TEACHER GUIDE

Panasonic Student Eco Citizenship Project

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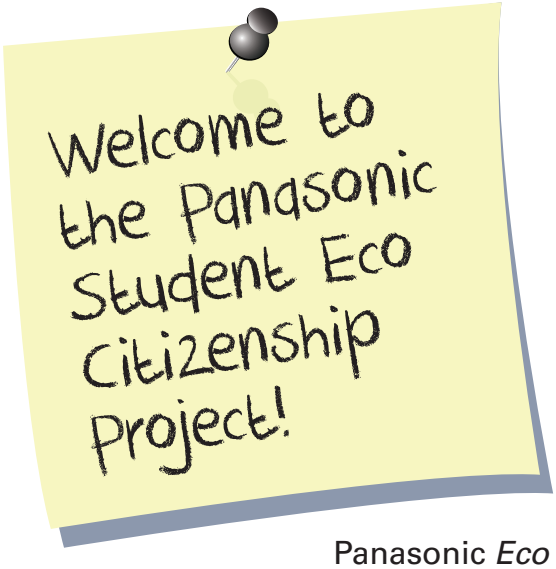
FOUNDATION *for* IMPACT
on LITERACY *and* LEARNING

Panasonic Student Eco Citizenship Project

TEACHER EDITION



You and your students are embarking on a journey to become active participants in creating a sustainable global environment. Thousands of Panasonic employees across the world have become global citizens — engaging in local environment protection activities, joining forces with local residents, fundraising to support environmental initiatives — and now the invitation is extended to you.

The Panasonic Student Eco Citizenship Project is a four-lesson project-based, team experience that leads students to take actions to protect the environment and to document them for submission to the Panasonic *Eco Diary* competition. The curriculum is designed to develop student skills in STEM, literacy, research, critical thinking and problem-solving as defined in the Next Generation Science Standards (www.nextgenerationscience.org), and also is aligned with the student standards from the International Society for Technology in Education (ISTE). The ISTE standards are designed to empower student voice and support student-based learning. An alignment guide is provided on pages 15-16 listing the applicable standards to each lesson.

Following the guidance in the curriculum, student teams will take action to become "global citizens" in their community. They will illustrate and write about their journey and actions in an *Eco Diary*. You will select three of the best team diaries for submission and the chance to win prizes and recognition. The submissions may be in print or digital format.

The Student Workbook contains all directions and guidance students will need and the Teacher Guide has resources, tips and suggestions for successful implementation of each lesson. Additional resources are available at www.ecocitizenship.org.

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Before You Begin

1. **Review the Panasonic Student Eco Citizenship Project** website, www.ecocitizenship.org. Become familiar with the competition and take time to view past winning entries before you lead students through the **Panasonic Student Eco Citizenship Project**. By the end of this project-based learning experience, students will create and submit an illustrated *Eco Diary* to the **Panasonic** *Eco Diary* **Competition**. Please become familiar with the rubric found in the back of the teacher's guide and additional resources on the program website.

2. Read and become familiar with each step students must take for their projects. **Entry deadlines and submission information can be found on the project website**. Allow enough time for students to complete all lessons in order for them to submit a complete *Eco Diary* entry.

3. The *Eco Diary* can be submitted by mail if using the printed booklet or submitted digitally if using the template that can be found on the website. **Please Note:** Each participating teacher may submit up to three of his/her student team entries. Each submission must include one photo of the student team in action. If using the digital template, the photo can be embedded into the deck. If using the hard version of the *Eco Diary*, email your one photo to kim@fill.foundation or print one photo and include it with each entry.

4. Visit http://panasonic.com/global/home.html to learn more about how Panasonic is already engaged as a global environmental citizen. This will give you and your students some great ideas.

5. Consider extending the **Panasonic Student Eco Citizenship Project** beyond the competition deadline. Encourage students to continue their Eco Citizenship beyond the classroom. You may even have students who want to start a Student Eco Citizenship Club.

6. Take some class time to engage the students in a discussion of the topic "protecting the earth or environment."
   - Why do you think it is important?
   - Who should do it?
   - What are you already doing?
   - What more would you like to do?

