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Welcome! Thank you for your interest in becoming a solutionary!

This guidebook is meant to offer you a new way of thinking about, and provide you with a process for, solving problems.

It’s written for people who care about issues in their communities and the world and want to make a meaningful and effective difference.

If you:
- Are concerned about local and/or global problems
- Care about people, animals, and the environment
- Want to contribute to a more just, healthy, and humane world for everyone...

This guidebook is for you!

After you’ve put the Solutionary Process into practice, we want to hear from you. We are curating a Solutionary YouTube Channel to share the most solutionary solutions to problems. You’ll find information about how to submit a video and, if you are a student, apply for funding to implement your ideas in step 11 of the Solutionary Process.

Thank you for caring. We look forward to hearing from solutionaries making a positive difference in their communities and world!

“This guidebook is meant to offer you a new way of thinking about, and provide you with a process for, solving problems.”
What is a solutionary?

A solutionary is someone who: makes compassionate and responsible choices; identifies unsustainable, inhumane, and unjust systems; brings critical, systems, strategic, and creative thinking to bear on solving problems; and develops solutions that do the most good and least harm to people, animals, and the environment.

This guidebook offers you a Solutionary Process that begins with the belief that even our most challenging problems can be solved, and that all of us can and should be working to solve them.

At its heart, the Solutionary Process is a simple framework that can be brought to life through these steps:

- identify a problem to solve
- work in groups or individually to research the causes and consequences of the problem
- apply critical, systems, strategic, and creative thinking in an effort to come up with a “solutionary solution*” to the problem
- design a plan to implement the solution
- implement the solution
- share the solution
- assess both achievements and challenges in order to learn from them and improve solutionary skills and actions

*A “solutionary solution” has certain features that we will discuss in more detail in this guidebook. Simply put, a solutionary solution addresses the causes of a problem and does the most good and least harm to humans, nonhuman animals, and the natural world.

Why is it important to be a solutionary?

Many things in the world are improving, and a healthy, just, humane world is possible. Yet it’s quite common for children, teens, and adults to feel somewhat (or very) hopeless about the future.
While hope is not required for solutionary thinking and action, without hope it can be harder to establish a solutionary practice. After all, why bother to work hard at solving complex problems if we don’t believe they can be solved and if the future seems bleak no matter what we do?

**So here's some good news:** So much has already changed for the better! Human life expectancy has increased almost everywhere. Extreme poverty has declined dramatically across the globe. The education of children — including girls — is universal. Prejudices, while still too common, haven’t stopped the movement toward greater social justice, and human rights are now encoded in laws that most countries around the world abide by. Policies and legislation to protect animals and the environment continue to be developed and passed. Violence and warfare have declined.

**It can be difficult to see** these positive trends because the media bombard us with bad news (of which there is plenty), and it can be especially difficult to note the positives during times when there is a pandemic and economic recession, impacting the more vulnerable at a far greater rate, and revealing more deeply the unjust and inhumane systems that have persisted for a long time.

**None of the successes** mentioned above mean that we should assume that all our problems will be magically solved just because things tend to get better. They only get better because people like you choose to make a difference to end violence, injustice, prejudice, environmental destruction, inequality, and cruelty to people and animals. The more you learn about positive changes from the past, and the strategies that enabled them to happen, the better equipped you will be to solve problems going forward.

**Despite our achievements** — and in large part because of achievements in obtaining resources and using fossil fuels — we face potential catastrophes.

**Climate change is a threat** to much of life on Earth, and all evidence suggests we are in the midst of the sixth great extinction. While estimates vary considerably, it is possible that half of all species on Earth may become extinct by the
end of this century. Glaciers are receding, coral reefs are dying, and rainforests are being destroyed at an alarming rate. Efforts to reverse climate change have thus far not succeeded.

While violence has diminished and warfare has lessened, the potential of nuclear weapons being deployed still poses a grave danger.

Overall, people may be living longer, healthier lives, but population growth coupled with poverty, pollution, resource depletion, and impacts on food and water availability may lead to a rise in conflict, greater prejudices, and fear-based retaliation against other people. As we now also see, a growing population and greater human density, along with more movement across the globe, can lead to devastating pandemics like COVID-19.

It's important to remember that things can be bad and better at the same time.

The devastating effects of coral bleaching as a result of climate change in Phi Phi Islands, Thailand. These corals are dead due to the ocean temperature rising and causing loss of endosymbiotic algae. This once was a garden of healthy coral. Now this coral reef ecosystem is decimated, leaving nothing but rubble.
Why is it important to create solutions that do the most good and least harm (are MOGO) for people, animals, and the environment?

We are sometimes asked what makes our solutionary approach different from other initiatives focused on solving real-world problems.

**There are two primary differences. Our approach ensures that people:**

- understand the causes of the problem(s) they’re addressing and develop root and systemic solutions
- learn that to be truly solutionary, a solution must avoid unintended negative consequences that may harm one group while helping another.

(Later in this section, we’ll give examples and go into more detail about what constitutes a “solutionary solution.”)

Our guiding philosophy at the Institute for Humane Education (IHE) includes the “MOGO” principle. MOGO is short for “most good.” Through our actions, we strive to live and educate in ways that result in doing the most good and least harm to people, animals, and the environment. IHE President Zoe Weil wrote the book *Most Good, Least Harm: A Simple Principle for a Better World and Meaningful Life*, should you wish to dive more deeply into how to put this principle into practice.

You may have noticed that we include animals in the MOGO principle. Many approaches that seek to solve global problems leave out animals – except perhaps in the context of endangered species and/or “megafauna” like whales and elephants, who capture our attention, and/or beloved companion animals like dogs and cats.

To be a solutionary, however, we believe that it’s important to develop solutions that don’t cause suffering and harm to any sentient beings, not just to the animals we happen to like. Most people believe animals should be protected from...
abuse. And yet, animal cruelty is routine, though largely hidden from view. For this reason, we’re devoting the following page of this guidebook to sharing information that is usually left out when we think about solving problems and contributing to a more just and compassionate world.

Our food, clothing, product testing, wildlife management, entertainment, and other systems commonly harm animals in ways that would be illegal if done to dogs, cats, or pet birds.

**For example, it is legal and routine to:**
- brand and dehorn cattle without painkillers or anesthesia.
- cut off half of chickens’ and turkeys’ sensitive beaks without painkillers or anesthesia.
- confine pigs so tightly they are unable to move.
- crowd chickens and turkeys into spaces so small they can’t stretch a wing.
- remove calves from their mothers on their first day of life to take the milk their mothers produce and use it for human consumption.
- confine veal calves in stalls so small they cannot move for the duration of their lives.
- put painful irritants into the eyes of rabbits, without painkillers, to test household products and cosmetics.
- force-feed chemicals to animals in laboratories in quantities meant to kill them.
- whip and beat into submission animals used in entertainment.
- hook and drag fish by their sensitive mouths for miles and then suffocate them through long-line fishing practices.
- poison wildlife with toxins that result in prolonged and painful deaths.
- trap animals by their legs and have them endure pain and exposure before killing them for their pelts.

All of these practices are normal. In fact, reading about some of them may not cause concern. Yet, if these practices were perpetrated on those animals we consider pets, we would likely find them horrifying (and, as mentioned above, illegal). If reading this list was upsetting to you, please know that the rest of this guidebook is...
going to prepare you to solve problems in ways that help everyone, because to be solutionary, a solution must strive to do the most good and least harm to animals in addition to people and the environment that sustains all life.

It might seem that most issues are independent of one another, so there’s not much need to take into consideration people, animals, and the environment when addressing a problem. Sometimes, that’s the case. For example, if you wanted to address the issue of unjust disciplinary policies in your school, which will come up later in this guidebook, your efforts might not connect to animals or the environment.

More often, however, if we look carefully, we will see connections between issues we care about and all those affected that first appeared invisible to us.

HERE ARE TWO EXAMPLES:

1. The Issue of an Endangered Species

In addressing the problem of a species becoming endangered because of habitat destruction, such as the Northern Spotted Owl in the Pacific Northwest, U.S. laws such as the 1973 Endangered Species Act are used to protect the habitat where the animals live. In the case of the Northern Spotted Owl, the Endangered Species Act was used to prevent the logging of old growth forests. What is often not considered by animal and environmental advocates or lawmakers, however, is the economic hardship that will result when an entire industry that may be employing a significant portion of a community suddenly becomes illegal. Such a solution does not recognize the connections between, nor take into consideration, all the stakeholders. To be truly solutionary, the solution would need to propose answers to the unintended consequence of job losses and economic instability in a community.
2. The Issue of Hunger

In addressing the problem of hunger, some individuals and groups have advocated providing livestock to people in other countries who are living in poverty. The thinking behind this solution is that the livestock will produce food (eggs, milk, meat) and provide a continuing source of nourishment because the animals will reproduce. What is not considered is whether the recipients will have the means to provide proper care, housing, and food for the livestock; whether the livestock themselves will suffer and die; whether the environment can sustain the livestock; whether the livestock will cause environmental damage in regions that aren’t conducive to animal husbandry; whether the feed necessary for the livestock will siphon off potentially more efficient means for feeding the community, etc. Without considering all those affected – including the individual animals, the environment, and the long-term impacts on communities – the solution may not actually be solutionary.
Most problems do not occur in isolation. Learning to take into consideration all who are affected by the problem and/or its potential solution enables solutionaries to develop approaches and ideas that can largely benefit everyone and avoid potential unintended negative consequences.

It is not always possible to avoid some negative impacts. This is why the MOGO principle asks us to strive to do the most good and least harm, rather than all good and no harm.

Why is it Important to Make Personal MOGO Choices?

At the beginning of this guidebook, we shared attributes of a solutionary, and among them included the commitment to make compassionate and responsible choices that do the most good and least harm to people, animals, and the environment.

Why is it important that solutionaries make MOGO choices in their personal lives, as well as cultivate virtues such as kindness and compassion? After all, if the goal is to be solutionary thinkers who develop and implement solutionary solutions in the world, why bother focusing on personal choice at all?
THERE ARE MANY REASONS!

