DO IT NOW
AFTER-SCHOOL PROGRAM
PROGRAM GUIDE FOR TEACHERS
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Dear Leaders,

The Develop Opportunities for Innovative Thinking (DO IT) Now Program strives to engage youth in critical and systems thinking by challenging them to identify and address a problem in their community, and thereby realize the necessity of being a responsible citizen with a lifestyle that doesn’t compromise the ability of future generations of youth to meet their needs.

This Program Guide provides you with an overview of the challenges facing the planet and the urgent need to develop the skills, knowledge, and mindset necessary for a sustainable future. The Guide will provide an overview of the program, systems thinking, and project planning.

Specifically, the Program Guide provides:

- Pre- and post-participation assessment tools for students;
- Project and presentation rubrics to guide student work;
- A list of project ideas to serve as a starting place for student projects;
- A list of relevant resources about local and global environmental challenges and needs, including available curriculum, as well as digital tools that can support student projects;
- Short biweekly lessons for November–April to help deepen student understanding of the topic, prepare an action plan, take effective action toward a solution, reflect on service, and prepare an articulate presentation.

As a leader of the DO IT Now program, you will be:

**Engaging** participants in higher-order thinking by challenging them to contemplate the stated problem, formulate questions, develop hypotheses for solutions, design a project to remedy the problem, test the solution, analyze the process and outcome, draw conclusions, and communicate the process and outcome to others.

**Equipping** participants and mentor teachers with the necessary tools for including systems thinking and problem solving and access to community resources and expertise.

**Empowering** participants to learn and employ 21st-century skills, including collaboration as a member of a team, communication to an audience of peers, synthesis of information, application of knowledge, and implementation of a solution having direct impact on the problem in the local community.
# TENTATIVE SCHEDULE FOR FALL 2018

<table>
<thead>
<tr>
<th>Important Dates</th>
<th>What will (or should) be happening</th>
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</thead>
<tbody>
<tr>
<td>June 25 and 26</td>
<td>DO IT Now Program Training for Teachers</td>
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<tr>
<td>August 11 and 18</td>
<td>1 day at TCM – 1 day at Schools and KDP</td>
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<tr>
<td>August 1–15</td>
<td>Start of School</td>
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<tr>
<td>September (depends on individual school schedules)</td>
<td>Start of DO IT Now after-school programs</td>
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<td></td>
<td>IUPUI interns will start around this date.</td>
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<td></td>
<td>Start introducing Teacher’s Toolbox Activities.</td>
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<tr>
<td>October</td>
<td>October 5: Kick-off event at TCM</td>
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<td></td>
<td>Subaru plant visit (tentative)</td>
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<tr>
<td></td>
<td>Continue to use Teacher’s Toolbox Activities.</td>
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<tr>
<td>November</td>
<td>Subaru plant visit (tentative)</td>
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<tr>
<td></td>
<td>Use Teacher’s Toolbox Activities to show successes and failures with systems thinking and the environment.</td>
</tr>
<tr>
<td></td>
<td>Start brainstorming environmental issues in the surrounding areas.</td>
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# TENTATIVE SCHEDULE FOR SPRING 2019

<table>
<thead>
<tr>
<th>Important Dates</th>
<th>What will (or should) be happening</th>
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<tbody>
<tr>
<td>December</td>
<td>Continue brainstorming environmental issues in the surrounding areas.</td>
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<tr>
<td></td>
<td>Brainstorm action steps that students can take to minimize the environmental problem.</td>
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<tr>
<td>January</td>
<td>Continue brainstorming action steps to minimize the identified problem.</td>
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<td></td>
<td>Identification and assembly of resources needed to take action</td>
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<td></td>
<td>Implementation of Action Plan</td>
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<td>February</td>
<td>Implementation of Action Plan</td>
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<tr>
<td>March</td>
<td>Implementation of Action Plan</td>
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<tr>
<td>April</td>
<td>Implementation of Action Plan</td>
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<tr>
<td>May</td>
<td>Celebration at The Children’s Museum</td>
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Why should we **DO IT Now**? Since the dawn of humankind, we have been changing the environment around us. Beginning with the industrial revolution, the effects of humans have become more pronounced. We live in a new reality where four pressures from humanity are influencing the planet in unprecedented ways. The Discovering Opportunities for Innovative Thinking **Now** program focuses on helping students understand the need for systems thinking and innovative solutions to complex environmental and social problems that are increasingly severe and urgent.