7. Hand out the Panasonic Student Eco Citizenship Project workbook. Direct the students to read the introduction on page 1 of the workbook.

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8 Explain the project and how students will participate.

- A team project wherein students will plan and implement an activity to protect the earth in their community. Define community as home, school, or world.
- Teams will be comprised of 2-4 students. (Explain how students will be assigned to teams).
- The project consists of four lessons:
  - Define and research an environmental issue.
  - Create actions to prevent or improve the situation.
  - Carry out the planned action in your community.
  - Evaluate your results.
- The actions will be documented in an *Eco Diary.*
- Share the diary format with students.
  - Four entries to document each of the four lessons — one illustration and one paragraph for each entry documenting the lesson outcomes. The illustration for each lesson may be a photograph of the team working or original artwork prepared by the team.
  - The *Eco Diary* will be completed at the end of the planning for and implementation of the eco-project.
  - Save all work from each lesson for reference when completing the *Eco Diary*.

9 Explain the competition:

- You (teacher) will review and select the top three diaries for submission to Panasonic
- The diaries will be reviewed and evaluated by a Panasonic team of judges using an evaluation rubric. Direct students to the evaluation rubric on page 19 in their Student Workbook.
- Panasonic will select three "winners" from entries submitted by 5th through 8th grade students across schools in New Jersey and Denver, Colorado.

Let's get started!

Panasonic Student Eco Citizenship Project

Lesson 1

Define and research an environmental issue in your community

Next Generation Science Standards

Practice 1: Asking questions and defining problems
Practice 2: Planning and carrying out investigations
Practice 8: Obtaining, evaluating, and communicating information

NCTE National Literacy Standards

Standard 7: Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

Standard 8: Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

Suggested Time
60-90 minutes

Materials
One Student Workbook for each student

Computers

Access to Internet

Effective On-Line Research document available at www.ecocitizenship.org under Teacher Resources.

Objectives

Students will:

- Explore and share prior knowledge about environmental issues.
- Draw conclusions about how their actions can positively affect the environment.
- Brainstorm a list of actions they can do to protect and save the environment.

Facilitation Tips

STEP 1

Direct students to read the introductory paragraph for Lesson 1. Engage them in a discussion of their responses.

Make copies of and hand out to students the Effective Online Research document (found at www.ecocitizenship.org, Teacher Resources tab). Review it with students. Encourage students to narrow their research. For example, consider the issue in the context of their community or state. Identify a component of the issue – for "Air," consider focusing research on air pollution data in their community or state. Respond to questions.

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STEP 1 cont.

When students have completed the chart, engage them in a discussion of what they learned. What was something new to them? Most interesting?

STEP 2

For the chart (Observing My Neighborhood), have students select 3-4 of the issues they researched in Step 1. They will compare what they learned in their research to what they personally see in their own community. Explain to students that community can mean their school, their local neighborhood or even the world since they are global citizens.

STEP 3

Reference the charts completed by students in this lesson for actions they can take to become global citizens. Facilitate a brainstorming session with students wherein they provide possible solutions for human actions harming the earth. Encourage them as they brainstorm to list all possible solutions — big or small. Remind them that during the brainstorming sessions there are no right or wrong answers and no solution is out of reach. Creative thinking is encouraged. Record (or have a student record) student responses and place in a central location for students to reference during later lessons.

Lesson 2

Create actions to prevent or improve the situation

Next Generation Science Standards

Practice 2: Developing and using models
Practice 6: Constructing explanations and designing solutions
Practice 7: Engaging in argument from evidence

NCTE National Literacy Standards

Standard 4: Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

Standard 8: Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

Suggested Time
2 - 3 days

Materials
One student workbook for each student

Objectives

Students will:

- Identify specific actions they can take that may have a positive impact on their local environment.
- Determine an Eco Project Goal.
- Create a plan to achieve their Eco Project Goal.

