Action Project Planning

Turning Climate Change Knowledge Into Action

Description

Students work in groups to plan and implement a climate change action project in their school and/or community.

Grade Level

5 – 12

Objectives

Students will:

- Develop project goal and detailed project plan to achieve goal
- Collaborate with classmates to design and implement a project
- Evaluate the success of their project
- Turn their climate change knowledge into action

Time

5+ Hours

Common Core State Standards

English Language Arts Standards >> Speaking & Listening >> Grade 5

CCSS.ELA-LITERACY.SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

English Language Arts Standards >> Speaking & Listening >> Grade 6-8

CCSS.ELA-LITERACY.SL.6-8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6-8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

English Language Arts Standards >> Speaking & Listening >> Grade 9-10

CCSS.ELA-LITERACY.SL.9-10.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

English Language Arts Standards >> Speaking & Listening >> Grade 11-12

CCSS.ELA-LITERACY.SL.11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

New Mexico State Science Standards

(Strand – Standard – Benchmark – Performance Standard)

5th Grade

2-2-1-4: Describe how human activity impacts the environment.

3-1-1-1: Describe the contributions of science to understanding local or current issues (e.g., watershed and community decisions regarding water use).

6th Grade

3-1-1-1: Examine the role of scientific knowledge in decisions (e.g., space exploration, what to eat, preventive medicine and medical treatment).

8th Grade

3-1-1-3: Describe how technological revolutions have significantly influenced societies (e.g., energy production, warfare, space exploration).

3-1-1-4: Critically analyze risks and benefits associated with technologies related to energy production.

9th – 12th Grade

2-2-1-4: Critically analyze how humans modify and change ecosystems (e.g., harvesting, pollution, population growth, technology).

3-1-1-9: Describe how scientific knowledge helps decision makers with local, national, and global challenges (e.g., Waste Isolation Pilot Project [WIPP], mining, drought, population growth, alternative energy, climate change).

Next Generation Science Standards

5th Grade

5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

3-5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria on materials, time, or cost.

3-5-ETS1-2: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Middle School

MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

High School

HS-ESS3-4: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability and aesthetics as well as possible social, cultural, and environmental impacts.

Materials

- *Action Project Planning Guide* [1 per student, optional]
- Computer and projector* [optional]
- Computers and/or iPads for students to research* [optional]

*Not included in kit

Background

Now that students have completed five activities about climate change and water or energy issues in New Mexico, it is time for them to turn their new knowledge into action projects in their school and/or community. Action projects can take variety of forms (from educational campaigns, to public events, or even fundraising campaigns to support further climate change recognition) and last for varying durations, from a one-time event to a long-term solution in their school and/or community.

Some examples of past New Mexico Climate Champions actions projects include: fundraising for solar panels, teaching younger students about renewable and non-renewable energy through hands-on activities, installing a rainwater harvesting barrel, planning a bike-a-thon to encourage students to use alternative forms of transportation, creating informational videos about how to make a difference, and more. Action projects are an opportunity for students to identify a topic regarding climate change that is interesting to them and build a project around that topic.

How you approach action projects with your students is ultimately up to you. After all, you know your students, how they work together, and how they work best. Below we have included some suggestions, based on our New Mexico Climate Champions programs with a variety of age groups in a variety of settings. We also have included an *Action Project Planning Guide* with a corresponding slideshow that has been useful in helping students organize their planning process. In the *Action Project Planning Guide*, students are guided through five stages of project planning: deciding on a project, creating a project goal, planning, executing the project, and evaluating the project.

Action projects are an opportunity for students to do something about climate change! After introducing students to the realities of climate change, it is important for them to feel that they are a part of the solution. Many students feel empowered during action project planning and execution, and ultimately, feel that they are making a difference in the world.

Tips for Entire Class Participation

- Group students in a way that is conducive to your students feeling included in the planning process.
- Within larger student groups, create sub-groups that have specific responsibilities so everybody can stay engaged in a part of the project.
- Give students some say in their project topic so they feel accountable to and empowered by their projects.
- A detailed project plan with assignments for specific individuals gives everybody an opportunity to contribute and play an integral role in the project.

Action Project Planning Guide

The *Action Project Planning Guide* is a tool to help you provide your students with a framework for planning their action projects. This guide moves students through five stages of project planning: deciding on a project, creating a project goal, planning, executing the project, and evaluating the project. At each stage of the project, the *Action Project Planning Guide* provides an example using an action project designed for New Mexico Climate Champions. You may use as much or as little of this guide as you would like. We have provided an introductory slide show that corresponds with the *Action Project Planning Guide*.

Student Grouping

The method of choosing student groups is dependent on your students' personalities and how well they work together. The size of the student groups has a big impact on the scale of projects that can be done, the time it takes to make decisions, and the time it takes to complete the project.

Start by determining group sizes for your class. We have listed some group sizes that we have worked with below, including some advantages and disadvantages of each.