- Being humane – which, according to Webster’s Collegiate Dictionary, includes “having what are considered the best qualities of human beings” – is inherently positive, and people tend to agree on what the best qualities are, no matter what their religion or background. For example, no one ever responds by saying greed or hatefulness when asked what are humanity’s best qualities, but they often say kindness and compassion. Cultivating virtues such as kindness and compassion improves our relationships; makes successful collaboration more likely; builds bridges of understanding; enables us to see others’ perspectives and take them into consideration; and creates happy, healthy, thriving communities.

- Practicing kindness in a globalized world demands additional effort. Kindness in a global economy requires considering the impacts of our everyday choices, since what we eat, wear, and buy can leave a trail of hidden sorrow and harm. Making conscious and conscientious choices will not, by itself, solve the problems of the world, but it is important anyway. While individual choices may not result in immediate, long-term change, the collective choices of individuals lead to innovations, social businesses, legislation, and policy changes that, over time, replace destructive systems.

- Dedication to making conscious and conscientious choices based on our values enables us to identify the challenges in doing so. That, in turn, sparks the creation of new and better systems that make living humanely and sustainably easier for everyone, including for those who cannot readily make different choices in their lives. It also gives us a lesson in empathy, as we realize how difficult making even small personal changes can be.

- Making choices inconsistent with our values gives everyone we meet (and potentially influence) a pass on trying to make more sustainable and humane choices themselves, because if we don’t live according to our principles, why should they?
- Taking responsibility for living with integrity also leads to greater personal freedom and self-respect. When we take responsibility for learning about the impacts of our choices and actions on other people, animals, and the environment, and then act in accordance with what we know and value, we free ourselves to look in the mirror each day and have respect for the person who looks back.

What Comprises Solutionary Thinking and Practice?

Solutionary thinking is comprised of many other forms of thinking, but primarily these four working together:

CRITICAL THINKING
SYSTEMS THINKING
STRATEGIC THINKING
CREATIVE THINKING

Critical thinking lies at the heart of solutionary thinking. Without the ability to determine what is factual; to distinguish fake news from the truth; and to analyze and assess one’s own thinking processes; we cannot build the knowledge necessary to solve problems effectively or in a solutionary manner.

Systems thinking relies on critical thinking to learn about and understand the connections between the problems we’re trying to solve and their many interrelated causes. To solve a problem successfully, we need to understand how the problem is perpetuated through various systems (e.g., economic, political, energy, media, and many other systems), as well as through the mindsets that lead to those systems. By learning to be effective systems thinkers, we are able to solve problems in ways that are solutionary and reduce unintended negative consequences.

Strategic thinking involves the creation of effective ideas for achieving a goal or solving a problem. Strategic thinking can be practiced both individually and collaboratively. We may come up with many ideas for solving a problem, and some of those ideas will be...
more strategic than others. Learning to think strategically leads to a greater likelihood of successful solutions as well as the implementation of those solutions.

Creative thinking involves addressing problems in a fresh, inventive manner. In the case of solving pervasive problems, creative thinking may mean generating ideas that no one has thought of, or it may mean discovering solutionary ideas that already exist but are not being implemented (because of systems that make it hard to do so), and developing ideas to help that existing solutionary idea take root.

While these four kinds of thinking happen in a nonlinear fashion, they can and do build upon one another sequentially to help people become more successful solutionaries. Without critical thinking at the base, systems thinking becomes challenging. Without critical and systems thinking working together, strategic thinking may not successfully advance the most solutionary ideas. And without all three, creative thinking may lack the foundation that enables the imagination to consider exciting new ways to create and advance the best solutions.

When brought to bear on problems, solutionary thinking leads to the development of solutionary solutions.

What is a Solutionary Solution?

So far, we’ve described two solutions (for protecting endangered species and solving hunger) that aren’t solutionary. So, what does a solutionary solution look like?

A SOLUTIONARY SOLUTION:

- reflects a deep understanding of the complexities of the problem, its causes, and the underlying systems that perpetuate it;

- strives not to harm people, animals, or the environment and seeks to avoid unintended negative consequences;

- works to positively transform the underlying systems that perpetuate the problem.
Devising solutionary solutions is challenging in and of itself. Implementing solutionary solutions is even harder. In fact, there are many solutionary solutions that have been proposed to solve complex problems, from climate change to poverty to health problems to animal cruelty to pandemics to failures of democracy. What prevents many excellent solutions from being successfully implemented is usually the imperfect interconnected systems in which the problem is embedded and through which powerful interests can have great influence. If it were easy to implement solutionary solutions, we would have solved most of the problems we face in the world.

We should not expect that we will be able to easily (or often) come up with and implement the most solutionary solutions to complex, entrenched problems, but we should try. Often, it makes sense to start small, gain experience and achieve positive results, and then move on to more challenging issues.

**FOR EXAMPLE:**

You might want to address a huge global problem like climate change. Teenager Greta Thunberg has chosen to do this, and because she has had the opportunity to give a TEDx talk, speak at the U.N. to global leaders, and be interviewed on many international television shows, she has been able to address global warming at a high level.

There are other ways to be solutionaries who address global warming at the local level. Starting a campaign to have solar panels installed at one’s school or working to change what is served in the cafeteria are powerful steps. It is sometimes more fruitful to identify local manifestations of a global issue and implement a solutionary solution locally. Even if these solutions do not significantly impact the larger problem, success at the local level comes with these important benefits:

- You will connect in person with stakeholders (all those who are impacted by the problem and the potential solution).
- You will become empowered by your accomplishments and learn that you can indeed create positive change.

“If it were easy to implement solutionary solutions, we would have solved most of the problems we face in the world.”
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- You can share your solution with others as a template to be adopted elsewhere, helping the solution spread and gain traction.
- You can assess your solution’s success over time, address any unintended negative consequences that may arise, and improve upon your efforts.
- You can build upon local achievements because you will gain increasing levels of skill and confidence.

It is also extremely valuable to identify others’ solutionary solutions and to implement them. Even if you are not developing solutionary solutions yourself, successful implementation of others’ solutionary solutions will develop important skills, build your confidence, and make a difference!

Solutionary solutions that have yet to be implemented need solutionary ideas for implementation. For example, if you discover solutionary solutions to address racism, homelessness, gun violence, animal abuse, pandemics, or the climate crisis, which are not being implemented because of societal systems that prevent their adoption, your solutionary solutions could constitute addressing those systems successfully so that implementation becomes more feasible and likely.

This kind of solutionary thinking is essential for putting into practice the many excellent ideas that have been proposed by countless people and groups.

“It is also extremely valuable to identify others’ solutionary solutions and to implement them.”
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## Evaluating Solutions on a Solutionary Scale

The scale below will help you assess your solutions and strive to create more and more solutionary solutions over time.

<table>
<thead>
<tr>
<th>EMERGING</th>
<th>DEVELOPING</th>
<th>SOLUTIONARY</th>
<th>MOST SOLUTIONARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The solution, while well-intentioned, does not yet address root and/or systemic causes (and may produce unintended negative consequences to people, animals, or the environment).</td>
<td>The solution addresses root and/or systemic causes but produces unintended negative consequences to people, animals, or the environment.</td>
<td>The solution addresses root and/or systemic causes and strives not to produce unintended negative consequences to people, animals, or the environment.</td>
<td>The solution <strong>significantly and strategically</strong> addresses root and/or systemic causes and does not harm people, animals, or the environment.</td>
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It can be helpful to assess solutions using this scale in order to become better at distinguishing what is a truly solutionary solution.

*It is not uncommon to equate good deeds with effective change-making, but they are not the same. It is also not uncommon to equate innovative ideas that may help relieve the worst symptoms of a problem with ideas that address the causes of the problem so that it doesn't continue in the future. Being able to distinguish these acts and ideas is very important.*

Below you'll find examples of solutions with our assessment about where they fall on the scale:

1. A group of high school students brings a lawsuit against the U.S. government asserting that their constitutional right to life, liberty, and the pursuit of happiness is being violated by the government’s inaction on and contribution to the climate crisis.

**SOLUTIONARY to MOST SOLUTIONARY:** Does not harm others and helps address the problem in a significant, systemic way. Note: this solution will require other solutionary solutions to address the political and economic systems that may prevent success, as well as the potential negative impacts on the economy if they win their lawsuit, which could lead to rapid changes in various industries.
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2. A group of middle school students creates a petition to influence their school to stop using disposable utensils, plates, cups, and trays. They collect signatures from over 80% of the school body, prepare a presentation detailing the negative impacts of the production and disposal of these products, and invite stakeholders to attend their presentation, including the local press, during which they deliver their research and petition to those in charge of making decisions about cafeteria materials.

**DEVELOPING to SOLUTIONARY:** Petitions often represent emerging or developing solutions because they are not always followed by careful research, presentation to the appropriate decision-makers, and continued pressure that leads to actual change. In this case, students gathered enough support and made a strong case on the negative impacts of disposables, increasing the likelihood of success. Including media also boosts their potential impact. What is unknown are the systems that led to the use of disposables in the first place. Without addressing these, their solution may not be adopted. Note: while a single-school effort may not have far-reaching impacts by itself, this solution is replicable, scalable, and offers a potentially successful approach others can adopt.

3. After a class trip to Washington, D.C., a group of children is deeply distressed about the homelessness they witnessed. They organize a food and clothing drive for a homeless shelter.

**EMERGING:** While their humanitarian efforts are important and beautiful, they are not solutionary because they do not address the causes of homelessness nor attempt to stop homelessness from continuing.

4. To address the growing number of deer in their community – who are vectors of ticks that carry Lyme Disease, frequently collide with cars, and eat people’s flowers in their gardens – a group of high school students in suburban New England prepares a presentation to their town council to promote an annual daylong hunt.

**EMERGING to DEVELOPING:** The solution attempts to solve the problem by establishing a repeating hunt that...
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will decrease the population of deer but does not take into consideration the interests of the individual deer who are killed, those deer who will suffer from the death of their family and community members, the impacts on the health of the herd (since healthy and strong deer will likely be killed, rather than weak and old deer who would normally be killed by predators), or the potential danger to people when deer are hunted in close proximity to houses and communities. Nor does the solution address the causes of a growing deer population: encroachment on their habitat and the killing of those wild animals who prey on them.