Facilitation Tips

- Assign students to teams. Each team should be comprised of 2-4 students. This is required in the competition rules, so please ensure that each team has the specified number of students.
- Provide guidance on working in a team. This is an activity that you could facilitate with students providing the ground rules for their teams.
    - Listen carefully, do not interrupt
    - Do not monopolize the conversation
    - Be open to compromise
    - Be positive and not judgmental

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- Honor time limits — staying on schedule is everyone's responsibility
- Complete assigned tasks
- Let other team members know if you need help or clarification

STEP 1

As teams get together to share their brainstorming ideas from the previous lesson, circulate throughout the room to monitor progress. Help any teams that may be stuck reaching consensus. There will be many ideas generated in each group and they will need to select one to work on together as a team.

STEP 2

In this step, it is very important for students to create an Eco Project Goal that will enable them to complete actions to help improve the environment. Encourage students to keep their goals **action-oriented**. While they can use social media to help publicize their project, this should **NOT** be the main focus of their work.

> *Each team should complete a unique project. It is acceptable for the entire class to focus on one idea or topic, but each team should seek to complete its own project. For example, the entire class may decide to focus on recycling. In this case, one team may decide to replace old recycling bins while another team creates a school presentation to educate other students on how to recycle. Yet another team may decide to organize a recycling drive to collect recyclable materials from people in their community. It is important that each team project is unique and action oriented.*

If teams appear stuck on selecting one solution or idea, consider facilitating a class discussion to generate ideas.

STEP 3

Direct students to read the introductory paragraph for Step 3. As student teams complete their action plans, encourage them to think about all the individual actions they need to complete to achieve their Eco Project Goals. You may want to check in with teams during this step to ensure they are not overlooking important actions such as getting permission from appropriate authorities or soliciting support from valuable stakeholders.

Have the students use a calendar to establish a schedule for their work. Suggest they work backward from the final submission deadline when entering their deadline dates on their action plans. It may be necessary for them to adapt or condense their eco-project because of limited time.

Lesson 3

Apply the planned actions in your community

Next Generation Science Standards

Practice 3: Planning and carrying out investigations

NCTE National Literacy Standards

Standard 4: Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Suggested Time
Varies per group

Materials
One student workbook for each student, access to calendar, other materials needed or identified in their lesson 2 action plan.

Plan Implementation Tips

Objectives

Students will:

- Implement their plan to achieve the Eco Project Goal.
- Collect data and record progress.

Facilitation Tips

- Consider having a whole class meeting at the beginning of this lesson to discuss the details of the teams' action plans.
- Have students read "Before you get to work, there are a few final details to consider." Point out that for item d) they will be using the "Track Your Progress" chart shown on the next page in their Student Workbook.
- Make copies of and hand out the *Plan Implementation Tips* in this Guide. Explain that teams are not expected to do all of what is listed. The tips are suggested actions with guidance for carrying them out. Respond to questions.

- Consider having time each class period for students to work with their teams. Students can share their progress with each other, review their plans together, check off actions that have been completed and discuss how they can be sure to complete the remaining actions by the designated deadlines.
- This lesson is designed to support students to carry out their eco project while still receiving support from you. The projects may be conducted in a range of sites — the classroom, school, or out in the broader community.
    - Take time to confirm that teams have all applicable approvals and materials.
    - Be available for team check-ins.
    - Throughout, engage students in conversations about their projects. If applicable, ask the "what, who, how, why" questions or "help me understand" question to encourage them to think critically and evaluate their progress.
    - Confirm that students are documenting their actions on the Track Your Progress chart.
    - Remind students to take photos of their teams at work. All *Eco Diary* entries must include one photo of the team in action working toward its end goal.

Plan Implementation Tips

Creating an advertisement (informative flyer/invite)?

- Check spelling, date, time, location (be sure it is written large enough)
- Do you have permission to hang it or post online (set a reminder date to take it down)

Setting up for an event or going somewhere to complete the task (at lunch or before/after school)?

- Be sure to get permission
- Have a purpose, be organized and polite
- Collect before/after data (show results and impact)(necessary for the diary)
- Stick to the time frame
- Know who should be in attendance
- Be sure to follow-up or clean-up at the conclusion of event/task

Writing an announcement?