The name of this program is **DO IT Now** because if we want any chance of preserving the beautiful world we depend on, we **must help prepare and empower students to be systems thinkers and problem solvers**. Only then will they be equipped for the new realities that humanity is facing and the interdisciplinary careers that are emerging to help solve the problems.

**The Four Planetary Pressures**

Outlined in a TED Talk by Dr. Johan Rockstrom in 2010, the planetary pressures can be defined as the stress the planet is undergoing at this point in humankind’s history. Here is a brief overview of the four pressures.

**Human Growth**: The human population is currently 7.6 billion people, and it will grow to 9 billion soon. This large population requires land to feed and house all of these people. If we want to lessen the stress put on the earth through humankind, then we must start to live more sustainably.

**Ecosystem Loss**: Since industrialization, the Earth has lost 60% of the biodiversity and ecosystem function that was previously present. This ecosystem loss is fundamentally changing the ability of the planet to sustain people and the wildlife that depends on it.

**Climate Dilemma**: Humanity has increased the atmospheric concentration of carbon dioxide by 24%. This has resulted in a warming atmosphere and ocean and complex large-scale changes that we are just beginning to understand.

**Surprise**: The last pressure is surprise. Humanity has become very good at linear thinking, but we are not proficient at systems thinking. The Earth is a complicated collection of systems, and this makes it difficult to understand or forecast changes. There are surprises we cannot anticipate coming. How will humanity react to them?
HOW ARE HUMANS AFFECTING THE EARTH?

In this same Ted Talk, Dr. Rockstrom also outlines nine different boundaries that show how close, or far away, we are to exceeding Earth’s capacity to support people.

The Nine Planetary Boundaries

**Biogeochemical Flows:** The Earth has natural cycles of Nitrogen and Phosphorous. Due to the agricultural load, we are radically changing those cycles, which will have an unknown effect on the growth of plants and the Earth’s systems.

**Stratospheric Ozone Depletion:** This includes both the hole in the ozone and the thinning of the ozone layer overall, which, when gone, no longer protects animals and plants from UV rays.

**Atmospheric Aerosol Loading:** The pollution put into the air by aerosols changes how the atmosphere absorbs and reflects sunlight, while also causing changes in air quality for animals and plants.

**Freshwater Use:** Humans and plants rely on freshwater. We use freshwater for bathing, waste disposal, drinking, and agriculture. Clean freshwater supplies are becoming increasingly scarce and are already leading to conflict. Water security for people and wildlife is increasingly in question.

**Novel Entities:** Humans produce 2.6 trillion tons of garbage per year. A significant percentage of the garbage contains chemical and radioactive waste. Chemical pollution has already had devastating local effects, but how this manifests globally is still poorly understood.

**Biosphere Integrity:** Humans rely on ecosystem productivity in complex ways. Humans have drastically reduced the biodiversity of our planet. As biodiversity decreases, humanity has witnessed a corresponding decrease in ecosystem productivity and the ability of ecosystems to clean pollution and support the needs of humanity.

**Land–System Change:** Humankind has continually reshaped and retooled the land for agricultural uses. During this process we eliminated millions of acres of wetlands and forests, and fragmented habitats, decreasing the Earth’s ability to adjust to humanity’s influence.

**Ocean Acidification:** The CO2 released does not only stay in the air, but also soaks into the ocean. This changes the pH of the ocean, causing widespread changes in oceanic ecosystems.

**Climate Change:** We have excessive amounts of carbon in the air. This causes the climate to gradually warm, which changes the climate system as we know it.
INTRODUCTION AND OBJECTIVES

Welcome! The DO IT Now program is a call to action. This after-school program is designed to foster scientific curiosity and environmental sustainability practices. The program can be broken down into three separate stages: Stage 1, Learning and Education; Stage 2, Planning and Brainstorming; and Stage 3, Project Development and Implementation.