There are no absolutes when assessing solutions. Much depends on the long-term success and reach of implementation. We offer this scale to help you refine your understanding and move further along the scale toward “most solutionary.”

The solutionary scale is not meant to lessen your humanitarian actions, but rather to help you think even more strategically and creatively from a systems perspective. While humanitarianism isn’t the same thing as solutionary action, our communities and the world need both!
What Challenges Might You Face?

There are a variety of psychological challenges you may experience on the path to becoming a solutionary. Knowing the challenges you may face enables you to acknowledge and work through them. It’s important to recognize the obstacles for what they are: normal psychological phenomena worthy of your attention.

FEELING OVERWHELMED

It’s difficult enough to practice kindness and compassion, integrity and honesty, generosity and helpfulness, and perseverance and courage in our everyday interactions with other people and in situations we know well. In a globalized world, it is simply not possible to be aware of all the impacts we have through our daily choices.

For example, notice what you are wearing right now. Do you know how the production of your clothing affected other people? Animals? The environment? Imagine trying to find out. Your search could take you around the globe, perhaps more than once. There would be so much to learn, and so many questions to answer. What is the fabric made of, and how was it produced? How did it get from where it was produced to where it was turned into clothing, and what resources were involved? Who turned the fabric into clothing? Were they treated humanely and fairly? Did they earn a living wage? What were the conditions in the factory where they worked? Was the garment bleached and/or dyed? What were the impacts of those processes on people, other species, and the environment? How did the garment get to you? Who and what was affected in that process?

Multiply these questions, and many others, by all the foods you eat, the energy you consume, the products you buy, the transportation you use, and it can feel overwhelming to think about making kind, sustainable, just choices.

MEETING THIS CHALLENGE: While it certainly can feel overwhelming to consider the impacts of our everyday choices, learning about the many systems that go into them is fascinating. The investigative process is interesting,
thought-provoking, meaningful, and energizing. Taking the plunge into research is likely to be more mind-expanding than overwhelming once you start, because your curiosity and desire to learn begin to grow. Then, as you learn, opportunities to make more environmentally-friendly and humane choices often reveal themselves, and making these new choices usually feels great.

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FACING OUR COMPLICITY
As you dive into learning about the effects of your daily decisions in order to make healthier and more humane choices and understand the systems in need of change, you will soon discover that you cannot easily remove yourself from all the systems that cause harm, even if you want to. We can diminish, but not end, our reliance on fossil fuels. We can lessen, but not avoid, our participation with environmentally-destructive mining, farming, production, construction, and other systems. We can strive for justice, but find ourselves the beneficiaries of unjust systems. When faced with our complicity, some people may retreat from, rather than engage in, making different choices and creating change.

MEETING THIS CHALLENGE: It is so important to be gentle with yourself and find a balance between striving for perfection (not possible) and doing nothing
FEELING DESPAIR

Learning about the problems in the world can lead some to despair. Given this, it may seem counterintuitive to expose ourselves to frightening and upsetting issues, but the reality is that it’s difficult to hide from the bombardment we experience from the media.

MEETING THIS CHALLENGE: Hope is fueled by action as these leaders, young and old, so beautifully state:

“Action is the antidote to despair.”
- Joan Baez, singer/songwriter

“Hope is a verb with its sleeves rolled up.”
- David Orr, Oberlin College Professor

“The best way to not feel hopeless is to get up and do something. Don’t wait for good things to happen to you. If you go out and make some good things happen, you will fill the world with hope, you will fill yourself with hope.”
- President Barack Obama

“Once we start to act, hope is everywhere.”
- Greta Thunberg, teenage climate activist
The work you will do as a solutionary is empowering, builds hope, and does wonders to keep despair at bay.

**COGNITIVE DISSONANCE**

When faced with the discomfort that arises when one’s beliefs and values come into conflict with new information, people may experience what’s referred to as “cognitive dissonance” and may try to resolve the internal conflict to avoid psychological inconsistency by rejecting the new idea or information.

You may have experienced this yourself just reading this guidebook! If some of the information in this section has raised awareness about ways in which your personal choices are not aligned with your values (perhaps in relation to what you eat or wear), you may have tried to relieve this stress by either skimming sections or rejecting information. Alternatively, you may have found yourself contemplating personal changes. Either way, most people try to reduce the “dissonance” that arises when new information contradicts previously held beliefs or current behaviors by rejecting the idea rather than enduring the discomfort and examining the long-held belief.

**MEETING THIS CHALLENGE:** One of the reasons critical thinking is so important in the solutionary process is because our dedication to this practice enables us to meet cognitive dissonance with openness. If we are willing to investigate and learn new things, we will regularly confront cognitive dissonance and learn to manage it. While we may not always enjoy having our beliefs and ideas questioned, we gain self-confidence and self-esteem as we realize we have the skills to ascertain what is true and false. We may also find ourselves feeling liberated as we realize that thinking critically allows us to grow in exciting, unique, and important ways.

**CONFIRMATION BIAS**

Confirmation bias goes hand in hand with cognitive dissonance. Confirmation bias refers to the tendency to seek out, remember, and understand new information in a way that confirms our pre-existing beliefs and values. If new information is threatening, we tend to cling to whatever supports our worldview, as well as interpret any ambiguous
information in ways that match our current perspectives. In a polarized political climate, and with selective media feeding us what we want to hear, it requires commitment to pursue information that challenges our current thinking and perspectives. If we are not willing to make this commitment, we will be hard-pressed to take everyone’s views into consideration, and it will become more difficult to uncover or create solutionary solutions.

MEETING THIS CHALLENGE: Embrace a solutionary mindset! Such a mindset will lead you to look at issues and problems from multiple points of view, which means actively seeking out perspectives that differ from your own. In fact, the more you practice solutionary thinking, the more you’ll be inclined to investigate differing viewpoints. This makes it possible to examine controversial and polarizing topics in healthy, productive ways.

EITHER/OR THINKING
Some of the psychological tendencies described above contribute to the either/or thinking that is so common in our society. Earlier, we described the conflict that arose when the Northern Spotted Owl was placed on the endangered species list. The media and politicians began framing the issue as a choice between owls and loggers. People then began choosing sides, even posting their allegiance to their side through lawn signs. Conversations about and efforts to discover how to protect owls, forests, and jobs were hard to find. Even the very concept of environmental sustainability is often presented as an either/or: Either we protect the environment or we promote healthy economies, an unnecessary choice.

We tend to gravitate toward debating sides in our society, but we don’t have to accept two sides to complex issues. We can be solutionaries instead.

MEETING THIS CHALLENGE: An obvious alternative to debating sides is collaborating as solutionaries during which we look at all aspects of a pressing local or global issue, research causes, map systems, find leverage points, propose solutionary solutions, and implement and share our ideas. Simply put, solutionary thinking can replace either/or thinking, and this

“...we don’t have to accept two sides to complex issues. We can be solutionaries instead.”
guidebook is meant to help meet this challenge as you follow the Solutionary Process in the next section.

**THE BYSTANDER EFFECT**
The bystander effect refers to the psychological phenomenon in which people are less likely to help someone in need when other people are present, diminishing our sense of personal responsibility. While this effect has been demonstrated in psychological experiments where there is a victim present who needs assistance, we are applying it in a larger context. If we believe other people will solve the problems we face, we may think that we don’t need to become solutionaries ourselves.

**MEETING THIS CHALLENGE:** If you are reading this guidebook, it’s likely that you want to be a solutionary, not a bystander. In our experience, people are energized when they learn about the problems that most concern them, develop skills for solid investigation and research, and collaborate to solve challenges they care about. We have heard many young people describe solutionary learning and action as the most meaningful experiences they’ve had in school.
Getting Started

As you get started using the Solutionary Process that follows, please remember these three points:

1. **TAKE PEOPLE, ANIMALS, AND THE ENVIRONMENT INTO CONSIDERATION.**

Solutionaries consider the impact of solutions on people, animals, and the environment. We’ve made this point before, but if you are neglecting to take into consideration the impacts of your solutions on any individuals or groups who would be affected, then you are not learning how to be a true solutionary.

2. **ADDRESS THE KINDS OF PROBLEMS THAT WILL LEAD TO SUCCESSFUL ACTION.**

What problems can you legitimately address and solve successfully given your age, experience, resources, and time? While you may wish to address huge global problems such as the climate crisis, poverty, racism, species extinction, slavery, etc., you may be more successful initially, and gain the necessary skills to better succeed in tackling such big problems, by addressing local manifestations of larger challenges.

By focusing on a local issue, you will also have the opportunity to work directly with stakeholders — those people, animals, and ecosystems affected by the problem — and the potential solution.

For example, one high school group from Maine, concerned about the U.S. problem of the “school-to-prison-pipeline,” focused on changing their school’s disciplinary policy to keep students in school, with support and mentorship, rather than suspend them for infractions, and to build anti-racist restorative justice practices into disciplinary procedures. This represented a compassionate, effective approach for everyone involved and helped the students facing disciplinary measures make personal amends, learn from their mistakes, and get back on track. The school adopted the restorative justice policy proposed by the students.
PART 2: HOW

With this said, if you wish to address a huge, global issue such as the climate crisis, find support! You may indeed come up with innovative ideas for implementing potentially game-changing existing solutions; influencing public opinion and laws; or getting media attention that leads to changes no one has thought of before. Go for it!

3. ADDRESS THE SYSTEMS.

We’ve already discussed the difference between solutionary solutions and kind acts, charity, and other humanitarian efforts that are positive, but which don’t solve the problems you’re trying to alleviate. Food drives, beach and road clean-ups, raising money for charities, volunteering to help others in need are all wonderful things to do, and we encourage you to do these things. Acts of kindness are always good!