- 1 – 4 students per group: Quicker decision making and more communication about the status of the whole project is possible; small groups may seem limiting to some students when deciding on the scale of the project they want to pursue, since smaller scale projects are more feasible.
- 5 – 10 students per group: Students can be broken into sub-groups (e.g., marketing, logistics, communication) that can take different responsibilities. There are more opportunities for students to take initiative with sub-groups. Decision-making and communication may be challenging with many different personalities vying for leadership.
- 15-30 students per group: Usually half a class or a full class. Allows for groups to take on bigger projects, but it is imperative that these groups be split into sub-groups to be sure that each student has a role. Decision-making can take a long time and require significant support from the educator.

Generally, the larger the group, the more intervention needed from the educator to keep students on track and organized. Larger groups also require more intentional communication than smaller groups that can check in consistently. On the other hand, smaller student groups mean that the educator is stretched between more groups that may need assistance. Depending on your students, class sizes, potential project ideas, and classroom procedures, it may be helpful to identify your ideal group size before placing students into groups and determining project topics.

Below are some methods for choosing student groups:

- Students choose groups based on topics. Determine how many groups you will have and then identify the same number project topics from the brainstorm list (see Project Topics below). By a draw of names, have students sign up for their choice of project topic. Once a project topic reaches its maximum number of students, the rest of the students must choose from the remaining project topics, until all students are placed in a group.
- Students choose groups on their own. This gives students an opportunity to work with classmates of their choice. A challenge with students choosing their own groups before they identify the topic is that they may disagree about which project topic they would like to focus on once they are in their groups.
- You create student groups with or without student input. This option certainly saves time if project-planning time is limited, but it may leave students feeling less empowered by their projects.

Project Topics

Here are some things to consider when helping students determine project topics and specific ideas:

- Encourage students to think about potential action project topics as they complete the five content activities. Having students brainstorm two project ideas at the end of each lesson creates a starting list of at least 10 topics when you begin action project planning.
- Students seem empowered by their own ideas being represented. They also take ownership when they can relate their ideas back to the content activities.
- The brainstorm list can be used to help group students (mentioned in Student Grouping above).

    - This option allows students to be organized by the topic in which they are most interested. In this scenario, students have a starting point to work from when they begin to discuss specific project ideas.
- If students are not grouped by project topic, they can reference the brainstorm list to begin a discussion of possible topics. This may require more guidance with communication and decision-making surrounding topic choice. This will take more time, but it could be an opportunity to gain valuable experience working in groups.

While we have found that students feel empowered when given an opportunity to take part in the topic brainstorming and decision-making process, this may not be realistic in your classroom based on the time available for action projects and your students' personalities. Another option is to have outlined project topics and ideas that you could present to your students as their options for their action projects.

Action Project Planning Guide Tip: In the student guide, the first stage is to "Decide on a Project." Students identify their project topic (the overarching topic) and project idea (the specific actions related to that topic). An example project topic is "Water Conservation," with many potential project ideas, including: designing water use surveys for the school, designing a land contoured community garden, or creating a video encouraging people to capture their shower water.

Project Goals

We have found it helpful for students to design a goal for their project that they can reference as they plan. Here are some things to consider when having students design project goals:

- Having a project goal can keep students focused on the intended outcomes of their projects and give them a framework for evaluating the success of their projects.
- Posting group goals in your classroom may help keep students accountable and allow other students to see their goal.
- Encourage students to include deadlines in their goals.
- Encourage students to discuss the intended outcome of their project and include it as a part of their goal.

Action Project Planning Guide Tip: Have students identify the action they would like to take, the intended outcome, and a deadline. Then, students can combine these to create their project goal. After they have created a goal they can move through the SMART Goal Checklist. See the example on page 3 of the *Action Project Planning Guide*.

Planning

We encourage students to plan as much as possible before they begin executing their project. Detailed planning may be unfamiliar to many of your students. Here are some considerations for guiding your students through project planning:

- Beginning with their goal in mind, have students make a list of every task that needs to be completed to achieve that goal. If each task has a specific deadline, it can keep the project moving forward.
- Encourage students to have a complete plan before they begin executing their project. It may be worthwhile to have students turn in a plan and have it approved before they begin executing their project.
- Encourage students to assign specific group members to specific tasks. This way, everybody has a role in making the project a success.
- Remind students that plans change, and while they will most likely be adding and removing things from their plan as they arise, it is important to start with some framework for how they are going to achieve their goal.

Action Project Planning Guide Tip: The template in the *Action Project Planning Guide* gives students a framework for planning their projects. It includes identifying steps that need to be taken, resources needed to complete each step, who is responsible for completing that step, and a deadline. While this template only has space for six tasks, students can transfer this model to another sheet of paper to continue planning. A complete project plan example is provided on page 4.

Project Execution

Once students have planned their project, they are ready to execute it. Here are some things to consider when supporting your students in project execution:

- Encourage communication within groups. This could be daily or weekly check-ins regarding the status of their project. If students are in sub-groups, each sub-group needs to report to the whole group on their tasks. Bigger groups require more intentional communication.
- Remind students that as they execute their project, their plans may change and that is a normal part of project planning.
- Encourage students to keep their goal in mind and constantly evaluate if they are on track to meet their end goal.

Final Note

Action projects can be an incredibly rewarding experience for students. It is essential that we give students an opportunity to feel like they can make a difference regarding climate change. The only way we will see change is if we have people that are empowered to be active agents of change. Action projects give students real world experience in project planning and organizing, all while learning how to be these agents of change.