



United Nations  
Educational, Scientific and  
Cultural Organization



**MOUNT  
ARROWSMITH**  
BIOSPHERE REGION

# BIOSPHERE BOOKLETS

Lesson Plans & Activities

## 17 SUSTAINABLE DEVELOPMENT GOALS SUMMARY/OVERVIEW

**Grades:**  
6-7

**Prep Time:**  
1 hour

**Learning  
Environment:**  
Indoor

**Total Lesson  
Length:**  
5 hours

### DESCRIPTION:

This booklet introduces the concept of the United Nations 17 Sustainable Development Goals (SDGs); including what they are, why they are important to a sustainable future and how students can implement the goals into their lives.

Activities involve:

- Reflection on world inequality,
- SDG Brainstorm, and
- Problem identification and action plan.

### CURRICULUM EXPECTATIONS:

- Applying and innovating: Contribute to care for self, others, community, and world through personal or collaborative approaches
- Understanding social, political, and governmental systems and structures
- Communicating and Collaborating

### BACKGROUND:

The SDGs are a set of 17 goals developed by the United Nations as a call to action for countries across the world to find solutions to the complex issues that the planet faces including poverty, gender issues, biodiversity loss and global climate change impacts. The SDGs require action from all levels including governments (local and national), organizations and individuals. The completion deadline for the goals is 2030.

## LESSON PLAN

TIME	ACTIVITY	LOCATION	MATERIALS
1 Hour	1. Introduction – UN and the SDGs	Indoor	Printed worksheet
1 Hour	2. SDG Breakdown	Indoor	Printed worksheet, pens and paper
1.5 hours	3. Taking Action with the SDGs	Indoor	Printed worksheet
1.5 hours	4. Conclusion	Indoor	Printed worksheet

TIME	ACTIVITY	LOCATION	MATERIALS
1 Hour	1. Introduction – UN and the SDGs	Indoor	Printed worksheet

# Introduction: United Nations and the SDGs

**GOAL:** Introduce students to the **UNITED NATIONS (UN)** and the **17 SUSTAINABLE DEVELOPMENT GOALS (SDGs)**. Explain that the SDGs are a UN initiative that is a call to action for all countries across the world.

**PREPARATION:** Print prompt sheet (page 3). Prepare both YouTube videos using the links below.

**LESSON PLAN:**

**Part 1:** Discuss the role of the UN - students watch a 2-minute video about the UN and answer discussion questions as a class. Discuss the SDGs - students watch a short video about the SDGs.

**Part 2:** Reflections on world inequalities. Students gain a perspective on their haves and have-nots and what issues the SDGs aim to address with a prompt reflection activity.

**CONTENT:**

## Part 1: Introducing the United Nations and the SDGs

**United Nations**

The United Nations (UN) is an intergovernmental (relations between two or more governments) organization founded in 1945, that includes collaboration between 193 member states. The UN strives for collaboration between all the world’s nations to discuss and find solutions to humanity’s common problems. The organization defines its values as those of peace, justice, respect, human rights, tolerance, and solidarity. The UN aims to be a place where “the world’s nations can gather together, discuss common problems, and find shared solutions that benefit all of humanity.

The United Nations have engaged in many initiatives across the globe since its inception. Some of their work includes:

- Maintaining peace by working to prevent conflict, or helping parties in conflict make peace and deploying peacekeepers.
- Protecting human rights with the Office of the High Commissioner for Human Rights which uses the authority to investigate situations and to publish reports on them.

- Delivering humanitarian aid before, during, and after natural disasters, conflicts, and refugee problems.
- Supporting **Sustainable Development** and **Climate Action**. The UN began this work in 2015 with the launch of its sustainable development agenda to ultimately reduce poverty and improve people's lives worldwide. This also entails addressing climate change to protect countries from rising sea levels, melting ice caps, and extreme weather events.

Have students watch the 2-minute video: "How does the United Nations work?"

<https://youtu.be/Qolafzcok74>.

**Follow this with a discussion addressing the following questions:**

- What is the mission of the UN?
- How many countries are currently involved with the United Nations?
- What are some issues that the UN has addressed? Have you heard of any other work that the UN has accomplished?
- What impact does the UN have that a singular country does not?

