



FRANKLINTM
SCIENCE STANDARDS
MODEL K-12 SCIENCE STANDARDS

AMBASSADOR | ACTIVIST KIT



NATIONAL
ASSOCIATION
of SCHOLARS

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OVERVIEW

The [National Association of Scholars](#) (NAS) and [Freedom in Education](#) (FIE), organizations dedicated to improving America’s science education, have created The Franklin Standards: Model K-12 Science Standards.

State standards are the single most influential documents in America’s education system. State education departments use them to provide guidance to each public K-12 school district and charter school as they create their own courses. State standards also influence what textbook authors write and what assessment companies such as the College Board test for in their advanced placement examinations. They affect teacher training and they provide the framework for teachers’ individual lesson plans. Private schools and homeschool parents also keep an eye on state standards.

Yet too many state education departments have imposed state science standards drawing on sources such as the [Next Generation Science Standards](#) (NGSS), which combine misguided pedagogical theory, low academic standards, politicized instruction, and training in activism. America at large has suffered from their success. Too many Americans have emerged from our schools ignorant of the basics of scientific knowledge, scientific reasoning, and scientific habits and character. We have too few scientists, engineers, and technicians—and too few citizens with the information to judge policy arguments based upon scientific questions. Furthermore, the failure of our schools is becoming a national security risk, as America faces ever sharper scientific and technological rivalry from its peer competitor, China. We must restore rigorous, depoliticized American science instruction if we are to ensure the liberty, the prosperity, and the security of the United States of America.

NAS and FIE want to improve every aspect of American science instruction by inspiring America’s state education departments to provide similar science standards. We therefore provide the Franklin Standards, so that Americans can reclaim their scientific and technological heritage as a nation second to none of scientists, engineers, and informed citizens—much like Benjamin Franklin himself.

The Franklin Standards will prepare our children for college and career because it provides comprehensive content knowledge in Physics, Chemistry, Biology, Earth and Space Sciences, Technology and Engineering, and History of Science. The Franklin Standards integrates its standards with sustained attention to the scientific method and the distinction between theory and fact. It emphasizes that science is never settled, but is always subject to testing and revision, and should never be decided by authority or a consensus. The Franklin Standards also will educate students act as informed and confident citizens and policymakers by acquiring the scientific habit of subjecting theory to continued critical evaluation.

Science education that prepares students for college and career requires substantial mathematical content knowledge. The Franklin Standards have been crafted to complement Mathematics standards that will provide that knowledge—above all, Mathematics standards keyed to provide Algebra I in Grade 8. The Franklin Standards will provide content to match existing reformed Mathematics standards and will provide a benchmark for states that intend to reform their Mathematics standards.

The Franklin Standards' straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science. The Franklin Standards' intensive content standards also facilitate reliable assessment, whether by state-level testing or tests by school districts and individual teachers.

The Franklin Standards will especially benefit the most disadvantaged students. Disadvantaged students benefit from intensive content instruction even more than better-off students, who receive large amounts of content knowledge from their families and peers. Content standards that abbreviate content foster an unequal society because they especially harm the education of disadvantaged children. The Franklin Standards' intensive content standards fulfill America's promise of equal educational opportunities for everyone.

Americans of all parties want to take back their schools. NAS and FIE drafted the Franklin Standards to equip governors, state legislators, school boards, and grassroots activists for that fight. Every American needs to know what proper science instruction should be. We encourage all citizens to get in touch with state policymakers, to call for adopting some or all of the Franklin Standards' as a state science standard. Each state should judge how to adapt the Franklin Standards to best serve its students.

The Franklin Standards are intended above all as models for state education standards—but we would be delighted if they informed science education in school districts, charter schools, private schools, and home schools. We have crafted them to be useful for every variety of education.

But state science standards are the linchpin of science education—they stand halfway between state laws and school district policies, and they have more power to shape American science education than any other single document. We absolutely need good state science standards—a positive vision of what they should be, and not just a critique of the shortcomings of existing science standards. Policy institutes, grassroots organizations and policymakers all can use them to press the education establishment: Why don't you teach this?

States and school districts should create science standards modeled on the Franklin Standards because it teaches American students their heritage of scientific and technological excellence.

ACTIVISTS' BRIEF: CONDENSED

1. States and school districts should create science standards modeled on the Franklin Standards, to teach students thorough scientific knowledge and to act as informed and confident citizens and policymakers.
2. State academic content standards are the most influential documents in American education because they shape what public school districts teach, what textbook authors write, teacher training, and state and local assessment.
3. The *Franklin Standards* appeals to a broad majority of Americans because it does not pursue a narrow ideological agenda. The *Franklin Standards* removes the low standards imposed by the [Next Generation Science Standards](#) and similar standards in the name of “diversity, equity, and inclusion,” politicization, and the conflation of scientific inquiry and activism.
4. The *Franklin Standards* provides a content-rich summary of required science knowledge, with equal standards for every student, so as to restore a culture of high expectations. It includes the core disciplines of Physical Sciences (Chemistry and Physics), Life Sciences (Biology), and Earth and Space Sciences, as well as Technology and Engineering, History of Science, and Scientific Inquiry.
5. The *Franklin Standards* increases teacher accountability by focusing on factual content.
6. The *Franklin Standards'* intensive content standards facilitate reliable assessment.
7. The *Franklin Standards'* straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science.
8. The *Franklin Standards* is designed so that states and school districts can alter the sequence as they see fit. States and school districts can create equally rigorous standards by abbreviating some topics, expanding others, or adjusting the course sequences.
9. The *Franklin Standards'* intensive content standards fulfill America's promise of equal educational opportunities for everyone because disadvantaged students benefit from intensive content instruction even more than better-off students, who receive large amounts of content knowledge from their families and peers.
10. The Franklin Standards prepares students for college and career, because good colleges and good jobs require competitive and ambitious students and workers with broad background knowledge and the talent to absorb, synthesize and make use of large numbers of facts.

