

**Research Requirements for Standard 6.3 in the 2020 NJ Learning Standards**  
**Suggested Links to Enable Your Discussion and Implementation**  
**An Interdisciplinary Framework: Social Studies, Science, Fine & Media Arts**

**Grades K-2**

6.3.2.CivicsPD.1: With adult guidance and support, bring awareness of a local issue to school and/or community members and make recommendations for change.

Wastewater Management

Protecting open spaces and farmland

Cleaning up waterways

Air Quality

Urban Sprawl

Recycling

Reducing Poverty

Cleaning up toxic waste sites

Managing plastics

Sustainable environments

Internet Access

Community policing

Repairing infrastructure

Educational Issues

Local & State Taxes

6.3.2.GeoGI.1: Investigate a global issue such as **climate change**, its significance, and share information about how it impacts different regions around the world.

[Teaching About Climate Change to Children](#) (Climate Kids)

[Explaining the Carbon Footprint to Children](#) (Teaching Helpful Kids)

[Environmental Carbon Footprint Calculators](#) (Green Schools Initiative)

[Just for Kids: What's Climate Change? And What Can I Do?](#) (Climate Reality Project)

[Climate Impact Map](#) (Global Change Impact Lab)

[How Climate Change Impacts Children](#) (EcoWatch)

[NJ Climate Resources](#) (David Robinson, NJ State Climatologist)

6.3.2.GeoGI.2: Collect data and consider sources from multiple perspectives to become informed about an **environmental issue** and identify possible solutions.

[Daily Water Usage](#) (U.S. Geological Survey)

[The National Map](#) (U.S. Geological Survey)

[Energy Use Calculators](#)

[NJ Climate Resources](#) (David Robinson, NJ State Climatologist)

[Projections of Climate Change in the Future](#) (Interactive city map USA based on emissions)

[Climate Change and Children](#) (United Nations)

**Science**

• K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, **severe weather**. [Clarification Statement: Emphasis is on local forms of severe weather.]

• K-ESS3-3 **Communicate solutions that will reduce the impact of climate change** and humans on the land, water, air, and/or other living things in the local environment. [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]

Ask questions, make observations, and gather information about a situation people want to change (e.g., **climate change**) to define a simple problem that can be solved through the development of a new or improved object or tool.

ETS1.B: **Developing Possible Solutions** ✦ Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions, such as climate change, to other people. (K-2-ETS1-2)

**Fine and Media Arts**

• **1.2.2.Re7b: Identify**, share and describe a variety of media artworks created from different experiences in response to global issues including climate change

- 1.4.2.Cn11a: With prompting and support, identify similarities and differences in stories and various art forms from one’s own community and from multiple cultures in a guided drama (e.g., process drama, story drama, creative drama) experience about global issues, including **climate change**.
- 1.5.2.Cn11b: Describe why people from different places and times make art about different issues, including **climate change**.

### Grades 3-5

6.3.5.CivicsPD.1: Develop an action plan that addresses issues related to **climate change** and share with school and/or community members.

[Climate of Change videos](#) (Univ. of Washington)

[Six Project Stories Relating to Climate and the Environment](#) (Student Projects)

6.3.5.CivicsPD.2: Use a variety of sources and data to identify the various perspectives and actions taken by individuals involving a current or historical community, state, or national issue.

[Five Issues Facing New Jersey](#) (Editorial)

[Seven Issues Facing New Jersey](#) (Editorial)

[Smart Growth Issues Facing New Jersey](#) (NJ Future)

[Environmental issues Facing New Jersey](#) (Environment NJ)

6.3.5.CivicsPD.3: Propose a solution to a local issue after considering evidence and the perspectives of different groups, including community members and local officials.

[Financial Solutions](#) (Editorial)

[Environmental Solutions](#) (NJ Department of Environmental Protection)

[Housing Solutions](#) (Housing and Community Development Network of NJ)

[Seven Solutions to the Climate Crisis](#) (Climate Reality Project)

6.3.5.GeoHE.1: Plan and participate in an advocacy project to inform others about the impact of **climate change** at the local or state level and propose possible solutions.

