



**SUSTAIN**  
ARTIFICIAL INTELLIGENCE

# SUSTAINABILITY SOLUTIONS TOOLKIT

This toolkit was created as a resource for schools, students, families, and organizations who are looking for ways to live sustainably and want to encourage their communities to do the same.

# SUSTAINABILITY SOLUTION TOOLKIT



"The greatest threat to our planet is the belief that someone else will save it."

-Robert Swan



I created this resource as a toolkit for students, individuals, families, and organizations looking to care for our planet by making small, but impactful changes in their lives that will leave a long-term impact on our planet for good.

The challenges and solutions we address in this toolkit include reducing landfill waste through recycling responsibly, conserving water, and reducing carbon emissions.

This toolkit is intended as a resource to help individuals starting, or growing, in their journey to live sustainably who may not know where to start or the primary challenges facing the planet today. Wherever you are in your journey, you can make a difference for good by making small changes in your daily life.

The planet depends on us, and the future depends on the decisions we make today. Let's choose to leave a legacy that leaves the planet better tomorrow than it was today.

# TABLE OF CONTENTS

Challenges We Are Facing	_____	<b>1</b>
Practical Solutions	_____	<b>2-8</b>
- Recycle	_____	<b>3</b>
- Reuse	_____	<b>5</b>
- Reduce	_____	<b>6</b>
- Water Conservation	_____	<b>7</b>
- Energy Conservation	_____	<b>8</b>
Project Ideas	_____	<b>9-12</b>
- Community Garden	_____	<b>9</b>
- Clean Up Event	_____	<b>10</b>
- Clothing Swap	_____	<b>11</b>
- At Home Changes	_____	<b>12</b>
Getting Going	_____	<b>13</b>
Resouces	_____	<b>14</b>

# CHALLENGES WE ARE FACING

## What are the problems we need to address?

While they are all important and interrelated, the below is a list of some of the challenges that need to be addressed to improve the impact humanity has on the earth. While many of these challenges feel insurmountable, if we can make small changes every day, the positive effect would be immeasurable.



### LANDFILL WASTE

Landfill waste is a huge contributor to soil pollution, carbon & methane emissions, and often releases toxic chemicals that poison our oceans and waterways. Methane emissions are a significant contributing factor of climate change.

---



### OCEAN POLLUTION

There are an estimated 5.25 trillion pieces of plastic waste in our oceans, leading to the death of over 100 million marine animals each year. These plastics take between 500-1000 years to degrade (Ecowatch, National Geographic).

---



### CLIMATE CHANGE

Climate change is significantly affecting our planet. From rising temperatures leading to droughts throughout the world, to melting polar ice caps which affect sea levels and weather patterns, climate change is having an impact which must be addressed.

---



### OVER PRODUCTION & CONSUMPTION

According to the UN, over consumption and production is the leading cause of the "triple planetary crises of climate change, biodiversity loss, and pollution" (The United Nations).

---

"Nobody made a greater mistake than he who did nothing because he could do only a little."

- Edmund Burke

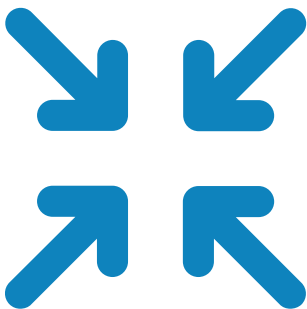
# PRACTICAL SOLUTIONS

Together, we can make a difference.



## RECYCLE

Make a difference by recycling your plastics, cardboards, and other products.



## REDUCE

Reduce the quantity of products you consume. Consider purchasing food from local farmers to avoid food waste, and reducing new clothing and luxury goods purchases.



## REUSE

Consider reusing or up-cycling products, buying used instead of new, and repurposing household items to prevent waste.



## WATER CONSERVATION

Conserve water as it is needed in every ecosystem on the planet, and when it's damaged or reduced, there are serious consequences for human and animal life.



## ENERGY CONSERVATION

Conserve energy as it lowers living expenses and helps protect the environment from excess resource use and carbon dioxide emissions.

Let's take a closer look at these solutions.

# RECYCLE

Recycling is one of the simplest ways to make a big impact for good on the environment, but what to recycle is confusing for many. The below is a list of commonly recyclable items.

## Recycle

- Papers
- Brochures
- Newspapers
- Magazines
- Paper Bags
- Paper Books
- Juice & Milk Cartons
- Cereal Boxes
- Cans
- Glass Bottles
- Jars
- Plastic Containers
- Bottles
- Detergents
- Aluminum Foil



## Landfill

- Food Wrappers
- Plastic Bags
- Film
- Pizza Box Containers
- Paper Towels
- Napkins
- Tissues
- Drinking Glasses
- Laminated Stickers
- Laminated Paper
- Ceramics
- Take-out food containers
- To-Go Coffee Cups



## Other

Curious what other items can be recycled and where you can drop them off?