With that said, to be solutionary, you must understand the causes of the problem you’re addressing, including mindsets, psychological factors, and systems that perpetuate the problem, in order to make the problem cease to exist.
PART 2: HOW

The Solutionary Process

The rest of this guidebook will go through the thirteen-step process involved in becoming a solutionary. Each step builds on the previous step, so it’s very important not to skip any steps! It’s common for people to want to jump right to step 7, but without proceeding carefully through steps 3-6, there is a much greater chance that your solutions will not be as solutionary as they could be and might have significant unintended negative consequences.

1. Learn about issues in your community and in the world
2. Identify a specific problem you care about solving
3. Connect with stakeholders and those working to solve the problem
4. Identify the causes of the problem, from psychological factors, worldviews, and mindsets to systems
5. Determine who and what is harmed by the problem, and who and what benefits
6. Research what has been done to solve the problem thus far
7. Devise solutions that address the causes of the problem, and which do the most good and least harm to people, animals, and the environment
8. Determine which solutions are most solutionary and most feasible for implementation
9. Create a plan to implement your solution
10. Implement your solution
11. Present your work
12. Assess, reflect, iterate
13. Celebrate!

1. Learn about issues in your community and in the world

To be the best solutionary you can be, you’ll ultimately want to find the place where the answers to the following three questions meet:
1. What problems do I care most about solving?
2. What am I good at?
3. What do I love to do?

When the answers to these questions line up, you’re in a fantastic position to be a deeply engaged and successful solutionary!

It’s not always easy to line up these answers, though, especially because we don’t know all the things we’re good at, nor all the things we will ultimately love to do. The younger we are, the fewer experiences we have to accurately answer these questions. Perhaps you already know that you’re good at math, writing, playing an instrument, acting, sports, art, etc. That’s great! But you may also be good at other things you haven’t tried, and you may find that you are good at and love science, public speaking, politics, or psychology.

These guiding questions are ones that you will want to return to as you travel your solutionary path over time. These guiding questions are ones that you will want to return to as you travel your solutionary path over time. You’ll be asking and answering them for years to come. You may have some ideas right now about the problems you care most about solving, but without studying different issues and exposing yourself to various challenges, it’s also possible that you may not have found those issues that you truly care about.

This first step in the Solutionary Process is dedicated to learning about problems in your community and the world in order to discover what you care most about right now.

TAKING THESE STEPS WILL HELP:

- Begin your self-reflection by completing this MOGO Questionnaire to determine your values and circles of concern.
- Do Internet searches on topics of concern, and watch videos, read articles and essays, and check out news sources. Follow stories about people and animals who experience harm and suffering and about ecosystems declining because of human actions. The following graphic can get you started on topics to consider.
- Make sure to do searches on local problems, too. Remember, your work in your own community can make a huge difference and set the stage for more far-reaching efforts later.

2. Identify a specific problem you care about solving

After learning about different problems, you’ll need to choose one to work on solving. Try to pick one that you feel confident you can successfully address, and use these guiding questions (a variation on the three questions in step 1) to make your choice:

- What are the biggest problems in the world?
- What problems do I care most about?
- What skills and talents can I bring to bear on these problems?
Here are just some of the problems that student groups doing solutionary units in their schools have tackled:

- Local watershed pollution
- Ocean dead zones
- Plastics in the ocean
- Poaching
- Girls’ poor self-image
- Racism in schools
- Animals abused in entertainment
- Water scarcity
- Decline in pollinators
- Suicide
- Obesity
- Youth with incarcerated parents
- Bigotry toward LGBTQ+
- Elder abuse
- Factory Farming
- Immigrant voting suppression
- Lead in the local soil
- Product testing on animals
- Deforestation
- Racism in sports
- Gender inequity
- Animal cruelty
- Bullying in schools
- Cheating in schools
- Coral bleaching
3. Connect with stakeholders and those working to solve the problem

Stakeholders include all those who have a “stake” in the issue at hand. Stakeholders can be humans, other animals, and/or elements of our biosphere. All stakeholders’ needs should be sincerely considered when addressing any problem.

The more you connect with those who are affected by the problem, the better you will understand the impacts of the problem. When you connect with stakeholders, you will also learn more about the efforts that have been made to solve the problem in the past, and the outcomes of those efforts.

For those stakeholders from whom you can’t get verbal feedback, such as nonhuman animals and ecosystems, talk with people who can accurately represent their perspectives, as well as envision for yourself what the needs and interests of those stakeholders are.

If you address a problem far removed from where you live, video-conferencing technologies can help you connect with stakeholders. This is a wonderful way to gain a global perspective, understand different worldviews and experiences, cultivate compassion, and diminish stereotyping.

STAKEHOLDERS:
- could be impacted by the problem
- could be impacted by the solution
- could be invested in bringing a solution to fruition
- could be invested in preventing a solution from coming to fruition

EXAMPLES OF PROBLEMS AND STAKEHOLDERS

PROBLEM: Lead in city water

STAKEHOLDERS WITH WHOM TO CONNECT:
- Families impacted by lead poisoning
- Engineers

“The more you connect with those who are affected by the problem, the better you will understand the impacts of the problem.”
PART 2: HOW

- Legislators
- City Planners
- Medical professionals
- Insurance companies
- Teachers and schools whose students suffer from lead poisoning
- Organizations and individuals working to solve the problem on a local and national level
- Pets or wildlife who drink from the same water supply

PROBLEM: Homeless dogs and cats
STAKEHOLDERS WITH WHOM TO CONNECT:
- Homeless dogs and cats (at shelters, rescue organizations, and foster families)
- Animal Control Officers
- SPCA/animal shelter/rescue personnel
- Pet stores and breeders who profit from breeding puppies and kittens for sale
- People who purchase purebred puppies and kittens
- Lobbyists for the pet industry
- Breed rescue groups and individuals
- Organizations and individuals working to solve the problem on a local and national level

4. Identify the causes of the problem from psychological factors, world-views, and mind-sets to systemic structures

Identifying the causes of a problem can be like trying to trace a spider web, because there are typically multiple, intersecting causes, rather than a single cause. Exploration of one cause may lead to another. A combination of inquiry and research will uncover even more layers and connections, and interconnecting systems will appear. These systems exist because of deeper causes, such as psychological/biological factors, values, and worldviews.
PART 2: HOW

< The image of an iceberg can be helpful in understanding these layered causes.

The events at the top of the iceberg refer to those problems that we can see. They lie above the surface, visible if we pay attention to them. Under the surface lie the systems (also called systemic structures), which lead to the events, and below these systems lie the deeper causes, such as psychological/biological factors, mindsets, worldviews, belief systems, and values that lead us to create the systems that contribute to the problems in question. Put another way, our beliefs, values, thoughts, worldviews, and psychological/biological factors drive the creation of systems that then drive the creation of the problems we see. If we want to implement systemic change, we need to focus on the deeper causes and the systems we’ve created.

The most important question to keep asking in the process of identifying the causes of problems is “Why?”

For example, let’s say you want to address the problem of rising rates of type 2 (formerly “adult-onset”) diabetes among children.

Here’s how “why” questions might evolve:
- Why has the rate of this condition increased among children?

An initial “why” question should lead to research, and research, in this case, will reveal dietary factors that primarily (though not exclusively) lead to the increased rate of type 2 diabetes.

Then more “why” questions are necessary, such as:
- Why are foods that lead to this condition so prevalent?
- Why are these foods more prevalent among certain groups leading to higher rates of type 2 diabetes among people living in poverty?
- Why are these foods so inexpensive?
- Why are so many of these foods served in schools?
- Why aren’t children and their parents taught about the harmful impacts of certain foods?
- Why do we crave many unhealthy foods?
PART 2: HOW

Each “why” question will lead to more research, which will lead to more “why” questions, which will lead to more research. What is revealed through this process are interconnected systemic structures, such as:

- economic systems
- production systems
- legal systems
- political systems
- health care systems
- educational systems
- agricultural systems
- advertising systems
- family systems

< These systems can be written on the Iceberg model like this.
PART 2: HOW

Each “why” question will lead to more research, which will lead to more “why” questions, which will lead to more research. What is revealed through this process are interconnected systemic structures, such as:

- economic systems
- production systems
- legal systems
- political systems
- health care systems

Asking more “why” questions will lead to uncovering subsystems within those systems, as described below.

For example, ascertaining why fast food and junk food are so inexpensive (so cheap that a fast-food burger may cost the same amount as an organic apple!) may lead to research revealing that the water used to irrigate feed crops and livestock, the pasture land, and the fossil fuels used at every level of production, are all subsidized with taxpayer dollars (tax/subsidy subsystem). Without these subsidies, a fast-food burger would be quite expensive since its production requires many expensive resources (e.g., fossil fuels, irrigation, animal feed, slaughter, refrigerated transport, marketing, etc.) that comprise subsystems.

Here are some “why” questions that may lead us to discover other subsystems:
PART 2: HOW

- Why do we allow unhealthy foods to be advertised to children? (Marketing subsystem)
- Why do we allow corporations to make donations to legislators? (Lobbying, legal, and “corporations as persons” subsystems)

The more questions we can think of related to the different systems, the deeper we will go!

The questions in the previous paragraph were ones that related to media and political systems. We might also ask questions about the health care system, such as:

- Why do hospitals serve unhealthy foods in their cafeterias and to their patients? (USDA and lobbyist subsystems)
- What knowledge do health care providers have about nutrition? How many hours of nutrition science do medical students receive in medical school? (Medical education subsystem)

< Now our iceberg looks like this (with subsystems marked in blue)

< Now our iceberg looks like this (with subsystems marked in blue)

The next step is to draw lines between those systems and subsystems that are linked in some way.
PART 2: HOW

Now our iceberg looks like this:

There’s so much more we might add, but you get the picture.

We frequently have a hard time seeing current systems in our society as anything other than “normal,” “the way of the world,” or “universal,” because it’s hard to imagine different systems. But it’s certainly possible that we could live in a culture in which unhealthy, processed, and junk foods weren’t subsidized by tax dollars; in which corporations couldn’t donate unlimited amounts of money to influence legislators; in which hospitals and schools provided the healthiest possible foods to patients and children; in which the true costs of food production were factored into the cost consumers pay; in which future doctors were taught nutrition science and were focused on preventing disease.