Objectives for Teachers
- Facilitate, educate, and assist the students in brainstorming and completing a sustainability project.
- Gain knowledge on the environment, sustainability practices, and how to start and complete a large project.
- Assist students in understanding “systems thinking” as well as improve their brainstorming skills.

Objectives for Students
- Discover the power of their own voices.
- Expand their knowledge in science, math, technology, language arts, and social studies.
- Collaborate with other students during the DO IT Now final conference.
- Become aware of the possible career and educational opportunities in STEM, the humanities, and the arts.
- Identify new approaches or solutions to living that allow for humans to continue to improve their quality of life around the globe, while lessening the negative impact of their lifestyles choices.
STAGE 1: LEARNING AND EDUCATION

EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD.
—Nelson Mandela

Climate change is an extremely complex topic, even for adults. In order to plan and implement a viable solution to a problem in your community, the students must have some level of scientific literacy and knowledge base about the causes, effects, and consequences of climate change. Here are some resources that might facilitate learning about the three main topics of this year’s program: food, water, and energy.

Videos
- https://climatekids.nasa.gov/menu/watch

Activities
- https://climatekids.nasa.gov/menu/make
- https://scied.ucar.edu/activities

Readings
- http://heatoday.org/2017/03/14/teaching-about-climate-change
**SYSTEMS THINKING**

**What is Systems Thinking?**
Systems thinking is not just about helping students understand the interconnectedness of their actions and the challenges around them. It also is one of the most cited skills that employers say they need in their workforce, and one they struggle to find. A lack of understanding exists about systems, despite being a big focus in many U.S. schools on STEM education—that is, education in the areas of Science, Technology, Engineering, and Math. Systems thinking is not only important in the workforce, but it also could change how we live our lives, what we buy and eat, and the type of transportation and energy we use.

**System:** A system is a collection of elements that interact with one another over time to form a whole.

**Features of a System**

**Dynamics:** Systems are always moving. “Dynamic” basically means changing. So one characteristic of systems is that they are always changing. Just like the river changes with the rain, the senate changes with the new election, and you change as you get older.

**Relationships among the parts:** For a group of parts to be considered a system, the separate parts must work together, such as the three branches of government work together to create laws. Another example could be your family! Each member is a part, and you all have different relationships with one another that make you a whole family system.

**Boundaries:** Systems are finite, meaning they cannot go on forever. An example of a system boundary would be the walls of your school. The school is the system, with the walls being physical and literal boundaries.

**Parts:** All systems have parts! Just as your body has different parts (arms, legs, hands, etc.), it also is a whole (your body). You can also think of this as the government. It is a whole, but with three main branches: legislative, executive, and judicial.

**Goal:** The last thing that all systems must have is a purpose or end goal. All the parts work together to reach a certain conclusion, just like each player on a basketball team works together to win the game!

These materials are a combination from the [Waters Foundation](https://watersfoundation.org) and the [Creative Learning Exchange](https://clexchange.org). Check out their websites for more tools and information!
Connection Circles: A connection circle is a simple tool that will help you map out the different parts and relationships of a system. They also can show feedback loops to help shine light on potential points of leverage, or points that could be used to change the system for the better.

Ladder of Inference: The ladder of inference is a tool that demonstrates how beliefs are formed and created. The most important portion of this ladder is the “R,” which shows how beliefs can modify perceptions.

Iceberg: The goal of this iceberg visual is to show how the events we see are only a small portion of what is happening. The level below the water can be described as the system at work. Each system can be identified through patterns and structures, which show the true nature of the system, though most go unseen.
THE LADDER OF INFERENCE: A POWERFUL TOOL

This is another version of the Ladder of Inference. This specific tool might be more helpful than the simpler one on the previous page. Additionally, there will be a one-page sheet geared more toward children and helping them use this tool.
What is Compassionate Systems Thinking?
Compassionate Systems Thinking is simply systems thinking with the addition of compassion and a focus on understanding the connections within and between systems—helping us to understand the multiple connections we have and how they motivate us.

Understanding our connectedness motivates us to innovate thoughtfully and improve the quality of life for all living things.

Historically, humans have simplified systems in order to make them easier to understand and manipulate. Only now are we realizing that we cannot be simplistic. We have to embrace and learn about these complex systems in order to change or create systems that benefit 100% of the people on the Earth.