[Global Advocacy Projects on Climate Change](#) (Climate Change & Resilience Information Center)

[The Climate Change Advocacy Toolkit](#) (Southern Voices on Climate Change)

[Launch Climate Action Projects in Your Community](#) (Conservation in a Changing Climate)

### Science

• 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.] Science and Engineering Practices

• 3-ESS3-1 **Make a claim about the merit of a design solution that reduces the impacts of climate change** and/or a weather-related hazard. [Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.]

ETS1.B: Developing Possible Solutions ♣ Research on a problem, such as climate change, should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)

• 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources, environment, and address climate change issues.

MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused climate change over the past century. [Clarification Statement: Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.]

ESS3.D: Global Climate Change ♣ Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities. (MS-ESS3-5)

### **Fine and Media Arts**

- 1.1.5.Cn10b: Use an inquiry base to investigate global issues, including climate change, expressed through a variety of dance genres, styles and cultural lenses.
  - 1.2.5.Re7b: Identify, describe, explain and differentiate how various forms, methods, and styles in media artworks affect and manage audience experience when addressing global issues including climate change.
  - 1.4.5.Cn11a: Identify, respond to and investigate connections to global issues including climate change and other content areas in a dramatic/theatrical work.
- 1.5.5.Cn11b: Communicate how art is used to inform others about global issues, including climate change.

### **Grades 6-8**

6.3.8.CivicsPI.1: Evaluate, take, and defend a position on why government is necessary, and the purposes government should serve.

- [The Nature of Government](#) (U.S. History.org)
- [Is Government Necessary?](#) (Debate.org)
- [Roots of American Government](#) (Dallas College)
- [Hobbes and Locke Social Contract Theory](#) (Law Aspect.com)
- [Social Contract](#) (Academic Kids.com)

6.3.8.CivicsPI.2: Evaluate the extent to which different forms of government reflect the history and values of various societies (e.g., monarchy, democracy, republic, dictatorship).

- [Types of Governments](#) (Dallas College)
- [Forms of Government](#) (Lumen Learning)
- [Government](#) (Scholastic)
- [Democracy, Monarchy & Dictatorship](#) (The Borgen Project)

6.3.8.CivicsPI.3: Use a variety of sources from multiple perspectives to examine the role of individuals, political parties, interest groups, and the media in a local or global issue and share this information with a governmental or nongovernmental organization as a way to gain support for addressing the issue.

- [Interest Groups: Who or What They Are](#) (Lumen Learning)
- [Policy Making: Political Interactions](#) (U.S. History.org)
- [The Importance of Political Parties](#) (Ace Project)

6.3.8.CivicsPI.4: Investigate the roles of political, civil, and economic organizations in shaping people's lives and share this information with individuals who might benefit from this information.

#### **Political:**

- [Urban Justice Center](#)
- [League of Women Voters](#)
- [Understanding Political Issues](#) (Youth.gov)
- [Common Cause](#)

**Civil:**

[Southern Poverty Law Center](#)  
[The Informed Citizen Blog](#) (NJ State Bar Foundation)  
[NJ Center for Civic Education](#)  
[National Constitution Center](#)  
[Petey Greene Program](#) (Criminal Justice Reforms)

**Economic:**

[National Endowment for Financial Education](#)  
[Directory of Organizations Supporting Financial Education](#) (PBS)  
[Council for Economic Education](#)  
[Working in Support of Education](#) (WISE)  
[Federal Deposit Insurance Corporation](#)  
[U.S. Department of Labor](#)

6.3.8.CivicsPD.1: Deliberate on a public issue affecting an upcoming election, consider opposing arguments, and develop a reasoned conclusion.

[Public Education v. Charter Schools](#)  
[Environmental Protection v. Economic Growth](#)  
[Law & Order v. Criminal Justice Reform](#)  
[Tax Cuts v. Tax Increases](#)  
[Free Trade v. Tariffs](#)  
[Regulation v. Deregulation](#)

6.3.8.CivicsPD.2: Propose and defend a position regarding a public policy issue at the appropriate local, state, or national level.