- Be clear and concise with your statement - give it in a short amount of time
- Have a teacher or another group proofread what is going to be said
- If you will be reading the announcement, practice, practice, practice!

Planning a meeting?

- Write down meeting discussion points (and pre-arrange the meeting time)
- Have a clear purpose (and stay within the time frame)
- Decide who will attend, who will speak, and who will take notes

Implementing a project at home?

- Take data or before and after pictures or statements
- Get quotes from family members about their thoughts on the new procedures

Lesson 4

Evaluate your final results

Next Generation Science Standards

Practice 2: Developing and using models
Practice 4: Analyzing and interpreting data
Practice 8: Obtaining, evaluating, and communicating information

NCTE National Literacy Standards

Standard 4: Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

Standard 11: Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities.

Suggested Time
2-5 class periods

Materials
One student workbook for each student, computer, one *Eco Diary* per team, other team notes/photos, diary supplies (colored pencils, pens, markers, etc.)

Looking Forward document available at www.ecocitizenship.org under Teacher Resources tab

Objectives

Students will:

- Create *Eco Diary* for competition submission.
- Share *Eco Diary* with peers in order to provide and receive feedback.
- Reflect on the work of the team over the course of the lessons.

Facilitation Tips

- Have each team select one member to report its outcomes? Did the team reach its goal in projected size (number of participants; quantity of litter collected; number of new recycle bins). Did the team work well together? Challenges and how resolved?
- Direct students to fill out the Successes and Challenges charts on page 11 of your Student Workbook.

- Engage students in a discussion of the successes and challenges. What did they find most interesting? Most challenging? Call on one or more teams and ask — What would you do differently?
- Engage students in a discussion of next steps. Call on one or more teams and ask—how will you continue your project? What would you change? Who else would you engage? Copy and hand out Looking Forward document (found at www.ecocitizenship.org, Teacher Resources tab). Have students complete. (You may want to suggest that students consider volunteering with environmental groups as a strategy to continue their environmental work.) A Volunteerism resource document also is available at the website previously listed.

Completing the *Eco Diary*.

- Walk students through the *Eco Diary* included in their student workbook pointing out where the picture/drawing and the descriptive paragraph are placed.
- Remind students that there is only one diary per team. As a team, before writing or selecting a photo/drawing, they should discuss their ideas for documenting each entry and come to consensus on the points they want to illustrate and write.
- Refer students to the Evaluation Rubric in the back of their Student Workbook (page 19). It will be used by the Panasonic judging team to evaluate entries.
- Guide students in preparing the rough drafts of their team diaries. Explain that the teams should carefully review their drafts to ensure they illustrate and document, in a concise and direct way, the essence of their projects. Suggest they may want to have an adult review their draft diaries for spelling and grammar.
- Direct students to complete their final *Eco Diary* using the *Eco Diary* booklet and submit them to you (teacher) when complete.
- Explain how you will select the top three diaries to be submitted to the Panasonic *Eco Diary* competition.
- Remind students that the final submissions for the competition must be original work completed by them and include at least one photograph of the team in action.

Instructions

1. One entry form must be completed and submitted with each student team entry to the *Eco Diary* Competition. Students teams must be comprised of 2-4 students.

2. The *Eco Diary* must consist of 4 entries (one for each lesson) and be completed in the *Eco Diary* booklet. When you select the top three, you may submit them in the *Eco Diary* booklets or upload them using the digital submission template.

3. Each entry will highlight specific actions taken by the student team to protect the earth and improve the environment in your community.

4. Each Diary entry will include a picture and a paragraph to explain the steps taken.

5. The pictures must be actual photos of the student team working or original, hand-created artwork of the student team submitting the diary.

6. The paragraphs may be typed or hand-written in English and must be the original work of the student team submitting the diary.

7. Review the Official Contest Rules prior to submitting entries. Rules can be found on the website: www.ecocitizenship.org.

Panasonic Student Eco Citizenship Project

Eco Diary (EPD) Scoring Rubric

This rubric will be used to evaluate the Panasonic Student *Eco Diary* entries.

All students should be familiar with the expectations. All entries must be the original work of the team and completed by teams comprised of 2-4 students.