University of Michigan has a free search tool to look up what items can be recycled (batteries, clothes, etc.) and where to drop them off.

<https://ocs.umich.edu/resources/where-to-throw>





# ONE-TIME PLASTICS



91%

of plastics are NOT recycled!

Humans use approximately 1.2 million plastic bottles per minute! When 91% of all plastics are not recycled, that's a lot of plastics ending up in landfills & our oceans. But we can make a dent in these numbers!

Recycling plastics gives them a new life and many plastics can be recycled to create benches, water bottles, and more.

However, if all the plastic water bottles, straws, and other one-time use items end up in garbages, our landfills and oceans won't be able to sustain our consumption.

We can make a change by recycling one time plastics, repurposing them, and choosing to use reusable bottles, bags, and straws.

# REUSE



## REUSE

Reusing is the act of taking a used item and turning it into something else through creativity. This may be repurposing old clothing into a quilt or bag, old boots into plant holders, or household items into garden decor. We are only limited by our imaginations!

Here's some ideas of items you can reuse:

- Take used clothing and make them into a new garment, purse, blanket, hat, stuffed animal, or art piece.
- Take household items and repurpose them into garden art, or other art creations.
- Take food scraps and compost them for organic fertilizer.
- Take old furniture and give it a makeover.



# REDUCE

Buying locally helps prevent food waste, excessive clothing manufacturing & waste, and supports your local economy. Reducing the quantity of products purchased and consumed is a huge step toward reducing our negative impact on the planet.

**30-40%**

*food supply is wasted*

**85%**

*textiles end up  
in landfills*

USDA, EPA



Over production & unsustainable farming practices is a leading factor in excessive food waste. Currently, in America, approximately 30-40% of the food supply is wasted each year. Supporting local farmers goes a long way to reducing the massive food wasted at every stage of production.

The volume of clothing consumption has doubled in the last 20 years, leading to excessive textile waste at both the production and consumer levels. Because the average clothing item takes approximately 200 years to decompose, our landfills will not be able to handle it. There are a number of clothing companies working to address this problem. Shopping from these companies, buying used, and reducing consumption will help address this systemic problem.



# WATER CONSERVATION

Between climate change and increasing populations, the EPA estimates that 40 US states will experience severe water shortages by 2024.

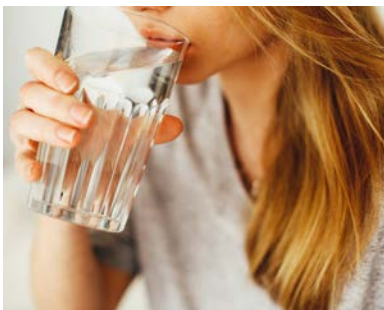


## Increasing Water Usage

The American population has increased two-fold in the last fifty years, and our water consumption has tripled. The need to conserve water has become critical.

## Climate Change

Climate change is causing many dams to experience severe water shortages, affecting power and water distribution nationwide.



## What You Can Do

- Install slow-flow appliances
- Fix leaky faucets & pipes
- Reuse rainwater for gardens
- Take shorter showers
- Replace grass lawns with rock gardens or astro-turf.

---

“When the well’s dry, we know the worth of water.”  
– Benjamin Franklin

# ENERGY CONSERVATION

There's a direct connection between the energy we use and the environment. For example, the amount of electricity we use affects the amount of toxic fumes released by power plants. By taking steps to reduce your energy intake, you'll contribute to a healthier and happier world.

## WHAT YOU CAN DO...

---

There are numerous steps you can take to conserve energy at home, and in your daily life. Consider making some of these small changes to help save the earth's natural resources.

- Switch to energy-efficient appliances
- Turn off the lights
- Get a smart thermostat
- Switch to LED light bulbs
- Unplug unused electronics
- Dry laundry on a clothesline
- Install solar panels on your roof

# Project 1

## COMMUNITY GARDEN

Consider starting a community garden with your neighborhood, school, religious groups, or other organization. Community gardens are a great way to make connections, produce food locally, and benefit others in your community. Consider planting heirloom seeds to improve sustainability and then harvesting your own seeds for next year's garden.



### Getting Started

Find an unused plot of land that is available for your use or ask a school to invest in a living garden.

### Action Steps

Choose your garden style and make sure everyone is educated on effective gardening methods.

### Discussion Points

- What do we hope to gain from this project?
- How will this project impact our community?

Purchase Items like garden beds, gardening tools, seeds, composted natural fertilizer, and more.

Begin preparing the soil, planting seeds, and starting the gardening process.

- What plants do we want to grow?
- How knowledgeable are our gardeners?

Make a plan to get started. What days will people work in the garden, who is responsible for watering, weeding, etc.

Mark & label your plants in your garden. Ensure that plants are properly spaced apart for best results.