[Five Issues Facing New Jersey](#) (Editorial)  
[Seven Issues Facing New Jersey](#) (Editorial)  
[Smart Growth Issues Facing New Jersey](#) (NJ Future)  
[Environmental issues Facing New Jersey](#) (Environment NJ)

6.3.8.CivicsPD.3: Construct a claim as to why it is important for democracy that individuals are informed by facts, aware of diverse viewpoints, and willing to take action on public issues.

[Tax Policy Center](#)  
[Tax Policy](#) (U.S. Department of the Treasury)  
[Tax Policy](#) (Tax Foundation)  
[Fact Check](#) (Annenberg Public Policy Center)  
[Fact Check](#) (National Public Radio)  
[The Roper Center](#) (Cornell University)  
[Pew Research Center](#)  
[The Eagleton Institute](#) (Rutgers University)

6.3.8.CivicsDP.1: Identify an issue of inequality, develop multiple solutions, and communicate the best one to an appropriate government body.

Equal Pay for Women  
Academic Tracking in Education  
Quota System for College Admissions  
Access to Health Care

6.3.8.CivicsDP.2: Make a claim based on evidence to determine the extent and the limitations of First Amendment rights (e.g., U.S. Supreme Court decisions).

[Directory of U.S. Supreme Court Cases](#) (Institute for Free Speech)

[Supreme Court Cases](#) (Cato Institute)

[Bill of Rights Institute](#)

[Foundation for Individual Rights in Education](#)

[The Bill of Rights](#) (National Archives)

6.3.8.CivicsDP.3: Use historical case studies and current events to explain why due process is essential for the protection of individual rights and maintenance of limited government.

[The Federalist Papers](#) (Khan Academy)

[Civil Rights & Civil Liberties](#) (U.S. History.org)

[Limited Government](#) (Cengage)

[The Constitution](#) (White House)

[Separation of Powers: U.S. v. Alvarez](#) (U.S. Courts)

[Separation of Powers](#) (National Archives)

[The Federalist Papers #51](#) (The Avalon Project, Yale University)

6.3.8.CivicsPR.1: Analyze primary sources to explain how democratic ideas in the United States developed from the historical experiences of ancient societies, England, and the North American colonies.

[Founding Documents](#) (Congress. gov.)

[Papers of the Continental Congress](#) (University of Denver)

[Historic Documents on the Development of American Government](#) (U.S. History.org)

[The Fundamental Orders of Connecticut, 1639](#) (Teaching American History)

[Primary Documents in American History](#) (Library of Congress)

[17<sup>th</sup> Century Documents in World History](#) (The Avalon Project, Yale)

6.3.8.CivicsPR.2: Evaluate the effectiveness of the fundamental principles of the Constitution (i.e., consent of the governed, rule of law, federalism, limited government, separation of powers, checks and balances, and individual rights) in establishing a federal government that allows for growth and change over time.

[The Constitutional Convention](#) (The Avalon Project, Yale)

[American Icons](#) (PBS Learning)

[Educational Videos on the U.S. Constitution](#) (National Constitution Center)

[Principles of the U.S. constitution](#) (North Carolina Civic Education Consortium)

[The Annenberg Guide to the U.S. Constitution](#) (The Annenberg Public Policy Center, UPenn)

6.3.8.CivicsPR.3: Take a position on an issue in which fundamental ideals and principles are in conflict (e.g., liberty, equality).

[Equality v. Liberty: The Eternal Conflict](#) (Foundation for Economic Education)

[An Introduction to Documents of Freedom](#) (Bill of Rights Institute)  
[Democratic Values: Liberty, Equality, Justice](#) (U.S. History.org)

6.3.8.CivicsPR.4: Use evidence and quantitative data to propose or defend a public policy related to **climate change**.

[Climate Change Initiatives in New Jersey](#) (NJ Department of Environmental Protection)  
[Climate Change and New Jersey](#) (Rutgers University)  
[Offshore Wind](#) (NJ Department of Environmental Protection)  
[The Carbon Dividends Plan](#) (Students for Carbon Dividends)  
[Environmental Initiatives](#) (Port Authority of New York & New Jersey)  
[Climate and the Environment](#) (The Fund for New Jersey)  
[NJ Board of Public Utilities Report, 2019](#) (NJ Board of Public Utilities)

6.3.8.CivicsPR.5: Engage in simulated democratic processes (e.g., legislative hearings, judicial proceedings, elections) to understand how conflicting points of view are addressed in a democratic society.