Category	Scoring	PointsEarned
Diary Entry 1	___ The entry includes one photo or original piece of artwork. (up to 5 pts) ___ The photo or illustration is a clear representation of what the team learned from its research. (up to 5 pts) ___ The entry includes one paragraph describing the team members search process and ideas or solutions they found most interesting for follow up. (up to 5 pts) ___ The writing is coherent, accurate and uses correct sentence structure and has no errors in spelling or grammar. (up to 5 pts)	___/20
Diary Entry 2	___ The entry includes one photo or original piece of artwork. (up to 5 pts) ___ The photo or illustration is a clear representation of the team's environmental issue. (up to 5 pts) ___ The entry includes one paragraph clearly describing the team's environmental issue and its action plan. (up to 5 pts) ___ The writing is coherent, uses correct sentence structure and has no errors in spelling or grammar. (up to 5 pts)	___/20
Diary Entry 3	___ The entry includes one photo or original piece of artwork. (up to 5 pts) ___ The photo or illustration is a clear representation of the action taken in the community. (up to 5 pts) ___ The entry includes one paragraph that describes the implementation of the project including where it occurred and teamwork involved. (up to 5 pts) ___ The writing is coherent, uses correct sentence structure and has no errors in spelling or grammar. (up to 5 pts)	___/20
Diary Entry 4	___ The entry includes one photo or original piece of artwork. (up to 5 pts) ___ The photo or illustration is a clear representation of the team's final result. (up to 5 pts) ___ The entry includes one paragraph describing the results of the project – successes and if challenges, how they were overcome and what's next for the team. (up to 5 pts) ___ The writing is coherent, uses correct sentence structure and has no errors in spelling or grammar. (up to 5 pts)	___/20
Overall Presentation	The story as written and illustrated shows great enthusiasm and engagement by the whole team. It is clear that the team took action in their community to improve the environment. The impact of their actions was apparent. It is evident that the team took time to ensure the accuracy of the information presented including grammar, sentence structure and spelling. The illustrations draw your attention and are well aligned with the narrative. (The judge will award up to 20 pts in this category)	___/20
	GRAND TOTAL OF POINTS AWARDED	___/100

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ISTE Standards Alignment Guide

The International Society for Technology in Education has developed seven student standards that empower student voice and allow the learning experience to be driven by students. A further set of skills and behaviors are listed to define each standard.

All students should be familiar with the expectations. All entries must be the original work of the team and completed by teams comprised of 2-4 students.

ISTE Standard	Lesson 1	Lesson 2	Lesson 3	Lesson 4
Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	1d - Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.	1a – Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.	1a – Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.	1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
Digital Citizen: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.	2b - Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.		2b - Students engage in positive,safe,legal and ethical behavior when using technology, including social interactions online or when using networked devices.	2b - Students engage in positive,safe,legal and ethical behavior when using technology, including social interactions online or when using networked devices.
Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.	3a - Students plan and employ effectiveresearch strategies to locate information and other resources for their intellectual or creative pursuits.	3d - Students build knowledge by active actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.	3d - Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions	3d - Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

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ISTE Standards Alignment Guide

ISTE Standard	Lesson 1	Lesson 2	Lesson 3	Lesson 4
Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.	4d - Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.	4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	
Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.		5c - Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	5c - Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	
Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.		6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. answers and solutions.	6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.	6d - Students publish or present content that customizes the message and medium for their intended audiences.
Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.	7d- Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.	7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	7b - Students use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.	7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

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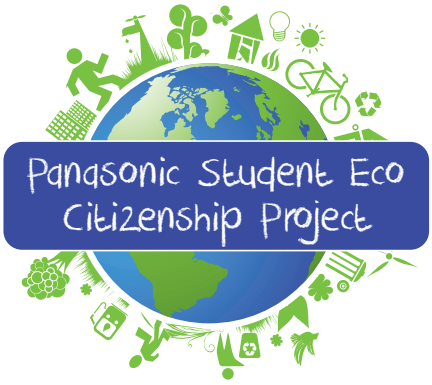

For More Information Visit:
www.ecocitizenship.org

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