ACTIVISTS' BRIEF

INTRODUCTION

HEADLINE ARGUMENT

States and school districts should create science standards modeled on the *Franklin Standards* because it provides comprehensive content knowledge, integrates that content knowledge with sustained attention to the scientific method and how to think scientifically, and educates students to act as informed and confident citizens and policymakers.

WHAT IS THE FRANKLIN STANDARDS?

The [National Association of Scholars](#) (NAS) and [Freedom in Education](#) (FIE), organizations dedicated to improving America's science education, have created *The Franklin Standards: Model K-12 Science Standards*. The *Franklin Standards* helps Americans to craft the science standards, curricula, textbooks, and lesson plans we need to sustain our republic and our nation.

WHY DO STATE SCIENCE STANDARDS MATTER?

State academic content standards are the most influential documents in American education. They shape what public school districts and charter schools teach. They also influence what textbook authors write, and what knowledge assessment companies (such as the College Board) test for in their Advanced Placement examinations. They affect teacher training and they provide the framework for teachers' lesson plans.

WHAT'S WRONG WITH EXISTING STATE SCIENCE STANDARDS?

Too many state education departments have imposed state science standards drawing on sources such as the [Next Generation Science Standards](#) (NGSS), which combine misguided pedagogical theory, low academic standards, politicized instruction, and training in activism. America at large has suffered from their success. Too many Americans have emerged from our schools ignorant of the basics of scientific knowledge, scientific reasoning, and scientific habits and character. We have too few scientists, engineers, and technicians—and too few citizens with the information to judge policy arguments based upon scientific questions. Furthermore, the failure of our schools is becoming a national security risk, as America faces ever

sharper scientific and technological rivalry from its peer competitor, China. We must restore rigorous, depoliticized American science instruction if we are to ensure the liberty, the prosperity, and the security of the United States of America.

THE FRANKLIN STANDARDS: THE STANDARD FOR SCIENTIFIC EXCELLENCE

The *Franklin Standards* inspires America's state education departments to provide science standards that teach American students their scientific and technological heritage as a nation second to none of scientists, engineers, and informed citizens—much like Benjamin Franklin himself. It also equips policymakers and the public to challenge the education establishment: *Why don't you teach this?*

THE FRANKLIN STANDARDS: PRINCIPLED STANDARDS FOR ALL AMERICANS

The *Franklin Standards* appeals to a broad majority of Americans because it provides excellent science content, presents it clearly, and does not pursue a narrow, ideological agenda. Too much of America's educational establishment has abandoned the commitment to high standards and depoliticized instruction. The *Franklin Standards* invites teachers and education administrators to join the reform movement for clear, excellent, and depoliticized science education.

CONTENTS

CONTENT-RICH KNOWLEDGE

The *Franklin Standards* provides a content-rich summary of required science knowledge, with equal standards for every student, which includes Physical Sciences (Chemistry and Physics), Life Sciences (Biology), and Earth and Space Sciences, as well as Technology and Engineering, History of Science, and Scientific Inquiry. The *Franklin Standards* focuses on lucid statements of scientific knowledge that every citizen should know.

DEPOLITICIZED

The *Franklin Standards* removes the low standards imposed by the Next Generation Science Standards and similar standards in the name of “diversity, equity, and inclusion,” politicization, and the conflation of scientific inquiry and activism. It provides full and excellent science instruction in part by using materials produced before a hyper-politicized generation came to the fore in the education establishment and in part by updating its content to incorporate current scientific knowledge.

HISTORY OF SCIENCE

The *Franklin Standards* restores History of Science to state standards. Science instruction can be enriched by the history of scientific discovery, by helping both teachers and students to learn how we came to know what we know about the natural world. Learning the history of scientific discovery will help teachers plan the sequence of science instruction and the choice of laboratory experiments and field exercises. The history of science also helps students learn about how scientific debate works, and may inspire them to choose careers in science.

TECHNOLOGY AND ENGINEERING

The *Franklin Standards* provides Technology and Engineering standards to allow states and schools districts to include dedicated coverage of the practical application of science (engineering) and an understanding of the current state of applied science (technology). This instruction should augment but not replace core science instruction.

SCIENTIFIC INQUIRY

The *Franklin Standards* provides Scientific Inquiry standards, divided into three parts. The first section, which applies to all K-12 science education, includes Scientific Knowledge, Scientific Reasoning, Limitations of Scientific Knowledge, and Scientific Habits and Character. The second section consists of sequences within each individual K-12 standard, which replaces “Skills” and “Practices.” The third section provides further sequences equivalent to “Skills” and “Practices,” which apply to all four high school science standards.