[Resources for Model Congress Simulations in the Classroom](#) (Teachers Pay Teachers) (Moderate costs under \$25)  
Consider organizing your own Model Congress (with multiple classrooms, area schools, local college)  
[NJ Mock Election](#) Register your class to vote on an issue and/or candidates for public office (October)

6.3.8.CivicsPR.6: Seek the perspectives of multiple stakeholders with diverse points of view regarding a local budget issue and take a position on proposed policy.

[Consider perspectives on a specific line item in a school budget, municipal budget, county budget](#)

6.3.8.CivicsPR.7: Compare how ideas become laws at the local, state, and national level.

[A Student's Guide to Making Laws in New Jersey](#) (NJ State House Tours)  
[A Student's Guide to the New Jersey Legislature](#) (NJ State House Tours)  
[How a Bill Becomes a Law in the Garden State](#) (NJ Spotlight)  
[The Legislative Process](#) (U.S. House of Representatives)  
[How Our Laws Are Made](#) (Congress.gov)  
[How a Bill Becomes a Law](#) (Annenberg Public Policy Center, UPenn)  
[How a Bill Becomes a Law](#) (U.S. History.org)

6.3.8.CivicsHR.1: Construct an argument as to the source of human rights and how they are best protected.

[The Foundation for International Human Rights](#) (United Nations)  
[Protecting Human Rights](#) (US Aid)  
[Human Rights and Democracy](#) (U.S. Department of State)  
[Human Rights](#) (Carter Center)  
[The United Nations and Human Rights](#) (UNICEF)  
[Defend Rights-Secure Justice](#) (Human Rights Watch)  
[Human Rights](#) (Vital Voices)  
[European Union Human Rights Policy](#) (European Union)  
[The Fight Against Child Trafficking](#) (Save the Children)

6.3.8.EconET.1: Using quantitative data, evaluate the opportunity cost of a proposed economic action, and take a position and support it (e.g., healthcare, education, transportation).

[Compare Medicare for all with Public Plan Proposals](#) (Kaiser Family Foundation)

[Health Economics](#) (American Enterprise Institute)

[Infrastructure](#) (Pew Charitable Trusts)

[The Rising Cost of Not Going to College](#) (Pew Research Center)

6.3.8.EconET.2: Assess the impact of government incentives and disincentives on the economy (e.g., patents, protection of private property, taxes).

[The Realities of Economic Development Subsidies](#) (Center for American Progress)

[Examining the Local Value of Economic Development Incentives](#) (The Brookings Institute)

[Economic Development Tax Incentives](#) (Pew Research Center)

[Incentives and Disincentives: They Really Do Matter](#) (Foundation for Economic Education)

[How Government Policies Discourage Savings](#) (The Heritage Foundation)

#### Science

LS4.D: Biodiversity and Humans ♣ Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (secondary to HS-LS2-7) ♣ Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value. (secondary to HS-LS2-7) (Note: This Disciplinary Core Idea is also addressed by HSL4-6.)

#### Fine and Media Arts

- 1.1.8.Cn10b: Employ a variety of research methods to inform the development of original dances about global issues, including **climate change**. Articulate ways the research deepened understanding of the topic and how big ideas are expressed metaphorically through dance.
- 1.2.8.Re7b: Compare, contrast and analyze how various forms, methods and styles in media artworks affect and manage audience experience and create intention when addressing global issues including **climate change**. Anchor Standard 8:
- 1.4.8.Cn11a: Research the story elements of a staged drama/theatre work about global issues, including **climate change**, and discuss how a playwright might have intended a theatrical work to be produced.
- 1.5.8.Cn11b: Analyze and contrast how art forms are used to reflect global issues, including **climate change**.

#### Grades 9-12

6.3.12.CivicsPD.1: Develop plan for public accountability and transparency in government related to a particular issue(s) and share the plan with appropriate government officials.