- What results did you obtain from your project?
- What will you do differently next year?
- What worked well? What didn't?

# Project 2

## CLEAN-UP EVENT

Consider gathering together friends, coworkers, community members, and others to plan a clean-up event. This could be a local park, along the side of a road known for litter, a beachfront area, or other locations that need a little extra care. Be sure to consider the safety of your participants by wearing gloves, having the proper tools, and getting permission where needed.



### Getting Started

Choose where you'll be cleaning up. If you need permission, be sure to ask for it before starting.

### Action Steps

Make sure to have a truck or vehicle planned to take garbage bags to the dump & recycling facilities after cleanup.

### Discussion Points

- What do we hope to accomplish?
- What locations nearby need this project?

Purchase, or ask for donations of, garbage bags, pick-up tools, gloves, and other supplies for your clean up day.

Begin your clean-up day! Work together & make a meet-up plan for where & when to reconvene.

- What supplies will we need?
- Where and when will we plan this event?

Consider having multiple bags for different items, allowing you to separate items that can be recycled.

Consider helping with additional elements like mulching, weeding, or caring for a local park or community space.

- What worked well? What didn't?
- What can we do differently next time?

# Project 3

## CLOTHING SWAP

Looking for a way to reduce clothing consumption and waste? A clothing swap is a great place to start. Invite friends to bring any old or unwanted clothing to a clothing swap. This works great for small and large groups!



### Getting Started

Plan ahead! Choose a location that will accommodate the number of participants.

### Action Steps

Organize clothing items by size & type throughout your location. Consider bringing items like shoes, jewelry, and household decor.

### Discussion Points

- What are the positive impacts of a clothing swap on the environment?

Send out your invitations, explaining that participants should bring clothing they'd like to swap.

Divide your participants into smaller groups and set a timer. Each group will have a set time to explore their area before moving onto the next one.

- What supplies will we need?
- Where and when will we plan this event?

Consider having a day to drop off clothes, and other items, in advance of the swap to assist in organizational elements.

Swap clothes! Each person can pick clothes & items they'd like to take home. Consider donating leftover items to a homeless shelter, a thrift store, or other non-profit.

- What worked well? What didn't?
- What can we do differently next time?

# Project 4

## AT HOME CHANGES

Making a positive impact on our planet starts with making small changes in individual lives. If we all choose to implement the following action steps, our world will have a better chance of supporting life for generations to come.



### Getting Started

### Action Steps

### Discussion Points

Make a decision to begin implementing small changes to your daily life.

Create a system to recycle cardboards, plastics, cans, and other items. Consider creating an indoor area for recyclables.

- What areas of my life can I make changes to live more sustainably?

Begin researching local recycling regulations, and make a recycling plan.

Replace one-time use plastic consumption with reusable or recyclable products. Instead of using plastic bags, switch to reusable shopping bags.

- What supplies will we need?
- What organization processes would help us succeed?

Research costs of adding solar panels to your roof, and adding energy & water efficient appliances to your home.

Consume less. Consider areas of your life where you can reduce consumption and buy used, instead of new.

- What is working well? What isn't?
- What are future ideas we could implement?

# GETTING GOING

Sustainability is not just about acknowledging the problems, but looking for attainable and impactful solutions.

How do you make a difference? We do it together. If everyone took small steps towards sustainability by conserving water & energy, recycling, composting, reducing our consumption, and buying locally, we could begin to tackle some of the next generation's crises.

01

## Make a Commitment

Change starts with you. Make a commitment to do what you can, when you can, however you can. Small changes add up to big impact.

02

## Involve your community

Invite your family, friends, and community to join you. When we work together to make daily changes, we make significant progress together.

03

## Advocate for change

Does your community need better recycling methods? Would your community consider joining a community clean-up day or implement new cost-effective recycling methods? Your voice could be what brings ideas and leadership to your community.



# Resources

- Plastic Oceans - <https://plasticoceans.org/the-facts/>
- EcoWatch - <https://www.ecowatch.com/ocean-plastic-guide-2653277768.html>
- University of Michigan - <https://ocs.umich.edu/resources/where-to-throw/>
- National Geographic - <https://education.nationalgeographic.org/resource/great-pacific-garbage-patch>
- NOAA - <https://www.noaa.gov/education/resource-collections/climate/climate-change-impacts>
- United Nations Environmental Program - <https://sdgs.un.org/sites/default/files/publications/2404Behavioral%20Insights.pdf>
- World Economic Forum - <https://www.weforum.org/agenda/2022/06/recycling-global-statistics-facts-plastic-paper/>
- USDA - <https://www.usda.gov/foodwaste/faqs>
- EPA - <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/textiles-material-specific-data>

**We can make a difference together.**

---

## Contact



[www.sustainaiplanet.com](http://www.sustainaiplanet.com)  
[dylansingla@sustainaiplanet.com](mailto:dylansingla@sustainaiplanet.com)