SUPPORTS CONTENT-RICH MATHEMATICS STANDARDS

Science education that prepares students for college and career requires substantial mathematical content knowledge. The *Franklin Standards* have been crafted to complement Mathematics standards that will provide that knowledge—above all, Mathematics standards keyed to provide Algebra I in Grade 8. The *Franklin Standards* will provide content to match existing reformed Mathematics standards and will provide a benchmark for states that intend to reform their Mathematics standards.

DISTINGUISHES BETWEEN THEORY AND FACT

The *Franklin Standards* emphasizes that science is never settled, but is always subject to testing and revision, and should never be decided by authority or a consensus.

Science education should help students acquire the scientific habit of subjecting theory to continued critical evaluation by learning early that even the most well-supported theories *are* theories, and not facts. The *Franklin Standards* revises much of the content of the best previous standards to make these distinctions and aims clear.

RESTORES THE CENTRALITY OF THE SCIENTIFIC METHOD

The *Franklin Standards* focuses on *scientific methodology*, which includes what is normally taught as *the* scientific method (hypothesis, test, experiment), but which accounts also for the broader range of methods scientists use for scientific exploration of nature. This goes against the grain of current science education, which asserts that *multiple ways of knowing* stand on an equal footing with *scientific knowledge*. The *Franklin Standards* teaches students about the unique nature of scientific methodology as an essential component of the nature of science.

SCIENTIFIC HABITS AND CHARACTER

The *Franklin Standards* focuses on scientific habits and character. Scientists accept that what they believe they know is ultimately provisional, and that they should accept correction of what they scientifically know when new evidence comes to light. Scientific character encourages a spirit of humility and charity among scientists both in their dealings with one another and with the larger public.

FOSTERS CURIOSITY

Students are naturally curious and standards should support teachers' work to cultivate the disciplined and informed curiosity that is the hallmark of scientific inquiry and its distinctive way of understanding and improving the world. The *Franklin Standards* urges educators to use substantial portions of science instruction to cultivate students' curiosity.

ADVANTAGES

FLEXIBILITY

The *Franklin Standards* is designed so that states and school districts can alter the sequence as they see fit. States and school districts can create equally rigorous standards by abbreviating some topics, expanding others, or making age-appropriate adjustments.

TEACHER FREEDOM

The *Franklin Standards* does not provide an entire curriculum. Teachers are free to teach each topic as they see fit, to add new topics, to incorporate independent lesson plans and sequences, and to unite items from these learning standards into thematic units. They also are free to reorganize the sequence in which they teach these topics, as well as to review material from earlier grades in any course of instruction.

ACCOUNTABILITY: CLEAR ORGANIZATION

The *Franklin Standards* emphasizes clarity far more than rival science standards. We have eliminated the tangle of skills and crosswalks and presented a simple list of factual items. The *Franklin Standards'* straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science.

ACCOUNTABILITY: PEDAGOGY

The *Franklin Standards* aligns with pedagogies that emphasize rigorous standards, individual effort, classroom instruction, and content knowledge. These pedagogies increase school accountability to parents and policymakers. You can't tell how well teachers instruct an individual student when they're assessing group projects, "skills," or ideological commitments—or when all students pass, no matter how little they learn.

TRUE PREPARATION FOR COLLEGE AND CAREER

The *Franklin Standards* prepares students for college and career with broad background knowledge; the talent to absorb, synthesize and make use of large numbers of facts; the capacity to listen sympathetically to multiple points of view and to engage in free debate; the readiness to be judged for their ability to produce timely and competent work; and independence of conscience and mind.

INTENSIVE FOUNDATIONAL KNOWLEDGE

The *Franklin Standards* are intended to boost science knowledge of all students and are not intended to substitute for early college classes, such as dual credit (taught in high school) and dual enrollment (taught in college) courses in advanced science. We also encourage ambitious and qualified students to take early college courses, the better to stimulate their love of science and prepare them for college and career.

SCIENCE FOR ALL AMERICANS

Content standards that focus on “skills” and abbreviate content especially harm the education of disadvantaged students, and thereby foster an unequal society. When disadvantaged students receive intensive content instruction, they learn eagerly and well. The *Franklin Standards* offers comprehensive content knowledge to ensure that America’s schools fulfill the promise of equal educational opportunities for everyone.

RELIABLE ASSESSMENT

The *Franklin Standards’* intensive content standards facilitate reliable assessment, whether by national companies such as the Educational Testing Service (ETS), state-level testing, or tests by school districts and individual teachers. Its content standards provide enough material to make it easy both for teachers and for large organizations such as ETS to create tests that accurately assess student knowledge.

TEACHER TRAINING

The *Franklin Standards’* guides proper teacher training. If teachers do not already know this material, it tells them what they need to learn for their professional development. It also guides the teachers of teachers, in colleges and education schools, as they create courses and instruction sequences in the sciences and engineering.

COMPLEMENTS

COMPANION LEGISLATION

State policymakers should pass the Franklin Standards Taskforce Act, which establishes a commission to draft science standards based on the *Franklin Standards*.

ACTION GUIDE

Grassroots activists will need to take part in a long campaign to ensure both that the *Franklin Standards* is adopted by states and school district, and to ensure that it is actually used properly in the classroom by teachers. We cannot plan out what precisely grassroots activists should do in each part of the United States—but we can provide a rough Action Guide, to help orient grassroots activists in their work.