[Current Legislation PASSED in New Jersey](#) (Legiscan)

[Current Legislation Signed into law by the President of the United States](#) (Legiscan)

[Current Legislation Signed into law by the President of the United States](#) (GovTrack)

[Research a law and the extent that it is being implemented and enforced in your community or our state.](#)

6.3.12.CivicsHR.1: Compare current case studies involving slavery, child labor, or other unfair labor practices in the United States with those of other nations and evaluate the extent to which these human rights violations are a universal problem.

[Child Labor, Forced Labor, and Human Trafficking](#) (Department of Labor)

[Child Labor Issues in Other Countries](#) (Human Rights Watch)  
[Modern Slavery](#) (Council on Foreign Relations)  
[History of Child Labor in the United States](#) (Bureau of Labor Statistics)  
[Statistical Data and Graphs on Child Labor](#) (Our World in Data)  
[Child Labor](#) (National Underground Freedom Center)

6.3.12.GeoGI.1: Collaborate with students from other countries to develop possible solutions to an issue of **environmental justice**, including **climate change and water scarcity**, and present those solutions to relevant national and international governmental and/or nongovernmental organizations.

[Climate Change Impact Map](#)  
[Water Scarcity](#) (United Nations)  
[These Countries are Most at Risk of a Water Crisis](#) (Bloomberg)  
[Global Water Report 2018](#) (CDP, Carbon Disclosure Project)  
[Environmental Justice](#) (Environmental Protection Agency)  
[Environmental Justice](#) (Sierra Club)  
[Environmental Justice Case Studies](#) (Columbia University)  
[Effects of Climate Change](#) (NASA)  
[Paris Agreement](#) (United Nations)

6.3.12.EconGE.1: Participate in a simulated meeting (e.g., President's Council, World Bank, International Monetary Fund (IMF), research evidence from multiple sources about an economic problem (e.g., inflation, unemployment, deficit), and develop a plan of action.

[ICONS Simulations](#) (University of Maryland)  
[Terminal Deflation is Coming](#) (Foreign Policy)  
[The Effects of Inflation on Global Investments](#) (The Balance)  
[Don't Worry About Inflation, Yet](#) (The Economist)  
[World Debt Clock](#)  
[U.S. Debt Clock](#)  
[World Bank](#)  
[International Monetary Fund](#)  
[World Employment Report](#) (International Labour Organization)  
[World Economic Outlook and Prospects, June 2020](#) (United Nations)

6.3.12.HistoryCA.1: Analyze the impact of [a] current governmental practices and laws affecting national security and/or [individual civil] First Amendment rights and privacy (e.g., immigration, refugees, seizure of personal property, juvenile detention, listening devices, deportation, religion in schools).

[National Security Issues](#) (Rand Corporation)  
[National Security & Defense](#) (White House)  
[National Security Agency](#)  
[National Security Issues](#) (National Public Radio)  
[UN Refugee Fact Sheet](#) (United Nations Refugee Agency)  
[Refugees, Asylum-Seekers and Migrants](#) (Amnesty International)  
[Refugee Rights](#) (Human Rights Watch)

[The U.S. Immigration Debate](#) (Council on Foreign Relations)  
[What Immigration Reform Should Look Like](#) (the Heritage Foundation)  
[Immigration Reform](#) (the Century Foundation)  
[ICE Arrests and Deportation](#) (Pew Research Center)  
[Deportations and Removals](#) (Migration Policy Institute)  
[Betsy DeVos and the Threat to Separation of Church and State in Education](#) (The Century foundation)  
[Religion in Public Schools](#) (Pew Research Center)  
[Forfeiture and Seizure of Property](#) (U.S. Department of Justice)  
[Asset/Forfeiture Abuse](#) (American Civil Liberties Association)  
[New Jersey Eminent Domain Laws](#) (U.S. Legal)

6.3.12.HistoryCA.2: Analyze a current foreign policy issue by considering current and historical perspectives, examining strategies, and presenting possible actions.

[U.S. Department of State](#)  
[Atlantic Council](#)  
[Council on Foreign Relations](#)  
[Foreign Policy Association](#)  
[Foreign Affairs](#)  
[Foreign Policy](#) (Miller Center at the University of Virginia)  
[Wilson Center](#)  
[The European Union's External Relations](#)

#### Science

Construct an explanation based on evidence for how natural selection leads to adaptation of populations. [Clarification Statement: Emphasis is on using data to provide evidence for how specific biotic and abiotic differences in ecosystems (such as ranges of seasonal temperature, long-term **climate change**, acidity, light, geographic barriers, or evolution of other organisms) contribute to a change in gene frequency over time, leading to adaptation of populations.]