How Do We Teach Compassionate Systems Thinking?
Once students and teachers can understand these systems, the task becomes to identify if these systems are equal and, if not, how they can become equal.

Thinking About the Lifetime of a Product
What happens to the water bottle when you’re done with it? Every product we use has a lifetime. For produce, it starts at the farm and ends in the toilet. For plastics and Styrofoam, however, the lifetime is in the hundreds and thousands of years.

In order to understand the full lifetime of a product, map out the lifetime of some common products. Water bottle example: starts with drilling for oil. Then, oil must be transformed into plastic, then the plastic manufactured into the bottle, then filled, transported, and bought. Then it is either recycled to restart the process or thrown away, ending up in a landfill or the ocean, breaking down, and being eaten by animals. Then, the animals get eaten by us.

Caring About the Impacts
Rarely do we take the time in our daily lives to consider the impacts of our choices or systems. It might be a helpful practice to explore the effects that our individual choices and systemic choices have. In other words, it’s not enough to understand the system; we have to understand its consequences.

A Tough Choice
Have your students make a tough decision. Give them a hypothetical building project and have them decide between two different types of materials. Have them investigate the ecological impacts of creating the material (e.g., PVC pipes made from plastic, bricks, or “eco bricks”) and the cost of the materials and lifetime of the product. In the end, have them try to make the best or most equitable choice using compassionate systems thinking.

For an in-depth look at the implementation of Compassionate Systems Thinking, take a look at the Environmental Sciences Toolbox.
What are some real-world examples of Compassionate Systems Thinking, or Compassionate Systems Thinking failures?

The best way to understand systems and how they can become compassionate may be to delve into the systems. Look at real-world examples and discuss whether they are equal. The goal of these examples is to learn from our past mistakes and hopefully brainstorm some fantastic, usable solutions.

Recycling
While recycling is beneficial, it is an example of a failed system. The manufacturing system is producing so much waste that the consumer would have to ease the consequences at the end of the product’s lifetime. A compassionate systems thinking approach would try to reduce the waste at the beginning. So, in a perfect, compassionate system, there would be no recycling because there would be no waste from packaging.

K-Cups
Do you prioritize convenience, or the environment? K-cups (coffee pods for Keurig machines) make life so much easier. However, is the few seconds saved every morning worth the environmental impact of packaging the K-cups and then being unable to dispose of them responsibly?


This last link offers companies in Germany taking small steps to get rid of bad packaging.
As part of Stage 2, this section provides resources and suggestions on how to get the most out of brainstorming sessions. Brainstorming is an integral step in the project lifespan since it will determine how effective and impactful the final result will be.

One of the hardest parts of this after-school program is presenting and choosing a topic. Dedicated brainstorming sessions will work to create an engaging project.

**Two Types of Brainstorming for Projects**

1. **Global**
   Global brainstorming would be the process of identifying a global issue related to climate change, and then scaling it down to a manageable task that can be implemented through the school and community. An example of this would be to start with the issue of air quality or air pollution. The next step would be to identify ways that countries, then cities, then communities, contribute to this problem. This would descend all the way to an individual action such as not leaving your car idling while waiting to pick up children. This, then, identifies an easy problem with a feasible solution.

2. **Local**
   Local brainstorming would start in the opposite way. (Teachers from past programming have identified that younger students have an easier time identifying local problems and then scaling up.) For the same idling example, instead of starting with air pollution, start with ideas on how the kids themselves or their families are being wasteful or how their families use sustainable practices. Then scale it up to a program that would help multiple families make an impact, and then calculate or demonstrate the possible impact it would have on the community, city, country, or world. Less idling of cars would lead to cleaner air in the community, which will improve the standard of living for the students in the community and also foster local biodiversity by bringing animals back to their habitats.