THE SITUATION IN EACH STATE

Each state has its own K-12 Science Standards and its own statutes governing science education. Most importantly, each state delegates a different amount of authority to the states and the school districts. State standards have great informal influence in any case, but it is important to determine precisely how much formal power they have to determine local standards and curricula. The National Association of Scholars and Freedom in Education are working on producing an information packet for each state, but grassroots activists should research the situation in their own state, so they can know precisely how to press for reform.

STANDARDS ARE NOT CURRICULA

State content standards are not curricula, which are determined by school districts and individual teachers. It is important to make that distinction—not least because fixing standards is only the beginning of education reform. Standards allow citizens to hold school districts and teachers accountable, but they still need to be held accountable. Moreover, they need to be provided proper curricula—individual lesson plans. Grassroots activists also should call for local school districts to adopt complementary curricula.

CITIZEN EDUCATION

Most Americans don't understand how important state content standards are in shaping K-12 education. Grassroots activists must tell them that it matters, by every means at their disposal. Our *Activists Brief: Condensed* provides a good short explanation about why to support the *Franklin Standards*; the *Activists Brief* gives a longer version.

STATE POLICYMAKERS

Grassroots activists should work to inform state policymakers of the trouble with existing science standards, and why the *Franklin Standards* provides a good model for an alternative. They should urge state policymakers to endorse the *Franklin Standards* publicly, to hold legislative hearings on science standards, and to make clear to state Education Departments that their standards, and all accompanying teacher training and written resources, should follow the *Franklin Standards* model. State policymakers should also make sure that the revision process for state standards includes education reformers, and not just be delegated to the permanent education bureaucracy.

STATE LEGISLATION

States can pass simpler legislation to shape content standards, in ways that will ensure that state Education Departments have to craft their science standards in ways that align with the *Franklin Standards*. We particularly recommend pushing for state policymakers to pass the Franklin Standards Taskforce Act, which establishes a commission to draft science standards based on the *Franklin Standards*.

SCHOOL DISTRICTS

School districts also possess considerable power to set standards—although often severely constrained by state standards. Grassroots activists should work to get their school boards and school district administrators to adopt standards based on the *Franklin Standards*. (Work on state legislation to make school boards more accountable would also be useful, notably to shift the [school board elections](#) to Election Day, and to make it easier to recall [school board members](#).)

SCHOOL DISTRICTS: FOLLOW-THROUGH

Grassroots activists also need to make sure that school district administrators and teachers follow through and teach according to the *Franklin Standards*. School Board members should exercise their oversight powers and make sure that teachers use curriculum that aligns with these standards. Grassroots activists should also work for [curriculum transparency](#) and [financial transparency](#) in the public schools (both as state law and as school district rule), so as to ensure that administrators and teachers actually comply with the *Franklin Standards* and with citizen intent.

STATE AND LOCAL ASSESSMENT

Reliable state and local assessments, crafted outside the classroom, would be a wonderful way to assess whether teachers are teaching the *Franklin Standards* properly. The problem is that assessments also can become tools by the education establishment to smuggle in radical education standards. Grassroots activists should consider whether to call for external state and local assessments, as a way to increase school accountability, but only if they are sure they cannot be misused by the education establishment.

LOCAL MODIFICATION

The *Franklin Standards* isn't meant to be a one-size-fits-all model. Grassroots activists ought to modify it to fit their states and their school districts. But grassroots activists also should be aware that the education establishment can use the argument of local modification to sabotage the *Franklin Standards*—to water it down, to include mandated and counter-productive skills instruction, to include elements of radical identity-politics or action civics. Activists should make sure that the personnel of whatever committee decides on local modification includes education reformers who will preserve the core of the *Franklin Standards*, and keep out poison-pill modifications.

ACTION GUIDE: TIPS FOR NEW ACTIVISTS

Citizens who don't have experience at grassroots activism should use these tips.

- **Organization: Local Allies.** Find like-minded allies quickly. Activism becomes much more effective when you have a group of supporters and when you can coordinate with other groups.
- **Organization: National Groups.** Ask national groups for help. They often have resources and contacts you can use, and they can provide publicity.
- **Publicity: Social Media.** Use social media—Facebook, Twitter, Instagram, etc. Develop **hashtags** to promote your cause (e.g., #FranklinStandards, #EducationReform).
- **Publicity: Graphics Software.** Use PowerPoint and other free/cheap software to create graphics for your handouts, PDFs, and other web or printed resources.
- **Research: Substance.** Research your topic thoroughly. Where science standards are concerned, please read both the *Franklin Standards* **and** the existing science standards in your state/school district, so you can speak in detail about the advantages of the *Franklin Standards* and the flaws of the existing state standards.
- **Research: Funding Sources.** Find out who's paying for materials referred to in science standards, including recommended curriculum. Research their ideological affiliations.
- **Research: Process.** State education departments frequently have a highly technical process and schedule for recruiting personnel to craft science standards, and for accepting comments from the public. Legislative committees also have a complicated process and schedule for accepting testimony. School boards have their own process for putting new items on the agenda and for listening to citizens. Research the process needed to get the *Franklin Standards* on policymakers' agendas, to submit comments to education department website, and everything else you need to do to argue for it most effectively.
- **Research: Reference Material.** Read the footnotes, endnotes, and bibliography of state standards. Vague language in the text often references

radical ideology such as Critical Race Theory that is stated explicitly in the documents referred to in the reference material. Effective arguments against the ideological assumptions of state standards frequently depend upon reading the bibliography.