LS4.D: Biodiversity and Humans ♣ Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth.

Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems. [Clarification Statement: Examples should include **climate feedbacks**, such as how an increase in greenhouse gases causes a rise in global temperatures that melts glacial ice, which reduces the amount of sunlight reflected from Earth's surface, increasing surface temperatures and further reducing the amount of ice. Examples could also be taken from other system interactions, such as how the loss of ground vegetation causes an increase in water runoff and soil erosion; how dammed rivers increase groundwater recharge, decrease sediment transport, and increase coastal erosion; or how the loss of wetlands causes a decrease in local humidity that further reduces the wetland extent.]

Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate. [Clarification Statement: Examples of the causes of climate change differ by timescale, over 1–10 years: large volcanic eruption, ocean circulation; 10–100s of years: changes in human activity, ocean circulation, solar output; 10–100s of thousands of years: changes to Earth's orbit and the orientation of its axis; and 10–100s of millions of years: long-term changes in atmospheric composition.] [Assessment Boundary: Assessment of the results of **changes in climate** is limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.]

ESS1.B: Earth and the Solar System ♣ Cyclical changes in the shape of Earth's orbit around the sun, together with changes in the tilt of the planet's axis of rotation, both occurring over hundreds of thousands of years, have altered the intensity and distribution of sunlight falling on the earth. These phenomena cause a cycle of ice ages and other gradual **climate changes**. (secondary to HS-ESS2-4)

♣ The geological record shows that **changes to global and regional climate** can be caused by interactions among changes in the sun's energy output or Earth's orbit, tectonic events, ocean circulation, volcanic activity, glaciers, vegetation, and human activities. These changes can occur on a variety of time scales from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles. (HSESS2-4)

Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and climate change have influenced human activity. [Clarification Statement: Examples of key natural resources include access to fresh water (such as rivers, lakes, and groundwater), regions of fertile soils such as river deltas, and high concentrations of minerals and fossil fuels. Examples of natural hazards can be from interior processes (such as volcanic eruptions and earthquakes), surface processes (such as tsunamis, mass wasting and soil erosion), and severe weather (such as hurricanes, floods, and droughts). Examples of the results of **changes in climate** that can affect populations or drive mass migrations include changes to sea level, regional patterns of temperature and precipitation, and the types of crops and livestock that can be raised.]

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems. [Clarification Statement: Examples of data on the impacts of human activities could include the quantities and types of pollutants released, changes to biomass and species diversity, or areal changes in land surface use (such as for urban development, agriculture and livestock, or surface mining). Examples for limiting future impacts could range from local efforts (such as reducing, reusing, and recycling resources) to large-scale geoeengineering design solutions (such as **altering global temperatures** by making large changes to the atmosphere or ocean).]

- HS-ESS3-5 Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems. [Clarification Statement: Examples of evidence, for both data and climate model outputs, are for **climate changes** (such as precipitation and temperature) and their associated impacts (such as on sea level, glacial ice volumes, or atmosphere and ocean composition).] [Assessment Boundary: Assessment is limited to one example of a climate change and its associated impacts.]

- HS-ESS3-6 Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity (i.e., climate change). [Clarification Statement: Examples of Earth systems to be considered are the hydrosphere, atmosphere, cryosphere, geosphere, and/or biosphere. An example of the far-reaching impacts from a human activity is how an increase in **atmospheric carbon dioxide** results in an increase in photosynthetic biomass on land and an increase in ocean acidification, with resulting impacts on sea organism health and marine populations.] [Assessment Boundary: Assessment does not include running computational representations but is limited to using the published results of scientific computational models.]