**Kid-Specific Tips**
- Write down their ideas for them.
- Utilize visuals (e.g., a concept web or pictures).
- Take the pressure off (i.e., have a low-stakes environment).
- Make sure everyone shares.
- Keep them on track.
Tips and Tricks on Effective Brainstorming

Setting the Tone

- The most important preparation for brainstorming is ensuring that each student has a solid knowledge base of climate change. Proper education will be key in generating quality ideas that are feasible for students.
- The goal of brainstorming is to create a diverse base of ideas. This means creating an environment in which students are encouraged to share any and all ideas without the fear of judgment. Possibly have a collaborative ice breaker at the beginning.
- An important thing to keep in mind is to set a specific end goal or task. Since the nature of brainstorming leads to ideas that tend to be “out of the box,” narrow the focus of the goal at the beginning to avoid having to readjust part-way through.

Getting Everyone Involved

- Have students work individually at first. Have them write down two to three ideas. This makes it private so students who normally wouldn’t speak up can have input.
- Try drawing out ideas or plans. This gives students flexibility to be creative, which may especially help younger students who might not be able to articulate their ideas as well.
- Toss a ball around the room; whoever catches it has to share an idea.
- Encourage wild and absurd ideas.
- Allocate plenty of time.
- Display any and all ideas at the end.

Narrowing It Down

- Make sure everyone has an equal vote.
- Use Dot Voting. Every student gets X# of dots to allocate to their favorite ideas.
- Narrow it down slowly. Start with the top 10 ideas, then top five, and so on.
- Take breaks. Brainstorming is hard mental work. Don’t be afraid to take a break in between coming up with ideas and voting on them. This might also promote reflection and allow students to vote in a more thoughtful manner.
STAGE 3: PROJECT DEVELOPMENT AND IMPLEMENTATION

This section offers an outline of an example project plan. Carefully planning your sustainability project will increase the probability of finishing it on time and creating a greater impact. Throughout the lifespan of a project, situations and goals may change. A high-quality plan will help you maintain focus on the goals you are trying to achieve.

Project Plan Templates: http://templatelab.com/project-plan-template/
Example Project Plan: Teachers Toolbox

Decide on the Project
My project is creating the materials needed to help facilitate program leaders in running the most effective after-school program ever.

Research
Risks
• Much time and research needed
• Need for review to see if it works
• Inability to find certain materials

Resources
• Computer and Internet access
• A mentor to review my work

Put it on Paper
Steps
1. Outline the Toolbox.
2. Fill in the outline with the required material.
3. Review with my mentor; make changes and repeat as necessary.
4. Create final PDF.

Tasks
I will be completing all tasks except for the review, which will require my mentor.

Set Deadlines
This needs to be done by the summit.
Must be reviewed with ample time left to make changes
PROJECT IMPLEMENTATION

This section includes resources to help the group implement the project—because ideas are nothing without action!

Further Preparation
The most important aspect of employing a project is having a comprehensive and complete plan. The most important aspect of the plan is research. DO IT Now stresses using empirical data. This means doing the research beforehand to make sure the project is feasible and that it will make a lasting impact. We need to use the best objective scientific information available to observe, collect, and analyze data, and to develop potential solutions. The final preparation step is to gain permission from all parties involved. This may seem obvious, but it is easier to get the project going if you know everyone is on board.

Implementation
Once you have a workable plan, the rest is “easy”; now you just have to follow the plan! One tip is to be somewhat pessimistic with setting deadlines and goals. Don’t try to overachieve on your first schedule. By leaving more time than is needed for completing projects, you will have time if something goes wrong.
The Kick-Off event is designed to give students access to community leaders in various areas related to sustainability, including food, water, and energy. Students will hear from experts about their work and environmental and sustainability challenges. Following the experts’ presentations, students will have an opportunity to talk with them and to ask questions. Realizing there are adults who work in these areas provides a special sense of authenticity and relevancy to the DO IT Now activities and projects.

Pre-Conference Planning

Educators should share information about the DO IT Now program and its goals in the areas of energy, food, and water. Students should be asked to share what they already know about protecting the earth, sustainability, and the impact of humans.

Students should be able to identify and define concepts that affect the earth’s ecological balance, including sustainability, climate change, and carbon footprint, and the nine planetary boundaries. Students also should be aware the role human behavior has toward ecological balance of the planet.

Educators should share with students that at the Kick-off event, they will have the opportunity to speak with local leaders who work in the areas of food, energy, and water. Students should work to develop a list of thoughtful questions they can ask the experts. Students should bring copies of the questions with them.