The fact that we don’t currently live in such a world is because of the systems and subsystems we’ve created. To uncover the mental models, psychological factors,

“We frequently have a hard time seeing current systems in our society as anything other than ‘normal’...”
PART 2: HOW

worldviews, beliefs, and values that have led to these systems and subsystems we need to ask more questions. Some of the “why” questions above hint at these deeper causal elements, and we can add more:

- Why do we value “free speech” for a corporation (so that they can advertise unhealthy, unsustainable food and offer campaign money to influence legislators) over the health of children? (freedom is one of the highest values in the U.S.)
- Why do we eat foods that we know are unhealthy? (biological cravings for high-calorie foods and salt; short-term desires eclipsing long-term thinking)
- Why do we gravitate toward fast food? (convenience; overly busy/limited time; limited funds; fast-food culture)
- Why do we overeat? (perhaps in part because we experience nutritional deficits from junk food; food addictions; susceptibility to advertising influences)
- Why have we allowed our tax dollars to subsidize unhealthy, processed, and fast food? (we aren’t aware of the subsidies; we don’t understand the systems that gave rise to them; our education system doesn’t include information on our food system; food conglomerates are profit-driven and not public health-driven; we don’t want to question low-cost foods)

If we put some of these values, psychological factors, and mental models onto the bottom section of our iceberg, it now looks something like this:

“To uncover the mental models, psychological factors, worldviews, beliefs, and values that have led to these systems and subsystems we need to ask more questions.”
“Why” questions aren’t the only questions to ask, of course. We need to ask “who,” “what,” and “how” questions, too. In turn, these may also help us ask more probing “why” questions.

If you are working with others on the same problem, it’s helpful to have every member of your group ask their own “why” questions because each will differ. When you then share your “why” questions and research, you will have an even greater body of knowledge from which to work.

As you conduct research to answer questions and understand the causes of your problem, it’s essential that you evaluate the credibility of your sources in order to obtain reliable information.

**TO OBTAIN ACCURATE INFORMATION, ASK:**
- Where does the information come from? Is it a reliable primary source? A secondary source?
- Is the information supported by credible evidence? Can I obtain access to that evidence?
- Has the information been peer-reviewed?
- Can I verify the information from another credible source?
- What are the author’s credentials or organizational affiliations?
- Is the author qualified to write on the topic?
- If the information includes a study, who funded the study?

**TO EVALUATE BIAS, ASK:**
- What is the purpose of the information? Is there an agenda?
- Do the authors/sponsors make their intentions or purpose clear?
- Is the information fact? Opinion? Propaganda?
- Are there political, ideological, cultural, religious, economic, institutional, or personal views expressed or assumed?
- What are my own biases in regard to the information?

You will also be asking stakeholders for their perspectives on the causes of the problem, and assessing their
responses based on the questions above will be important. By definition, stakeholders will have a bias, and you must be able to evaluate stakeholder perspectives for accuracy, too.

5. Determine who and what is harmed by the problem, and who and what benefits

At first glance, it may be obvious who is harmed by a problem. After all, it’s a problem because there’s some sort of harm. It’s important to dig deeply to understand the range of harms, as well as the range of benefits not only related to the problem itself, but also to the systems contributing to the problem. Doing so will ultimately enable a deeper level of solutionary thinking so that you can develop and implement the most solutionary solutions.

To continue with the type 2 diabetes example, certainly the children who suffer from this condition are harmed, but the harms extend well beyond those children to include:
- Their families and friends
- Higher health insurance costs for everyone
- Less access to healthcare due to growing costs

Those impacted by the structures of our food systems that contribute to the problem, including:
- The environment (from the agricultural systems that impact water, soil, and air, such as monoculture farming; pesticides and fertilizers; genetically modified organisms; palm oil production; poor conversion ratios of feed to meat/dairy/eggs in animal agriculture leading to wasted resources, etc.)
- Animals (through factory farming agricultural systems that confine and abuse them)
- People (including migrant farmworkers not paid a living wage; slaughterhouse workers participating in what is considered one of the most dangerous occupations in the U.S.; children in other countries adopting an American diet, etc.)
PART 2: HOW

- Communities (food deserts where healthy food is hard to obtain, predominantly impacting low-income groups; city, suburban, and rural planning and infrastructure that lead to the proliferation of drive-thru fast-food franchises and convenience stores; single-use packaging that leads to waste and its associated costs, etc.)

Once again, the more questions we ask, the more impacts and effects we discover. What at first seemed like a problem that affected a certain (growing) percentage of children turns out to be a problem whose interconnected causes are impacting virtually everyone, along with the ecosystems that sustain all of us!

Thus, we discover that there are many more stakeholders than we may have initially thought, and we can add new stakeholders to our list to connect with and learn from.

**It’s essential not to stop with identifying the harms.** Type 2 diabetes is on the rise among children because so many are benefiting from the systems that are contributing to the problem. Unless we identify the stakeholders who are benefiting from these systems, and seek to meet their interests in other ways, our solutions may be less likely to be widely implemented. Beneficiaries of these systems may fight hard to maintain the status quo if they perceive that they will lose their benefits.

**Who benefits from the systems that are contributing to the rise in type 2 diabetes among children?**

- Corporations that produce the foods that contribute to type 2 diabetes benefit, as do all the investors in those corporations, including people whose retirement accounts may include stock in companies producing fast food, soda, candy, and junk food (whether they know it or not).

- Hospitals and health care providers benefit from increased revenue from sick children.

- Politicians benefit from campaign contributions from corporations producing these foods, pharmaceutical companies (and investors) producing drugs to treat type 2 diabetes, media reliant on advertising dollars, etc.

“...we will see connections between issues we care about and all those affected that first appeared invisible to us.”
PART 2: HOW

- Communities benefit from the taxes paid by fast food and convenience stores.
- Supermarket owners and employees benefit from the sale of these foods because such foods have very high profit margins.
- Advertising agencies benefit from developing ads for junk food.
- Media benefits from the money from those advertisers.
- The public benefits from “free” media they receive that is funded by advertising dollars.
- Schools benefit from the low-cost food provided by the USDA because schools are often the dumping ground for unhealthy foods. They also benefit from vending machines that sell sodas and junk food.

For virtually every problem we identify, we will likely find more stakeholders who are harmed, as well as more beneficiaries than we imagined. The deeper we dig, and the more we discover, the more likely it is that we will eventually be able to develop a strategy, approach, and solution that addresses the systems and mindsets in a solutionary way.

If we add our harms and benefits to the top of our iceberg, our iceberg now looks like this:

“...we will see connections between issues we care about and all those affected that first appeared invisible to us.”
6. Research what has been done to solve the problem thus far

There’s no need to reinvent the wheel if good solutions exist and simply need other solutions for effective implementation. It’s also worth avoiding solutions that have already been found to be less effective than expected or have unintended negative consequences.

It’s rare that people choose to solve a problem that no one else has sought to solve. As you saw in the above list of problems addressed by students who’ve participated in solutionary learning and action in their schools, many have been widely reported in the news and tackled by countless nonprofit organizations, communities, individuals, and governments.

Nonetheless, these problems persist. Often, there is growing awareness about and public sentiment for solving the problem, but the increase in human population and other contributing factors mean that the problem is getting worse despite greater concern and dedication to ending it. In fact, this is true for many problems, which suggests that proposed and implemented solutions need to become even more solutionary.

By carefully researching what’s been done to solve the problem you’re addressing; analyzing the successes and learning from the failures; talking with those in the forefront of solving the problem; and paying attention to any unintended negative consequences from different approaches that have been tried, you’ll gain the knowledge you need to make a meaningful contribution as a solutionary.

There’s a well-known story about the World Health Organization (WHO) trying to solve the problem of malaria in Borneo in the 1950s. The solution was to spray the pesticide DDT to kill the mosquitoes that carried the parasite that causes malaria. The DDT worked, but it also killed the wasps that controlled populations of thatch-eating caterpillars, so before long there were holes in the thatched roofs of dwellings. Holes can be patched, so that would have been a manageable unintended negative consequence, but then cats started dying.
The theory is that the cats died due to high levels of DDT in their bodies from eating lizards who ate insects, thus concentrating the DDT up the food chain. Whether this is entirely accurate is debated, but with the reduction in cats on the island, there was an increase in rats who spread the plague. Now the unintended consequences were severe. The response of WHO was to parachute crates of cats into Borneo to solve the problem of too many rats. You can watch an animated version of this story here. (Please note that it’s worth thinking critically about this video’s stereotypes of the Dayak people and the rats.)

“Let’s avoid parachuting cats!” is another way of reminding us to carefully consider the potential unintended consequences of our solutions.

7. Devise solutions that address the causes of the problem, and which do the most good and least harm to people, animals, and the environment

Returning to our example of the rise of type 2 diabetes, and assuming of course that we’ve done all the other steps, it’s time to think about solutions!

If we want to reduce the rate of type 2 diabetes among children, we know that building more hospitals and encouraging more medical students to go into the specialty of endocrinology will not solve the problem. We have to address the causes directly and find leverage points where a small change may result in a significant positive impact.

Systems thinking expert, Donella Meadows, wrote in her excellent article, “Leverage Points: Places to Intervene in a System,” “[Seeking leverage points] is not unique to systems analysis—it’s embedded in legend. The silver bullet, the trimtab, the miracle cure, the secret passage, the magic password, the single hero who turns the tide of history. The nearly effortless way to cut through or leap...
over huge obstacles. We not only want to believe that there are leverage points, we want to know where they are and how to get our hands on them. Leverage points are points of power."

What this means is that we have to be careful to deeply assess possible leverage points and potential solutions.

Remember, we always have to be 4 of potential unintended negative consequences and avoid parachuting cats!

Back to our iceberg model below, you’ll see we’ve added the concept of leverage to it. You’ll also notice that leverage lies below the events level, and there can be leverage points at the systems level and at the deeper levels of mental models, beliefs, and values.

