementation of the NGSS and ensure that professional development and other supports are aligned to the NGSS. These processes will have an impact on the implementation timeline in each state.



EXERCISE 3: Establish Your Adoption and Preliminary Implementation Timeline

Objective(s) for participants:

- Create an adoption and working implementation timeline for the NGSS.

Instructions:

- Identify the broad and general milestones that must occur during your adoption and implementation, using the list in this chapter as a reference. Record those milestones on the flipchart.
- Identify the key milestones for each critical element and discuss the ideal order for those milestones.
- Record the milestones where they belong on the flipchart.
- Reflect on the overall timeline and discuss:
 - Do the elements and action steps fit together properly?
 - Does the timeline take into account resource availability?
 - Does the timeline take into account other major events?

Materials needed:

- Flipchart
- Markers
- Sticky notes (optional)

Exercise notes:

- You may wish to place milestones on sticky notes first, so you can move around the order more easily as the discussion evolves.

Template for Exercise 3

Critical Elements and Action Steps	Responsible Party	Role of Strategic Leadership Team	Winter 2013	Spring 2013	Summer 2013	Fall 2013	Winter 2014	Spring 2014
Formal adoption of the standards								
Identification of the strategic leadership team								
Research on specific details about our state's standards adoption process, rules, etc.								
Fulfillment of any associated legal and legislative requirements (e.g., public hearings, feedback windows, fiscal impact analysis)								

Critical Elements and Action Steps	Responsible Party	Role of Strategic Leadership Team	Winter 2013	Spring 2013	Summer 2013	Fall 2013	Winter 2014	Spring 2014
Identification of the target date for adoption								
Adoption of the standards by the state board, legislature or appropriate authority								
Definition of our aspiration for what the NGSS will accomplish in our state								
Understanding of what the NGSS will require								
Development of a vision for what the NGSS will accomplish for students and for our state								
Sharing of our vision with key stakeholders in our state and refinement of our vision								
Evaluation of past and present performance in science in our state								
Gathering of the relevant data								
Distillation of key performance patterns and identification of root causes								
Identification of implications for adoption and implementation								
Development of a stakeholder engagement strategy for adoption and implementation of the NGSS								
Development of key three messages								
Identification and analysis of the stakeholders who are most critical to successful adoption and implementation								
Building of our guiding coalition								

Critical Elements and Action Steps	Responsible Party	Role of Strategic Leadership Team	Winter 2013	Spring 2013	Summer 2013	Fall 2013	Winter 2014	Spring 2014
Establishment of a process and plan to handle potential challenges								
Development of a stakeholder engagement strategy								
Establishment of routines and solving of problems								
Reflection on existing performance management routines and consideration of how they can be adapted to monitor the progress of NGSS implementation								
Organization of, preparation for and conducting of routines								
Other policy changes (e.g., course credit, graduation requirements)								
Alignment with/creation of a STEM plan for our state								
Development of educator preparation that reflects the NGSS, including preservice, in-service and licensure								
Transition of assessment practices, including formative, summative and high-stakes exit exams								
Transition of the accountability system								