Suggested Activities in Preparation for the Kick-Off Event

1. “My Carbon Footprint.” Ask students to recall what carbon is and how it can affect the Earth’s climate. Ask them whether they think they produce much carbon during their daily activities. Have them record their answers to questions such as: How do you get to school (bus, car, walk)? What kind of food do you eat (meat, eggs, vegetarian)? How much soda do you drink per day? How often do you shower per week? How many times does your family do laundry per week? Which electronic devices do you own? Do you recycle paper, plastic, and glass at home?

Tell them that they can find out how their carbon emissions (or “carbon footprint”) compares to others around the world. Have them enter their answers on the carbon calculator at http://calc.zerofootprint.net. Their results can be compared to average results for 11 countries. Discussion questions: What are some ways you can reduce your carbon footprint? How does your level of carbon emissions compare with people in other countries? How can you help others in your community to reduce their carbon footprint?

Math extension: Find out the average carbon footprint for your class. Use this data to find the mean, median, and mode for the student carbon emissions (in tons of CO2/year).
(Source: Facingthefuture.org)
2. Practice With Integers
A. Consider a place called Sunspot Island. Each year the population doubles, or multiples by 2. Create a table showing the growth of the island’s population over a 10-year period.

B. Suppose there is only enough land on the island to grow food for 200,000 people. What will happen to Sunspot Island and its people in a very short time? Think of at least two possible impacts of population growth on the environmental resources and people of Sunspot.

C. In year 12, a disease begins to reduce the population of the island. Then, in year 14, a civil war breaks out, resulting in many deaths. Perform the calculations in the middle column to discover how the population changes each year.

   Year 11: 100,000 \(-1\); Year 12: 170,000 + \(-20,000\); Year 13: 240,000/\(-2\); Year 14: 83,500 – 8,600 =

(Source: Facingthefuture.org, Real World Math, p. 21)

3. Quality of Life. There are a number of actions that you as an individual can take to improve quality of life for yourself and others. Have students discuss what contributes to happiness and the “good life.” Use the following questions: Consider both material and nonmaterial indicators of well-being. What do you want? What do you need? What do you buy? Consider food, clothing, and recreation. How do you use your time? Do you spend enough time on things that matter to you? Consider ways you could help out a friend or family member in need (e.g., calling a grandparent or helping a classmate with something he/she doesn’t understand). Consider starting a happiness project in your school. To learn more, go to http://www.happycounts.org. This topic could be used to discuss consumption: How many pairs of shoes, pants, and other things that someone needs, the difference between a want and a need, and so on.

4. How Products Are Made. Have students investigate what goes into making a pair of jeans or a hamburger and how it gets to their local store/restaurant. They can use a concept/mind map to illustrate the economic, social, and environmental factors associated with producing the product.

5. Plastic Water Bottles. Have students view the video and/or read the article, and then discuss what they can do at home, in school, and in their communities to address the problem of plastic water bottles. They may want to imagine or do research about what can be made from used bottles.

   Video: http://science.kqed.org/quest/video/future-history-plastic-water-bottles

   Note: Many of the suggested resources align with content-specific standards, such as utilizing important critical- and systems-thinking skills.
ISSUE-SPECIFIC PROJECT IDEAS

• **Do One Thing.** You can do something about climate change. Everyday actions add up. Do One Thing to fight climate change and help the planet! The more people that join, the bigger difference we make. Alliance for Climate Education: https://acespace.org/dot

• **Energy Audit.** Conduct an energy audit of homes or classrooms. Analyze the results, and brainstorm ways to reduce the amount of energy used. Implement ways to reduce energy usage at home or school. Thirteen Ed Online: http://www.thirteen.org/edonline/wue/energy2_procedures.html

• **Hoosier Riverwatch.** What is “Hoosier Riverwatch?” Learn about this important program and its history. Determine ways to incorporate all or parts of it into your school science curriculum. www.hoosierriverwatch.com/

• **Pollinator Gardens.** The Million Pollinator Garden Challenge is a nationwide call to action to preserve and create gardens and landscapes that help revive the health of bees, butterflies, birds, bats, and other pollinators across America. Join the campaign to register a million public and private gardens and landscapes to support pollinators! Xerces Society: http://www.xerces.org/million-pollinator-garden-challenge/