If one of the deepest causes for the rise in type 2 diabetes stems from our desire for high-calorie food, then if someone came up with a solution to the problem of human cravings for such foods, we might be able not only to solve the problem of rising rates of type 2 diabetes, but also a host of other problems.

However, because humans evolved to crave high-calorie foods, we may not be successful if we try to leverage this particular deep causal level of our problem when we devise
a solution. In other words, as we look for leverage points for creating change, the ones that might theoretically have the biggest impact are not necessarily the ones that we can or should target.

That doesn’t mean we should never dive below the systems level to create change, but rather that we should evaluate the likelihood of success based on several factors:

- The potential impact of the leverage point
- The feasibility of a successful solution at that leverage point
- The impact of the forces that may propel the solution forward
- The impact of the forces that might thwart the solution

While we may not choose to implement a solution at the places of deepest leverage, it’s absolutely worthwhile to consider more than one leverage point and more than one solution per leverage point. This is how we learn how to be successful solutionaries and how we are able to strategize to make good decisions.
PART 2: HOW

You can use the leverage points chart below as a tool.

**LEVERAGE POINTS AND SOLUTIONS CHART**

- Identify leverage points where you think a strategic action would be most effective in creating changes that will help solve the problem you identified. Put those in the first column in the chart below.
- Once you have identified your best leverage points, write down as many possible solutions as you can think of in the second column.
- In the third column ask: does my solution do the most good and least harm to people, animals, and the environment (is it MOGO)? If not, who is harmed and in what ways?

<table>
<thead>
<tr>
<th>What is the leverage point and where is it located? (What are you going to try to change?)</th>
<th>What solutions do I have at this leverage point?</th>
<th>Do my solutions do the most good and least harm to people, animals, and the environment (are they MOGO)? If not, who is harmed and in what ways?</th>
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Let’s consider this chart in relation to our type 2 diabetes problem:

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<th>What is the leverage point and where is it located? (What are you going to try to change?)</th>
<th>What solutions do I have at this leverage point?</th>
<th>Do my solutions do the most good and least harm to people, animals, and the environment (are they MOGO)? If not, who is harmed and in what ways?</th>
</tr>
</thead>
</table>
| **Education & lack of information**  
(pople aren’t aware of the systems that make unhealthy food prevalent or that their tax dollars subsidize these systems)  
Located at both the systems and the deepest level on the iceberg | 1. Produce an educational video that reveals how subsidies keep unhealthy foods low in cost, with a call to action to contact legislators.  
2. Write a blog post about tax subsidies for unhealthy foods and their negative impacts, with a call to action to contact legislators.  
3. Create a presentation to share with others.  
4. Work at the school level to educate the school community and/or educate/influence the school cafeteria to serve only healthy foods; and/or develop curricula on healthy eating. | Yes. Education about this subsidy system could lead to action on both an individual and systems level that helps solve the problem in ways that are ultimately beneficial to all.  
Working at the school level could be replicable to other schools and gain media attention spreading the message. |
| **Legislation**  
Located at the systems level (legislative/political/economic/agricultural/energy systems) | 1. Draft legislation to make it illegal to advertise junk and fast food to children.  
2. Draft legislation to change the Farm Bill to stop subsidies of unhealthy foods and destructive/unhealthy agricultural systems.  
3. Draft legislation to stop subsidies for fossil fuels. | Generally and overall, yes. Advertisers, media, big agriculture, and fossil fuel industries will be affected. Since people still have to eat, they will need energy. Advertising will continue. These impacts will represent shifts that may support others, evening out any harms. Overall, very MOGO. |
| **Healthcare**  
Located at the systems level | 1. Create a campaign to get all medical schools to offer nutrition education.  
2. Create a campaign to get hospitals (or our local hospitals) to serve only healthy, mostly plant-based foods in the cafeteria and to patients.  
3. Create a campaign and messaging for health care organizations to share info on healthy, mostly plant-based diets. | Yes |
PART 2: HOW

8. Determine which solutions are most solutionary and most feasible for implementation

Devising solutions is one step in the process; determining which solutions are most feasible for implementation is another. There are many factors to consider when it comes to implementation, and the most solutionary ideas may not be the ones that you are able to implement because of time, resources, and expertise. However, it is helpful to identify multiple solutionary solutions, even if you are unable to implement them yourself.

Here again is our scale for assessing your solutions for their “solutionariness.” Remember that it’s possible to choose a solution that someone else has come up with, but which hasn’t yet become widespread and isn’t being implemented as it could and should be.

Your most solutionary solutions may offer new ideas for the implementation and scaling of others’ ideas.

ASSESSING SOLUTIONS ON A SOLUTIONARY SCALE

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<th>EMERGING</th>
<th>DEVELOPING</th>
<th>SOLUTIONARY</th>
<th>MOST SOLUTIONARY</th>
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<tbody>
<tr>
<td>The solution, while well-intentioned, does not yet address root and/or systemic causes (and may produce unintended negative consequences to people, animals, or the environment).</td>
<td>The solution addresses root and/or systemic causes but produces unintended negative consequences to people, animals, or the environment.</td>
<td>The solution addresses root and/or systemic causes and strives not to produce unintended negative consequences to people, animals, or the environment.</td>
<td>The solution significantly and strategically addresses root and/or systemic causes and does not harm people, animals, or the environment.</td>
</tr>
</tbody>
</table>

Once you have your handful of best ideas, you can use the chart below to ascertain what solution will ultimately be the most solutionary for you to pursue. You can and should share all your best solutions with others, because they may be perfect for another group, but you want to be sure to choose one that makes the most sense for you.
**PART 2: HOW**

<table>
<thead>
<tr>
<th>Possible solution</th>
<th>Who/What benefits from this solution?</th>
<th>Who/What could be harmed from this solution?</th>
<th>Where does the solution fall on the solutionary scale?</th>
<th>Is the solution feasible for me to implement?</th>
<th>What time and resources are necessary to implement this solution?</th>
<th>Do I want to pursue this solution? Is it a good use of my talents and interests?</th>
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<tr>
<td>Legislation to end subsidies for land, water, and fossil fuels for agricultural practices that contribute to type 2 diabetes</td>
<td>People who are made ill (because the cost of fast food/junk food is so low, consumption increases). Animals suffering on factory farms. The environment, because subsidies perpetuate destructive practices and reduce shifts to clean energy and sustainable agriculture.</td>
<td>Costs of some foods will go up so food will be more expensive for consumers. Sellers of soda, candy, junk, and fast foods will be affected negatively, and profits will go down, potentially impacting investors and retirement accounts. Media and advertising companies may be affected if these foods aren’t advertised as much. Nonetheless, people still have to eat, and there is money to be made selling and advertising healthful foods.</td>
<td>We can definitely write the legislation and find some sponsors/co-sponsors, but without large-scale collaboration and media attention, this legislation probably won’t go anywhere in Congress, because the corporations benefiting from the status quo fund legislators and have a lot of power. Without addressing the underlying campaign finance system, our approach may not be successful.</td>
<td>Many weeks/months of meeting with legislators to understand the best methods for drafting legislation of this kind; more meetings to influence other legislators to co-sponsor. A large machine of activists/lobbyists to gain traction. Much work and collaboration to get media attention. Potentially years of work.</td>
<td>We want to pursue this because it’s solutionary and important, but we don’t have a lot of faith we’ll be successful. However, the process of doing this work will be important and potentially far-reaching, and of all our ideas it’s the most solutionary. It NEEDS to happen.</td>
<td></td>
</tr>
</tbody>
</table>

**Here’s what our chart looks like for our type 2 diabetes problem:**

<table>
<thead>
<tr>
<th>Possible solution</th>
<th>Who/What benefits from this solution?</th>
<th>Who/What could be harmed from this solution?</th>
<th>Where does the solution fall on the solutionary scale?</th>
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<td>Costs of some foods will go up so food will be more expensive for consumers. Sellers of soda, candy, junk, and fast foods will be affected negatively, and profits will go down, potentially impacting investors and retirement accounts. Media and advertising companies may be affected if these foods aren’t advertised as much. Nonetheless, people still have to eat, and there is money to be made selling and advertising healthful foods.</td>
<td>We can definitely write the legislation and find some sponsors/co-sponsors, but without large-scale collaboration and media attention, this legislation probably won’t go anywhere in Congress, because the corporations benefiting from the status quo fund legislators and have a lot of power. Without addressing the underlying campaign finance system, our approach may not be successful.</td>
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</tbody>
</table>
Taking the time to go through all of the solutions that are generated, and completing the chart for each, helps tremendously when homing in on which solution to pursue and implement. Paying close attention to the unintended negative consequences is also critical. Often the most solutionary solutions will have the biggest potential backlash and be the hardest to implement (e.g., our legislative solutionary idea above). Remember, people are profiting from destructive, inhumane, and unhealthy systems, which is why things like subsidies for unhealthy foods and unsustainable agricultural systems continue. This doesn’t mean we shouldn’t pursue the most solutionary solutions. Rather, we need to be prepared.

After completing the chart and considering all the options, decide on a solution to pursue.

Even though it will be the most challenging solution to pursue and implement, we are most excited about leveraging the legislative system. Even if we don’t succeed, we are eager to try, and we know we’ll learn so much in the process that will help us become better solutionaries. We are also going to share our solution 3 with a medical advocacy group and diabetes educators since we won’t be pursuing it ourselves.

9. Create a plan to implement your solution

Planning is key to the successful implementation of a solution.

The chart below will help you. Note that your long-term goal may not be achievable in the near future, but your measurable objectives should be.

**Before writing your measurable objectives:** Fully envision how your school, community, nation, and/or world will be different when your long-term goals are realized. How will people, animals, and the environment benefit from your solutionary solution? What will success look like?

**Before writing your baseline status and evidence of success:** Zoom out and observe what you’ve done so far and
PART 2: HOW

take a creative approach to completing this next step. You might want to sketch out your process in a new way (for example, create a large visual timeline, a collaborative mural, or a shared digital tool) – something you can use to establish the baseline of your problem and measure success as you progress through the Solutionary Process to solve it.

REMEMBER: You are now prepared to put your solutionary thinking into action. Pay as much attention to what goes wrong as what goes right, and document this on the tool you create.