- **Outreach: Contact Policymakers.** Contact your governor, your state superintendent, your state representative, your state senator, and your school board. Look up their web pages to see where to direct your correspondence. Make your arguments—always in a civil tone. We provided model letters below. Combine email with phone calls and letters—phone calls and letters still make more of an impression with some policymakers. Policymakers won't know what you want if you don't tell them. It's also important in your later work to be able to say that you *have* contacted policymakers, especially if they haven't responded positively to your requests—or responded at all. You can ask them to give the public a good reason for their noncompliance.
- **Outreach: Ask for Commitment.** Ask policymakers to make a simple commitment: e.g., "Will you commit to adopting the *Franklin Standards* as the model for the state science standard?" Be polite, but include a request that has a simple Yes/No answer. Don't ask vague questions which will allow them to reply with vaguely supportive but noncommittal language.
- **Outreach: Occasions to Write.** Whenever there's a piece of relevant news, use it as an occasion to write—to your fellow supporters, to policymakers, to the media. Keep up a drumbeat of news—but you have to have a reason for each new letter.
- **Outreach: Testimony.** Prepare yourself to give concise, even-tempered, well-grounded testimony in public venues. Practice out loud giving a two-minute piece of testimony, grounded in personal experience and in precise references to text. Write it out so it can be re-used as a letter or publicity—and so you can see how persuasive it is, cold on the page. Send this written testimony in along with your spoken testimony, CC-ed broadly to everyone who needs to know about what you're saying, so that officials cannot hide your testimony.
- **Instant Resources:** Read the materials at Parents Defending Education's "Engage" webpage. (<https://defendinged.org/engage/>) Also look at the Civic Alliance's "Local Policy Resources" webpage. (<https://civicsalliance.org/local-policy-resources/>) These will provide many more useful tips.

MODEL RESOLUTION

Grassroots activists should consider drafting Resolutions in favor of the *Franklin Standards*. Resolutions express the public sentiment of a group of citizens, a public body such as a city council, or a private organization such as a parents' league. They don't make law, but they encourage policymakers to pass laws and resolutions—and they're useful sources of publicity in themselves, since grassroots activists can issue a press release every time an organization passes a Resolution.

Resolutions should call either on a state authority such as the State Education Department, or a local authority such as a particular School District, to adopt the *Franklin Standards*. We have crafted one model resolution, adaptable for either purpose.

MODEL RESOLUTION TEXT

We call on the **{State Education Department} / {Name School District}** to adopt new science standards, based upon *The Franklin Standards: Model K-12 Science Standards*. The *Franklin Standards* is rigorous, clearly written, and appeals to a broad majority of Americans, because it does not pursue a narrow, ideological agenda. The *Franklin Standards* provides comprehensive content knowledge, integrates that content knowledge with the scientific method and how to think scientifically, and educates students to act as informed and confident citizens and policymakers.

The *Franklin Standards* provides a content-rich summary of required science knowledge, with equal standards for every student, which includes Physical Sciences (Chemistry and Physics), Life Sciences (Biology), and Earth and Space Sciences, as well as Technology and Engineering, History of Science, and Scientific Inquiry. The *Franklin Standards* focuses on lucid statements of scientific knowledge that every citizen should know.

The *Franklin Standards* removes the low standards imposed by the Next Generation Science Standards and similar standards in the name of "diversity, equity, and inclusion," politicization, and the conflation of scientific inquiry and activism. It provides full and excellent science instruction by using materials produced before the radicalization of the education establishment and by incorporating current scientific knowledge.

The *Franklin Standards* is designed so that states and school districts can alter the sequence as they see fit. States and school districts can create equally rigorous

standards by abbreviating some topics, expanding others, or making age-appropriate adjustments.

The *Franklin Standards* does not provide an entire curriculum. Teachers are free to teach each topic as they see fit, to add new topics, to incorporate independent lesson plans and sequences, and to unite items from these learning standards into thematic units. They also are free to reorganize the sequence in which they teach these topics, as well as to review material from earlier grades in any course of instruction.

The *Franklin Standards* emphasizes clarity far more than rival science standards. We have eliminated the tangle of skills and crosswalks and presented a simple list of factual items. The *Franklin Standards'* straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science.

The *Franklin Standards* aligns with pedagogies that emphasize rigorous standards, individual effort, classroom instruction, and content knowledge. These pedagogies increase school accountability to parents and policymakers. You can't tell how well teachers instruct an individual student when they're assessing group projects, "skills," or ideological commitments—or when all students pass, no matter how little they learn.

The *Franklin Standards* prepares students for college and career with broad background knowledge; the talent to absorb, synthesize and make use of large numbers of facts; the capacity to listen sympathetically to multiple points of view and to engage in free debate; the readiness to be judged for their ability to produce timely and competent work; and independence of conscience and mind.

The *Franklin Standards* are intended to boost science knowledge of all students and are not intended to substitute for early college classes, such as dual credit (taught in high school) and dual enrollment (taught in college) courses in advanced science. We also encourage ambitious and qualified students to take early college courses, the better to stimulate their love of science and prepare them for college and career.