• **PowerSave Schools.** Energy efficiency is the easiest, most cost-effective way to reduce energy consumption, yet it remains a challenge for many school districts. PowerSave Schools reduce consumption an average of 5–15% in 1 year through no-cost operations and behavior changes! Through the PowerSave Schools program students are empowered to grow as leaders, apply academic knowledge to solve the real-world challenge of increasing utility bills, and move their schools and communities toward a greener future with energy efficiency practices and measurable energy savings. Alliance to Save Energy: https://www.ase.org/projects/powersave-schools

• **Rainwater Collection.** If you are looking for ways to save on your water bill, help the environment by conserving water, and ensure that your plants, garden, and landscape don’t suffer in the next dry spell, consider an old-fashioned solution: rainwater harvested from a rain barrel, a container used to collect and store rain water when, for example, it is placed below the downspout of a roof gutter. Indiana Conservation Partnership: http://icp.iaswcd.org/rain-barrels/
LOCAL AND REGIONAL INDIANA ORGANIZATIONS

Center for Urban Ecology at Butler University: https://www.butler.edu/cue/streamlines
Earth Charter Indiana: www.earthcharterindiana.org
Environmental Education Association of Indiana: http://www.eeai.org
Holliday Park, Indianapolis: http://www.hollidaypark.org
Hoosier Energy: http://www.hepn.com
Hoosier Riverwatch at IN Dept. of Environmental Mgmt: www.hoosierriverwatch.com
Indiana Association of Soil and Water Conservation Districts: http://iaswcd.org
Indiana Children and Nature Network: http://www.indianachildrenandnature.org
Indiana Department of Energy Management: https://secure.in.gov/idem
Indiana Department of Environmental Management: http://www.in.gov/idem

Indiana Master Gardener Programs: http://www.hort.purdue.edu/mg
Indiana Natural Resources Foundation: http://www.in.gov/inrf
Indiana Recycling Coalition: www.indianarecycling.org
Indiana Water Monitoring Inventory: http://inwater.agriculture.purdue.edu/monitoring

IUPUI Center for Earth and Environmental Science (CEES): http://cees.iupui.edu
Nina Mason Pulliam EcoLab, Marian University: http://www.marian.edu/about-marian/nina-mason-pulliam-ecolab
Purdue list of Indiana Water Agencies and Resources: https://engineering.purdue.edu/SafeWater/drinkinfo/bookmark2.htm
Reconnecting to Our Waterways: www.reconnectingtoourwaterways.org
Youth Power Indiana: http://www.youthpowerindiana.com

NATIONAL AND GLOBAL RESOURCES

Children and Nature Network: http://www.childrenandnature.org
Energy Quest: www.energyquest.ca.gov
Environment America: http://www.environmentamerica.org
KidWind: http://www.kidwind.org
Landscape for Life: http://landscapeforlife.org
NASA: http://www.nasa.gov/offices/education/about/index.html#.VM_bISn9bHM

National Environmental Education Foundation: http://www.neefusa.org
National Environmental Services Center: http://www.nesc.wvu.edu/links/dw_nat.cfm
National Geographic: http://www.nationalgeographic.com
NATIONAL AND GLOBAL RESOURCES cont.

National Wildlife Federation (Schoolyard Habitats/Garden for Wildlife, Eco-Schools USA, Trees for Wildlife, Earth Tomorrow, service learning): http://www.nwf.org

North American Association for Environmental Education: http://www.naaee.net

The Nature Conservancy: http://www.nature.org

Environmental Protection Agency: https://www3.epa.gov

Green Schools Initiative: http://greenschools.net/section.php?id=26

The Habitable Planet:
https://learner.org/courses/envsci/index.html
(includes many online textbook passages and videos related to specific content)

National Geographic Human Footprint Educational Resource:
http://www.nationalgeographic.com/xpeditions/lessons/14/g68/HumanFootprint.pdf

Project Learning Tree: https://www.plt.org/environmental-education-curriculum

Digital Tools for the Classroom

- Animoto: http://animoto.com
- Glogster: http://edu.glogster.com
- Kid Blog: http://kidblog.org/home
- Little Bird Tales: http://www.littlebirdtales.com
- Moodle: https://moodle.org
- Photo Story: http://microsoft-photo-story.en.softonic.com
- Prezi: https://prezi.com
- Storybird: http://storybird.com
- Thinglink: https://www.thinglink.com
- VoiceThread: http://voicethread.com
- Wordle: http://www.wordle.net
At the DO IT Now Kick-Off Event, you will have the opportunity to talk to community leaders who work in areas related to food, water, and energy. In the table below, record two interesting facts you learned while meeting with each of the experts.