ESS3.D: **Global Climate Change** ♣ Though the magnitudes of human impacts are greater than they have ever been, so too are human abilities to model, predict, and manage current and future impacts. (HS-ESS3-5) ♣ Through computer simulations and other studies, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are modified in response to human activities. (HSESS3-6) ETS1.B: Developing Possible Solutions ♣ When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts. (secondary to HS-ESS3-2), (secondary HS-ESS3-4)

#### **Fine and Media Arts**

- 1.1.12prof.Cn10b: Research global issues, including **climate change**, using multiple research methods to inform original dances expressed through multiple genres, styles, and varied cultural perspectives.

1.1.12acc.Cn10b: Collaboratively investigate global issues, including **climate change**, to inform the development of an original dance project. Evaluate and present ways in which critical concepts are communicated metaphorically through dance.

- 1.2.12prof.Re7b: Analyze how a variety of media artworks affect audience experience and create intention through multimodal perception when addressing global issues including **climate change**. Accomplished

- 1.2.12acc.Re7b: Analyze how a broad range of media artworks affect audience experience, as well as create intention and persuasion through multimodal perception when addressing global issues including **climate change**.

- 1.2.12adv.Re7b: Survey an exemplary range of media artworks, analyzing methods for managing audience experience, creating intention and persuasion through multimodal perception and systemic communications when addressing global issues including **climate change**.

- 1.5.12prof.Cn11b: Describe how knowledge of global issues, including **climate change**, may influence personal responses to art.

- 1.5.12acc.Cn11b: Compare uses of art in a variety of societal, cultural and historical contexts and make connections to global issues, including **climate change**.

- 1.5.12adv.Cn11b: Assess the impact of an artist or group of artists on global issues, including **climate change**.

## **New Jersey becomes first state to incorporate climate change in K-12 curriculum**

[Scott Fallon](#), [NorthJersey.com](#) Published 4:12 p.m. ET June 3, 2020

From his office at Rutgers University NJ Climatologist, David Robinson discusses climate change and the effects on New Jersey. [NorthJersey.com](#)

New Jersey will become the first state to incorporate climate change into the curriculum of kindergartners through high school seniors, state officials announced Wednesday.

The new standards, which take effect in September 2021 and 2022, offer a broad outline that will allow school districts to craft instruction based on why the planet is warming and what can be done to mitigate it.

First lady Tammy Murphy spearheaded the curriculum addition with the help of 130 educators. Teaching all New Jersey public school students about climate change is especially important in a state that has already felt the effects from sea level rise on the Jersey Shore and in river communities, as well as extreme heat in cities, she said.

"This generation of students will feel the effects of climate change more than any other, and it is critical that every student is provided an opportunity to study and understand the climate crisis through a comprehensive, interdisciplinary lens," Murphy said in a statement.

Gov. Phil Murphy first mentioned the curriculum change during his State of the State address in January and has said it is a cornerstone of his clean energy push.

Murphy unveiled in January his much-anticipated outline on reaching 100% clean energy by 2050. But how to achieve those goals will be planned over two years by the Department of Environmental Protection. The governor has gotten mixed reviews from environmentalists on his clean energy goals, ranging from praise for blocking a proposed natural gas pipeline under Raritan Bay to criticism for allowing NJ Transit to move forward with building a gas-fired power plant in the Meadowlands.

The overwhelming majority of research by scientists and government agencies has shown that the planet is warming in large part due to human activity. Burning such fossil fuels as coal, natural gas and gasoline has increased the concentration of carbon dioxide in the atmosphere, preventing heat from escaping into space. New Jersey is fast becoming ground zero for climate change. Sea level rise is happening so fast in the state that it's double the global average, thanks in part to melting glaciers and the expansion of warmer water along with a gradually sinking coastal landmass.

In schools, climate change will be incorporated among seven subjects:  
21st-century life and careers

Comprehensive health and physical education  
Science  
Social studies  
Technology  
Visual and performing arts  
World languages.

Details such as how to teach climate change to 5-year-olds appear to be still in the works. [The recommendations contained in the New Jersey Student Learning Standards](#) approved on Wednesday offer only broad recommendations.

For instance, it says students in earlier grades could build a schoolyard habitat to see what improvements need to be made to guard plants, animals and humans from the effects of a warming planet. Middle school students could use resources from federal science agencies such as NASA to design projects that mitigate the impact of climate change on their communities. High school students can study heat islands or construct models showing the negative health effects of unusually high summer temperatures.

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