Here’s what our chart looks like, having chosen to pursue our second solution:

**Legislation To End Subsidies For Land, Water, And Fossil Fuels For Large-Scale Agriculture**

<table>
<thead>
<tr>
<th>Measurable Objective(s): What changes will have been made relative to your goal (keeping the iceberg in mind)? You can use the goal-setting strategy <strong>SMARTR</strong>: Specific, Measurable, Attainable, Relevant, Time or event-bound, with a plan to Re-evaluate and Reflect.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline status and evidence of success</strong>: What does the aspect of the problem you’re addressing look like now, before you begin implementing your solution? Be specific about how you plan to measure your success: what will the indicators be and how will those indicators be represented in the progress tool? For example, if you choose a long-term goal such as “reverse global warming,” with a plan to draft and pass legislation in your town or city to reduce energy consumption by a certain percentage, you will be measuring the change in energy consumption in your town, not the overall reduction of CO2 in the atmosphere. If your plan is educational in nature, you can measure how many people were exposed to your educational efforts and poll them to learn about the effects the educational campaign had on public awareness and behavior.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action Steps (Be specific)</th>
<th>Individuals Involved (Including stakeholders)</th>
<th>Resources Needed</th>
<th>Timeline (Date by which the action should be completed)</th>
<th>Potential Difficulties</th>
<th>What does success look like and how will we evaluate it?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>
As you can see from our action plan above, choosing to implement a solution on a national scale is huge, time-consuming, and requires long-term dedication. We chose

<table>
<thead>
<tr>
<th>Measurable Objective(s):</th>
<th>To have Congress end subsidies to agricultural practices that contribute to Type 2 diabetes, as well as land and water pollution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline status and evidence of success:</td>
<td>Industrial agriculture is subsidized by taxpayers, which keeps unsustainable foods and practices inexpensive so that the true cost of these foods are not passed to consumers. Meanwhile, locally, sustainably grown foods are not subsidized, making the healthy option harder to access.</td>
</tr>
</tbody>
</table>

### Action Steps

<table>
<thead>
<tr>
<th>Action Steps</th>
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<th>Timeline</th>
<th>Potential Difficulties</th>
<th>What does success look like and how will we evaluate it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Schedule calls with legislators on Senate &amp; House committees in Agriculture, Energy, Natural Resources, &amp; Health. (2) Question validity of subsidies and request support in drafting new legislation. (3) Determine legislative history. For instance, if previous efforts were made to repeal harmful subsidies and why these might have failed.</td>
<td>Team members; teachers and mentors (to review questions); senators and representatives; congressional staff.</td>
<td>Phone, internet, computers, basic software.</td>
<td>Meetings with senators in 2 weeks.</td>
<td>(1) Getting to actually speak to legislators. (2) Getting support to create new legislation.</td>
<td>We were able to speak with and obtain necessary information from legislators, and some were enthusiastic about working with us to achieve our goal. We will evaluate our success by answering the following: Were we able to speak with legislators? Did they answer questions thoroughly? Do we understand what our next steps will be? Do we have enough information to move to the next step?</td>
</tr>
<tr>
<td>Draft legislation with help of senators, representatives, and congressional staff.</td>
<td>Team members; teachers and mentors; senators and representatives; congressional staff.</td>
<td>Phone, internet, computers, basic software.</td>
<td>Weeks to a month.</td>
<td>Lack of previous bills to serve as template for new legislation.</td>
<td>Draft of solid bill.</td>
</tr>
<tr>
<td>(1) Share draft bill with legislators for feedback and potential introduction/co-sponsorship. (2) Create campaign to garner support and inspire others to contact legislators.</td>
<td>Team members; teachers and mentors; legislators and staff; activists; reporters and media specialists; supportive healthcare providers for Type 2 diabetes patients.</td>
<td>Phone, internet, computers, basic software; meeting space.</td>
<td>(1) As soon as a draft bill is written. (2) Ongoing (months to a year).</td>
<td>(1) Disinterest from legislators. (2) Lobbying and pushback from industrial agriculture. (3) Length of process and media support. (4) Lack of interest from stakeholders, such as Type 2 diabetes patients.</td>
<td>(1) Participation and support of legislators, stakeholders, and the media. (2) Greater awareness of the issues even if a bill is not passed.</td>
</tr>
</tbody>
</table>
PART 2: HOW

to illustrate an action plan at this scale to provide a reality check for implementation feasibility. We also chose to illustrate a large-scale solution because we want you to imagine what it would be like to commit to a year-long (or multi-year) effort such as this.

The process of creating an outline will help you understand what is involved in your big goals and dreams. Had we chosen to implement our ban on junk and processed food in the school cafeteria, our plan might still take time, but it would be more likely to meet with success that we could build upon.

Here’s what our chart might look like for the more manageable goal of banning junk and unhealthy processed food in the school cafeteria:

<table>
<thead>
<tr>
<th>Long-term Goal: Our school cafeteria will not only stop serving unhealthy and junk foods, but will be a model for other schools to follow so that our solution spreads far and wide.</th>
<th>Measurable Objective(s): Our school cafeteria will stop serving unhealthy and junk foods by the beginning of the next school year.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline status and evidence of success:</strong> Currently, our cafeteria serves many unhealthful foods, from chips and candy to hot dogs and burgers with processed white flour buns. They also serve sugary drinks. We have few truly healthful options. Success will mean that the cafeteria no longer serves packaged junk foods and beverages or meals that are high in saturated fat, processed sugar, and sodium. There will be a variety of delicious, whole, unprocessed, plant-based foods - both fresh and cooked - available every day.</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<td>We will meet with those in charge of food services at our school to discuss our goals and present our data to support the need for healthful foods in the cafeteria. We will present our suggestions for eliminating certain unhealthful foods and serving more healthful foods, based on our research into government requirements for school cafeterias.</td>
<td>School administrators/food service personnel.</td>
<td>Time and flexibility.</td>
<td>Within a week of completing our solutionary work.</td>
<td>We have no control over whether they will be amenable to hearing our perspective and working with us. We may face resistance if they believe that our suggestions are: costlier, less likely to be eaten by students who are used to other, less healthy foods.</td>
<td>Success looks like this: We have a first meeting that is positive and collaborative. Personnel are excited to work with us to improve offerings in the cafeteria and to stop serving foods and beverages that cause harm.</td>
</tr>
<tr>
<td>Based on the success of the first meeting, we will take whatever action steps are asked of us (e.g., research, education of students, polling of students).</td>
<td>Potentially, we will be working with many constituents in the school to gain support for our initiative.</td>
<td>Time, communication skills, research skills.</td>
<td>To be determined (TBD) based on discussions with the food-service personnel and decision-makers.</td>
<td>We may face resistance from fellow students who prefer pizza, burgers, chips, and sugary desserts and beverages.</td>
<td>Success looks like this: We have consensus in our school community that healthy foods are desired, and unhealthy foods should no longer be served. We have the support of food service to implement the suggestions. We will evaluate success based on the food service changes during the next school year.</td>
</tr>
</tbody>
</table>
PART 2: HOW

Alternative approach to choosing a single solution to pursue: If you are working together with friends on the same problem, it is possible that you'll want to pursue different solutions. Instead of all working on one solution, you might work on several, and then share your experiences and learnings with each other – like various departments in a solutionary organization.

It will also be extremely helpful to ask for feedback from experts, stakeholders, and community members, as well as activists/advocates who’ve been working on the issue you’re addressing. You can then adjust your planning accordingly before moving on to implementation and sharing.

10. Implement your solution

The feasibility of implementation depends on many factors: the kinds of solutions that are being implemented (e.g., whether they are hands-on in the community or completed primarily through time on a computer, in a maker space, art studio, class at school, or from home), whether you are implementing them collaboratively with others or individually, etc.

It may be that you need a much bigger team and resources to fully implement your solution. You may wish to build such a team, and you also may wish to share your ideas with existing groups, organizations, and others who may have resources to take the next steps.

11. Present your work

Presenting solutionary work is a very powerful way to promote solutionary efforts.

Sharing what you have learned, proposed, and accomplished educates others, which is solutionary in and of itself because education sparks others’ solutionary thinking and actions.

You may find opportunities to share your work in school, in your community at a library, community center, or religious
PART 2: HOW

institutions, or at a conference or event (whether virtual or in-person). While doing so may initially feel daunting, it’s exciting to see the impacts of your work as you share it with others!

The Institute for Humane Education’s **Solutionary YouTube channel** will share solutionary solutions to problems. To submit a video for potential inclusion on this channel, please follow the guidelines for presentations below and send us a link to your video(s). The videotaped presentation should include both verbal and visual elements. The verbal presentation may be a voiceover accompanying the images, or the entire presentation could be filmed live with the projected images clearly visible.

**VERBAL PRESENTATION SHOULD INCLUDE:**

1. A clear and concise problem statement; the systemic and deeper causes underlying the problem; who/what is harmed and who/what benefits from the problem’s continuation and the systems that perpetuate it; leverage points for strategic change.
2. A statement of what the most solutionary solution(s) would be to solve the problem (even if you were unable to implement this solution).
3. If you were able to successfully implement one of your solutions, a description of why you chose your approach, and what you did.
4. How you measured or will measure the impact of your solution.
5. Citations for your research.
6. A short statement from each team member saying how this experience has impacted them.

**FOR A SLIDESHOW ACCOMPANYING VIDEOTAPED PRESENTATIONS:**

1. Text should be the minimum needed, and you should not read text from the screen. When producing a video with voiceover, the text may augment and/or substitute for some of the voiceover.
2. Images should be high-resolution.
PART 2: HOW

3. Any images, diagrams, etc., used should follow appropriate copyright guidelines.

If you plan to continue your work, you are invited to submit a written proposal for funding up to $1,000. Accompanying your video submission should be three adult references from mentors/teachers/community members who would commit to supporting your implementation plans. Our goal is to award funds to the group(s) with the most solutionary solutions (see the Solutionary Scale and make sure you are only submitting work that is Solutionary or Most Solutionary) and plans for implementation to continue your work.