Content standards that focus on "skills" and abbreviate content especially harm the education of disadvantaged students, and thereby foster an unequal society. When disadvantaged students receive intensive content instruction, they learn eagerly and well. The *Franklin Standards* offers comprehensive content knowledge to ensure that America's schools fulfill the promise of equal educational opportunities for everyone.

The *Franklin Standards'* intensive content standards facilitate reliable assessment, whether by national companies such as the Educational Testing Service (ETS), state-level testing, or tests by school districts and individual teachers. Its content standards provide enough material to make it easy both for teachers and for large organizations such as ETS to create tests that accurately assess student knowledge.

The *Franklin Standards'* guides proper teacher training. If teachers do not already know this material, it tells them what they need to learn for their professional development. It also guides the teachers of teachers, in colleges and education schools, as they create courses and instruction sequences in the sciences and engineering.

{State Education Department} /{Name School District} should work immediately to adopt new science standards, based upon the *Franklin Standards*.

MODEL LETTER TO THE EDITOR

Grassroots activists should consider drafting a Letter to the Editor in favor of the *Franklin Standards*. A Letter to the Editor can help persuade public opinion. The Letter to the Editor is also a good model for any very short writing in favor of the *Franklin Standards*.

MODEL LETTER TO THE EDITOR TEXT

The **{Name School District} / {State Education Department}** should adopt new science standards, based upon *The Franklin Standards: Model K-12 Science Standards*. The *Franklin Standards* is rigorous, clearly written, and appeals to a broad majority of Americans, because it does not pursue a narrow, ideological agenda. The *Franklin Standards* provides comprehensive content knowledge, integrates that content knowledge with the scientific method and how to think scientifically, and educates students to act as informed and confident citizens and policymakers. The *Franklin Standards* already has been endorsed by large number of organizations and individuals from around the country.

The *Franklin Standards* provides a content-rich summary of required science knowledge, with equal standards for every student, which includes Physical Sciences (Chemistry and Physics), Life Sciences (Biology), and Earth and Space Sciences, as well as Technology and Engineering, History of Science, and Scientific Inquiry. The *Franklin Standards* focuses on lucid statements of scientific knowledge that every citizen should know.

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The *Franklin Standards* will especially benefit the most disadvantaged students. Disadvantaged students benefit from intensive content instruction even more than better-off students, who receive large amounts of content knowledge from their families and peers. Content standards that abbreviate content foster an unequal society because they especially harm the education of disadvantaged children. The *Franklin Standards'* intensive content standards fulfill America's promise of equal educational opportunities for everyone.

The **{Name School District} / {State Education Department}** should work immediately to adopt new science standards, based on *The Franklin Standards: Model K-12 Science Standards*.



MODEL LETTER TO A POLICYMAKER

Grassroots activists should consider drafting a Letter to a Policymaker in favor of the *Franklin Standards*. A Letter to a Policymaker can help persuade a policymaker to take action in favor of the *Franklin Standards*.

Our modern Letter to a Policymaker differs from our Letter to an Editor most importantly by including room for Personal Information such as: I am a constituent; I live in X; my children attend school at X; their current science instruction is not sufficient because X. Policymakers (rightly) care more when you can link a request to your own personal experience. Grassroots activists should be sure to connect the call to support the *Franklin Standards* with their own experience about the problems with science education in their local schools.

A Policymaker can include a governor, an education commissioner, a state senator, a state representative, a principal, a school board member, and more. Grassroots activists should tailor this letter to the particular policymaker they're writing to, and make sure that what they're asking for is something that lies within their correspondent's power.

MODEL LETTER TO A POLICYMAKER TEXT

Dear **{Title} {Name}**,

I urge you to publicly support *The Franklin Standards: Model K-12 Science Standards*, and to tell the **{State Education Department}** that they should adopt new science standards based upon the *Franklin Standards*. The *Franklin Standards* is rigorous, clearly written, and appeals to a broad majority of Americans, because it does not pursue a narrow, ideological agenda. The *Franklin Standards* provides comprehensive content knowledge, integrates that content knowledge with the scientific method and how to think scientifically, and educates students to act as informed and confident citizens and policymakers. The *Franklin Standards* already has been endorsed by large number of organizations and individuals from around the country.

The *Franklin Standards* provides a content-rich summary of required science knowledge, with equal standards for every student, which includes Physical Sciences (Chemistry and Physics), Life Sciences (Biology), and Earth and Space Sciences, as well as Technology and Engineering, History of Science, and Scientific Inquiry. The *Franklin Standards* focuses on lucid statements of scientific knowledge that every citizen should know.

The *Franklin Standards* prepares students for college and career with broad background knowledge. The *Franklin Standards'* straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science. The *Franklin Standards'* intensive content standards also facilitate reliable assessment, whether by state-level testing or tests by school districts and individual teachers.

The *Franklin Standards* will especially benefit the most disadvantaged students. Disadvantaged students benefit from intensive content instruction even more than better-off students, who receive large amounts of content knowledge from their families and peers. Content standards that abbreviate content foster an unequal society because they especially harm the education of disadvantaged children. The *Franklin Standards'* intensive content standards fulfill America's promise of equal educational opportunities for everyone.