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What happens when things don’t go as planned? This section provides strategies to help overcome obstacles to create the best project possible. Unfortunately, things will go wrong at times. A big project can mean bigger obstacles. Below are some steps you can take to minimize or solve problems, but this is not a comprehensive list. The only certain way to solve a problem is to think critically, improvise, and act.

Understand the problem and look for early warning signs.
Most problems are not completely unforeseen. A good way to avoid setbacks is by anticipating them and attacking early. For example, make sure the team is always communicating so that everyone receives information when they need it. If you find that communication is suffering, fix it early so it does not become unmanageable and derail the entire project.

Look for alternatives.
Never assume that something will work on the first try. Always have a tentative plan B in case something fails. By having an alternative ready, project momentum will continue. Another take-away from this is being able to identify portions that are working and those that are failing. Keep only the working parts!

Know when to exit.
Not every project is executed to its exact intentions (what an amazing world that would be!). While staying courageous and persistent is important, you must know when to step away. Sometimes ideas are destined to fail, and that’s okay. Knowing when to quit is hard, but it is better to adapt and move on than to continue sinking time and energy into a doomed project.

Learn something new.
Failure is another way of saying “teachable moment.” As long as you learn something new to apply next time, you technically didn’t fail!
Unfortunately, educators are underfunded. Here are some simple grants that will help stretch your budget to the fullest. The DO IT Now program staff will also provide assistance in writing and hopefully obtaining these grants.

Search Engine for Grants: https://indiana.grantwatch.com
A good way to stay updated or look for your own!

Grants

**Central Indiana Community Fund**
Contact: haley@cicf.org
Website: https://www.cicf.org/not-for-profits/#how-to-apply
Due Date: October 1

**Herbert Simon Family Foundation**
Contact: herbertsimonfamilyfoundation@cicf.org

**Project Learning Tree Greenworks Grants**
Contact: jmcgirt@plt.org
Website: https://www.plt.org/resources/greenworks-grants
Due Date: September 30

**Project Learning Tree Green Schools**
Contact: information@plt.org
Website: https://www.plt.org/custom-login/?target_page=green_school_register
Due Date: No date and free to apply!

**Teacher Creativity Fellowship Program**
Contact: teachercreativity@lei.org
Website: https://lillyendowment.org/for-grant-seekers/renewal-programs/teacher-creativity
Due Date: September 4
POTENTIAL PARTNERS

Organizations that may be willing to assist with your future projects:

**Hoosier RiverWatch**
This organization works to “involve the citizens of Indiana in becoming active stewards of Indiana’s water resources through watershed education, water monitoring, and clean-up activities.”

How to contact: Register as a new organization (http://www.hoosierriverwatch.com/neworg)

**Keep Indy Beautiful**
This organization works to make Indianapolis the best and most beautiful place on planet Earth. Many of your projects may fall under the category of community improvement.

How to contact: 317-264-7555

**Nina Mason Pulliam Eco-Lab**
This organization works to educate the community about the environment and sustainable solutions by working with the community and K–12 groups.

How to contact: https://www.marian.edu/about-marian/nina-mason-pulliam-ecolab OR 317-955-6000

**INPAWS (Indiana Native Plant and Wildflower Society)**
This organization works to educate individuals about the native Indiana they live in and tries to foster stewardship about the flowers and natural beauty around them.

How to contact: info@inpaws.org

**Butler CUE (Centers for Urban Ecology)**
This organization strives to connect students, faculty, and community in a common effort to explore, enhance, and steward the urban environment through research, education, and outreach.

How to contact: 317-940-6506 OR jangstma@butler.edu