THE CRITERIA FOR VIDEOS BEING SELECTED FOR INCLUSION ON THE SOLUTIONARY YOUTUBE CHANNEL INCLUDE THE FOLLOWING:

1. How solutionary is the solution?
2. How feasible is the solution?
3. If implemented, how successful was the solution in impacting the problem?
4. How likely is it that the solution will be spread and replicated by sharing it?
5. How well did you present your work in your video presentation, including solid research; accurate understanding of the research; and good critical, systems, strategic, and creative thinking?
6. What was the quality of the learning from your point of view? Was this a meaningful, transformational experience?

“Our goal is to award funds to the group(s) with the most solutionary solutions (see the Solutionary Scale and make sure you are only submitting work that is Solutionary or Most Solutionary)...”
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12. Assess, reflect, iterate

Working to solve a problem is an iterative process and an opportunity for continuous improvement. The following circle demonstrates this process:

PLAN by identifying and analyzing the problem and its causes, reaching out to stakeholders, devising solutionary solutions, deciding which one to implement, and creating an action plan.

DO by implementing the solution and measuring the results.

REFLECT after studying the results and assessing areas for improvement.

DEVELOP a new plan that incorporates what you have learned.

APPLY new ideas and the next iteration of the solution.

As you implement your solution, it’s important to collect data to analyze and assess the effectiveness of your efforts on the problem you addressed. This is essential work on the path to becoming a successful solutionary.

“...it’s important to collect data to analyze and assess the effectiveness of your efforts on the problem you addressed.”
PART 2: HOW

After completion of this Solutionary Process, it’s time to reflect upon it. What worked well; what could be improved in the collaboration, implementation, and data collection processes? What did you learn about yourself, your team, and the problem? What new ideas emerged? How have you grown as a person and as a solutionary? How can what you’ve learned be applied to how you live your life, as well as to your goals and aspirations?

13. Celebrate!

It’s easy to skip this final step, but we encourage you to find a meaningful way to celebrate your hard work and accomplishments.

**HERE ARE SOME IDEAS:**

- Write thank you letters to everyone who helped you in your solutionary process.
- Have a Solutionary Mural-Making Party, during which you share images and words to depict the world you and your fellow solutionaries will create.
- Hold a Solutionary Council in which you pass a stone in a circle with the person holding the stone stating: “(Name of a someone in the circle) is a solutionary because...” so that each of you gets to highlight the solutionary achievements of another publicly. (Make sure everyone knows that they’ll choose someone whose name hasn’t yet been mentioned until all in the circle are named.)
- Create “I’m a Solutionary” signs and join a solutionary-oriented action like the Climate Strike.
- Host a “Solutionaries in the News” event where you watch videos of young solutionaries and celebrate the power of people to create change.
- Offer a “good news” event during which you share positive actions and outcomes happening in your community, nation, and/or the world.
Conclusion

The world needs solutionaries. If you’ve gone through the Solutionary Process described in this guidebook, then you are a solutionary. We cannot stress enough how much you matter. We hope that going through this process has been as rewarding to you personally as it has been to the others whom your solutionary work has impacted.

We are eager to hear from you. Whether or not you produce a video to send for consideration on the Solutionary YouTube Channel, we hope that you will reach out and let us know about your experiences and the positive impacts you’ve made. We want to share and spread the most solutionary ideas, and we love hearing from our fellow solutionaries!

THANK YOU FOR BEING A SOLUTIONARY!

Zoe Weil, President
Institute for Humane Education
zoe@HumaneEducation.org
PART 3: RESOURCES

Videos Of Note

INSPIRATIONAL
- IHE’s Solutionary Program Video (3 minutes)
- Wangari Maathai’s inspiring I Will be a Hummingbird (2 min)
- Hans Rosling’s 200 countries/200 years describing dramatic improvements in health and income (4 minutes)

ZOE WEIL’S SOLUTIONARY-FOCUSED TEDX TALKS
- The World Becomes What You Teach (17 minutes)
- Solutionaries (19 minutes)
- How to be a Solutionary (11 minutes)
- Educating for Freedom (18 minutes)
- Expanding our Circle of Compassion (13 minutes)
- How Will You Answer This Question? (11 minutes)

BUILDING EMPATHY AND STAVING OFF APATHY
- What We Have in Common (3 minutes)
- The Antidote to Apathy (7 minutes)

SYSTEMS THINKING
- 5 Whys (1.5 minutes)
- What are Systems (2 minutes)
- In a World of Systems (9 minutes)
- A Little Film About a Big Idea (12 minutes)
- Cautionary Tale about Parachuting Cats in Borneo (3 min)
- Introduction to Connection Circles (4 minutes)
- Creating Causal Loop Diagrams (4 minutes)
- Balancing Feedback Loops (4 minutes)
- How to Create Cause and Effect Diagrams (3 minutes)
- Reinforcing Feedback Loops (6 minutes)

BIAS AND CRITICAL THINKING
- 6 Videos to Teach about Technology Bias and Influence
- Critical Thinking Video from IHE graduate student Nate Nolting
- The Best Stats You’ve Ever Seen
PART 3: RESOURCES

RESEARCH, CRITICAL THINKING, AND SYSTEMS THINKING TOOLS
- Ladder of Inference
- Research, Accuracy, Bias Toolkit
- CRAAP Detector Toolkit
- Asking Good Questions

RESOURCES TO IMPLEMENT SOLUTIONS
Below are some additional resources to help you with planning and implementing your solutions. Note that most of these talk about projects rather than solutions, and none of them have the full solutionary lens, but many of them will have elements that are useful.
- GIN (Global Issues Network) Project Workbook
- Youth Service America Tip Sheet
- Global Changemakers Project Management Toolkit
- The Education We Want: An Advocacy Toolkit from Plan International
- Youth Activist’s Toolkit from Advocates for Youth
- Activate Toolkit from Unicef Ireland
- The Changemaker Project

ADDITIONAL USEFUL RESOURCES
- All of IHE’s Pinterest Boards
- IHE’s Pinterest Board on Setting Up a Humane Education Classroom
- IHE’s Pinterest Board on Cultivating Ethical and Humane Values
- IHE’s Pinterest Board on Critical Thinking
- IHE’s Pinterest Board on Systems Thinking and Systems Change
- IHE’s Pinterest Board on Cultivating Student Collaboration Skills
- IHE’s Pinterest Board on Cultivating Student Presentation Skills
- IHE’s Pinterest Board on Information Literacy and Research Skills
- San Mateo County Solutionary Unit Framework
PART 3: RESOURCES

ADDITIONAL LINKS OF NOTE
- Snopes for Internet fact-checking
- 6 Resources for Finding Meaningful Solutions to Global Challenges
- Teach for America offers 8 Tips to Overcome Student Apathy
- Ashoka offers a Start Empathy Toolkit, with resources, suggested lesson plans, and more
- Spotting Bias in Your Classroom
- Teaching about Unconscious Bias
- Selecting Anti-Bias Children’s Books
- Donella Meadows on Finding Leverage Points

Books Of Note
These book suggestions are recommended for high school age and older.

OVERARCHING

BOOKS PRIMARILY ON HUMAN RIGHTS AND SOCIAL JUSTICE
- Bales, Kevin. Ending Slavery. Berkeley: University of
PART 3: RESOURCES


BOOKS PRIMARILY ON ENVIRONMENTAL PRESERVATION
- AtKisson, Alan. Sustainability is for Everyone. ISIS Academy, 2013.

**BOOKS PRIMARILY ON ANIMAL PROTECTION**

PART 3: RESOURCES


BOOKS PRIMARILY ON CULTURE AND CHANGEMAKING

PART 3: RESOURCES

PART 3: RESOURCES

Glossary

**Baseline Status**: the place or situation from which everything else is measured

**Biosphere**: the area of the planet where organisms live, including the ground and the air

**Citation**: a quotation from or reference to a book, paper, or author

**Devise**: plan or invent through careful thought

**Endocrinology**: the branch of medicine concerned with endocrine glands and hormones

**Feasibility**: the state or degree of being easily or conveniently done

**Food desert**: a neighborhood or area of a city or region in which it is difficult to buy affordable or good-quality fresh food

**Globalized World**: reference to the interwoven systems that connect the world and all its inhabitants

**Humanitarian**: pertaining to saving human lives and/or reducing suffering

**Implement**: put into effect

**Iterate**: perform repeatedly

**Legislation**: law(s)

**Legislator**: a person who creates laws

**Leverage Point**: a place in a system’s structure where a solution element can be applied

**Lobbying**: seeking to influence a politician or public official on an issue

**Measurable Objective**: a goal that can be quantified

**Monoculture Farming**: the agricultural practice of producing or growing a single crop, plant, or livestock species, variety, or breed in a field at a time

**Nonlinear**: not sequential or straightforward

**Pandemic**: a global outbreak of a disease

**Pesticide**: a substance used for destroying insects or other organisms harmful to cultivated plants or to animals
PART 3: RESOURCES

Problem Statement: a concise description of an issue to be addressed or a condition to be improved upon

Root Cause: the core issue—the highest-level cause—that sets in motion the entire cause-and-effect reaction that ultimately leads to the problem(s)

School-to-Prison Pipeline: a trend wherein children are funneled out of public schools and into the juvenile and criminal justice systems

Sequential: forming or following in a logical order or sequence

Solutionary: a person who identifies unjust, unsustainable, and/or inhumane systems and solves them in a way that does the most good and least harm to people, animals, and the environment

Stakeholder: one that has a stake in an enterprise or system and is involved or affected by a course of action

Sustainable: able to be sustained or upheld over time

System: a set of things working together as parts of an interconnecting network; a set of principles or procedures according to which something is done; an organized scheme or method

Tax Subsidy: an intentional reduction of the tax burden granted to certain businesses or industries to promote consumption or production; a benefit awarded by a government as an economic incentive

Unintended Negative Consequence: a harmful result of an action on something, someone, or many others that is unexpected and unplanned

USDA: United States Department of Agriculture, an agency responsible for developing and executing federal laws related to farming, forestry, rural economic development, and food