{Personal Information: I am a constituent; I live in X; my children attend school at X; their current science instruction is not sufficient because X.}

Please publicly support the *Franklin Standards*, and urge the **{State Education Department}** to work immediately to adopt new science standards, based upon the *Franklin Standards*.

Best wishes,

{Name}

MODEL SPEECHES AND LETTERS

Grassroots activists should be prepared to make a more detailed argument in favor of the *Franklin Standards*. This argument can take the form of a speech at a City Council Meeting, a speech at a School Board Meeting, or a Letter to a School board. These Speeches and Letters should be longer than a Letter to the Editor or a Letter to a Policymaker. This resource should be used for any purpose that requires a longer argument in favor of the *Franklin Standards*.

MODEL SPEECHES AND LETTERS TEXT

The **{Name School District}** should adopt new science standards. I recommend that we adopt standards based on *The Franklin Standards: Model K-12 Science Standards*. The *Franklin Standards* is rigorous, clearly written, and appeals to a broad majority of Americans, because it does not pursue a narrow, ideological agenda. The *Franklin Standards* already has been endorsed by large number of organizations and individuals from around the country. The *Franklin Standards* provides comprehensive content knowledge, integrates that content knowledge with the scientific method and how to think scientifically, and educates students to act as informed and confident citizens and policymakers.

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The *Franklin Standards* removes the low standards imposed by the Next Generation Science Standards and similar standards in the name of “diversity, equity, and inclusion,” politicization, and the conflation of scientific inquiry and activism. It provides full and excellent science instruction in part by using materials produced before a hyper-politicized generation came to the fore in the education establishment and in part by updating its content to incorporate current scientific knowledge.

The *Franklin Standards* is designed so that states and school districts can alter the sequence as they see fit. States and school districts can create equally rigorous standards by abbreviating some topics, expanding others, or making age-appropriate adjustments.

The *Franklin Standards* does not provide an entire curriculum. Teachers are free to teach each topic as they see fit, to add new topics, to incorporate independent lesson plans and sequences, and to unite items from these learning standards into thematic units. They also are free to reorganize the sequence in which they teach these topics, as well as to review material from earlier grades in any course of instruction.

The *Franklin Standards* emphasizes clarity far more than rival science standards. We have eliminated the tangle of skills and crosswalks and presented a simple list of factual items. The *Franklin Standards'* straightforward structure makes it easy for teachers to use and easy for parents to hold teachers accountable for how well they teach science.

The *Franklin Standards* aligns with pedagogies that emphasize rigorous standards, individual effort, classroom instruction, and content knowledge. These pedagogies increase school accountability to parents and policymakers. You can't tell how well teachers instruct an individual student when they're assessing group projects, "skills," or ideological commitments—or when all students pass, no matter how little they learn.

The *Franklin Standards* prepares students for college and career with broad background knowledge; the talent to absorb, synthesize and make use of large numbers of facts; the capacity to listen sympathetically to multiple points of view and to engage in free debate; the readiness to be judged for their ability to produce timely and competent work; and independence of conscience and mind.

The *Franklin Standards* are intended to boost science knowledge of all students and are not intended to substitute for early college classes, such as dual credit (taught in high school) and dual enrollment (taught in college) courses in advanced science. We also encourage ambitious and qualified students to take early college courses, the better to stimulate their love of science and prepare them for college and career.

Content standards that focus on "skills" and abbreviate content especially harm the education of disadvantaged students, and thereby foster an unequal society. When disadvantaged students receive intensive content instruction, they learn eagerly and well. The *Franklin Standards* offers comprehensive content knowledge to ensure that America's schools fulfill the promise of equal educational opportunities for everyone.

The *Franklin Standards'* intensive content standards facilitate reliable assessment, whether by national companies such as the Educational Testing Service (ETS), state-level testing, or tests by school districts and individual teachers. Its content standards provide enough material to make it easy both for teachers and for large organizations such as ETS to create tests that accurately assess student knowledge.

The *Franklin Standards'* guides proper teacher training. If teachers do not already know this material, it tells them what they need to learn for their professional development. It also guides the teachers of teachers, in colleges and education schools, as they create courses and instruction sequences in the sciences and engineering.

{Name School District} should work immediately to adopt new science standards, based on the *Franklin Standards*.

SOCIAL MEDIA RESOURCES

Grassroots activists should publicize the *Franklin Standards* on social media. We provide several sample posts they can use, in text form and in graphical form.

SAMPLE TEXT SOCIAL MEDIA POSTS

States and school districts should create science standards modeled on the *Franklin Standards* because it teaches the scientific method.

Join me in supporting the *Franklin Standards*: <https://freedomined.org/franklin-science-standards>.

The time is NOW to reclaim our country's science education for K-12 students.

Ask your governor, your state senator, your state representative, and your school board to support the *Franklin Standards*: <https://freedomined.org/franklin-science-standards>.

America needs science standards that teach SCIENCE instead of ACTIVISM.

Learn about the *Franklin Standards*: <https://freedomined.org/franklin-science-standards>.

ACTION SUGGESTIONS

FOR STATE POLICYMAKERS

State policymakers (governors, state senators, and state representatives) play a crucial role in improving state science standards. They must work for reform, however, partly by means of state education departments, which, in most states, have been delegated authority over much state education policy. They also should work for reform in ways that respects the power of school districts to set their own curriculum.

We provide below a series of Action Suggestions for State Policymakers. We do so keenly aware that state policymakers know their state and their business better than we do. We hope, nevertheless, that these suggestions will be useful to policymakers who wish to introduce the *Franklin Standards* into their states—or to forward any sort of education reform.

PERSONNEL

- Governors should appoint Superintendents who are dedicated to the cause of science standards reform, and who will themselves appoint more reformers to the state education department. Governor Ron DeSantis (R-Florida) forwarded social studies standards reform by appointing Richard Corcoran as Education Commissioner, while the bipartisan Louisiana State Board of Elementary and Secondary Education did likewise by appointing Dr. Cade Brumley as State Superintendent of Education.
- State legislators should communicate to governors that they would favor appointments of individuals who will press for science standards reform.
- Governors and state legislators should assemble lists of education reformers who will champion science standards reform, to be ready for appointment as Superintendents, and throughout the state education department. Education reformers who can serve on standards writing committees will be particularly useful.

SCIENCE STANDARDS REVISION

Some states have regular academic standards revision processes; others depend on legislative or gubernatorial initiative for academic standards revision.

- State policymakers should inform themselves about the particular standards revision process in their state. They should communicate with state education departments to discover what is the precise nature of the process in their state, so they may exert effective influence on the process of science standards revision.
- State policymakers should inform themselves about the state education department’s selection of committee members to determine the revision of science standards. State policymakers should make sure that these committees include champions of science education reform, and ideally champions of the *Franklin Standards*.
- State policymakers should inform themselves in each stage of the review process of the contents of draft revised science standards, keep their constituents informed about these contents, and encourage public participation and input. In 2021-2022, public comments from concerned citizens provided crucial support for improved social studies standards as Louisiana developed its “Freedom Framework” Content Standards. State policymakers should facilitate similar public comment in favor of the *Franklin Standards*.
- State policymakers should communicate their preference for the *Franklin Standards*, and similar reformed science standards that provide comprehensive content knowledge, integrate content knowledge with sustained attention to the scientific method and how to think scientifically, and educate students to act as informed and confident citizens and policymakers. They should do so in letters to education departments, in committees where they seek testimony from education department personnel, in public debate in the state legislature, and in public speeches.
- State policymakers should use the *Franklin Standards* particularly as a counter-model to draft science standards, or existing science standards, which do not serve their state well. They can use the *Franklin Standards* to make critiques in detail of misguided standards—but the *Franklin Standards* can be more effective as a counter-model as a whole. State policymakers should use the

Franklin Standards as a way to say, *Why don't you start over entirely the process of drafting science standards?*

- State policymakers should inform grassroots activists of occasions for public testimony on behalf of the *Franklin Standards*. The National Association of Scholars and Freedom in Education will be glad to testify in favor of the *Franklin Standards*, but we know that such testimony is more effective when complemented by similar testimony from state citizens.
- State policymakers should be willing to initiate special means for science standards revision. In South Dakota, Governor Kristi Noem [appointed a special commission](#) to redraft social studies standards, whose personnel largely came from outside South Dakota's education establishment. Whenever it is an appropriate means to forward science standards reform, state policymakers should follow Governor Noem's example.

OTHER EDUCATION DEPARTMENT SCIENCE MATERIALS AND REGULATIONS

State education departments produce a great deal of material and regulations tied to science standards, including model curricula, curriculum frameworks, licensure requirements, teacher training, resources, and assessments. State policymakers should work to ensure that all these science materials also have been reformed to align with the *Franklin Standards*.

SCIENCE STANDARDS LEGISLATION

We particularly recommend to state policymakers to consider the Franklin Standards Taskforce Act. The Franklin Standards Taskforce Act establishes a commission to draft science standards based on the *Franklin Standards*.

TEACHER TRAINING LEGISLATION

Science standards reform ultimately depends upon educating a body of science teachers who are equipped to teach the *Franklin Standards*. State policymakers also should work to reform their public universities and their education schools, to ensure that they will produce this body of science teachers. We recommend that state policymakers consider several of the National Association of Scholars' model bills, from our [Model Education Licensure Code](#). These bills, which also align with the *Franklin Standards*, would forward teacher training reform at the level appropriate to statute law.

- [Education Licensure Certificate Act](#). The Education Licensure Certificate Act creates a new, simplified education licensure pathway, which requires students to take a number of undergraduate courses, focused on subject matter content.
- [Education Licensure Review Act](#). The Education Licensure Legislative Review Act requires all existing education licensure requirements, and all forthcoming revisions, to be submitted to the state legislature and the governor for review and possible veto.
- [Education Licensure Nondiscrimination Act](#). The Education Licensure Nondiscrimination Act depoliticizes all state education requirements, processes, and materials.

SCHOOL DISTRICTS

The *Franklin Standards* can and should be adopted at the school district level. State policymakers should inform school board members and school district administrators of the existence of the *Franklin Standards* and encourage them to adopt it.

PUBLICITY & COOPERATION WITH GRASSROOTS EFFORTS

We recommend that state policymakers work to publicize the *Franklin Standards* to their constituents, and to work with grassroots activists to inspire public efforts in favor of the *Franklin Standards*. We believe that joint efforts by policymakers and the public will be more effective in promoting science standards reform keyed around the *Franklin Standards*.