### **The 17 Sustainable Development Goals (SDGs)**

The SDGs are a set of goals developed by the United Nations that aim to find solutions for many complex world issues. Because of the UN's intergovernmental status, the SDGs are a global approach, and every country has responsibilities in enacting the SDGs. There are 17 Sustainable Development Goals which will be broken down below. The goals are a call to action to end poverty, protect the planet and improve the lives of everyone, everywhere. In 2015, all UN Member States adopted the goals, with a 15-year completion goal. The target completion year for the goals is 2030. The implementation of each goal relies on the effort of each country's sustainable development policies, plans, and programs.

Each goal is tracked with **TARGETS** and **INDICATORS**:

- The **targets** further breakdown each goal into more specific sub-goals with completion deadlines. For example, "SDG 1: No Poverty" has 7 targets. Target 1.1 states "by 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day".
- **Indicators** are used to measure the progress being made to reach the targets. Students can understand this as something that "indicates" progress is being made. In other words, what shows that this goal is being achieved? For example, for SDG 1, a yearly survey may show a reduction in extreme poverty - evidence that the targets are being achieved.

### What does sustainability mean?

Sustainability means meeting our current needs without compromising the needs of future generations.

Sustainability generally encompasses three areas of human growth: environment, economy, and society. Each of these areas overlap each other.



Where do you see sustainability in your day-to-day life?

What efforts do you, your family, and your school make to be sustainable?

Have students watch this YouTube video that very briefly lists all 17 goals: <https://youtu.be/oXTBYMfZyrM>

### Follow this video with the following questions and discussion:

- How many SDGs are there?
- What is the main goal of the SDGs?
- How is the progress of the SDGs tracked?
- When is the completion date for the SDGs?



## Part 2: The SDGs and Inequality

**GOAL:** For students to understand the inequalities that exist in the world. Students gain an understanding of the purpose of the SDGs in terms of addressing these issues.

Sit in a circle with your class. Explain that you will be reading **statements** to students, and you'd like them to reflect on each statement and whether they agree or disagree. After each prompt, share the included **facts about the topic**. Encourage students to comment on anything that surprises them and to explain why.

1) **I can afford to go to school (SDG 1).**

71 million people in 2020 were pushed into extreme poverty, which means living on less than \$1.25 a day.

2) **If I am sick or hurt, I can afford to go to the hospital (SDG 1, 3).**

Less than half of the global population is covered by essential health services.

3) **Some of my family members are ill because they have no access to healthcare (SDG 3).**

Less than half of the global population is covered by essential health services.

4) **I have learned how to read (SDG 4).**

In 2020, an additional 101 million (9%) of children in grades 1 through 8 fell below minimum reading proficiency levels.

5) **I must boil my water before drinking it (SDG 6).**

In 2020, 2 billion people (26%) lack safely managed drinking water.

6) **I have access to electricity whenever I need it (SDG 7).**

In 2019, 759 million people lacked access to electricity - 3 out of 4 of them live in sub-Saharan Africa.

7) **I believe that when I am done school, I will be able to find a job (SDG 8).**

The COVID pandemic has led to the loss of the equivalent of 255 million full-time jobs.

8) **It is easy for me to get around my town (SDG 9).**

Almost 300 million of 520 million rural dwellers lack access to roads in 25 countries.

9) **I can identify inequalities in the world (SDG 10).**

The proportion of the global population who are refugees has more than doubled since 2010 - for every 100,000 persons, 311 are refugees.

10) [There are bus routes and bike paths in my city \(SDG 11\).](#)

Only half of the world's urban population have convenient access to public transportation.

11) [I understand the environmental impact of producing goods that I own \(SDG 12\).](#)

1 million plastic drinking bottles are purchased every minute. 1 trillion single-use plastic bags are thrown away each year.

12) [I understand the impacts of climate change \(SDG 13\).](#)

The 2020 Global average temperature is 1.2° Celsius above the pre-industrial baseline.

13) [I believe all humans should have the same opportunities as me \(SDG 16\).](#)

Child labour rose to 160 million in 2020. 1 in 3 human trafficking victims in 2018 were children.

**Following the activity, ask students the following questions:**

- How did you feel hearing these facts?
- What was most surprising to you?
- Why is it important that we understand the inequalities in the world?

Explain that the Sustainable Development Goals aim to address each of these issues and more.

TIME	ACTIVITY	LOCATION	MATERIALS
1 Hour	2. Breaking Down the SDGs	Indoor	Printed SDG signs, paper and pens

## Breaking Down the SDGs

**GOAL:** Have students gain an understanding of each **Sustainable Development Goal** and reflect on where each goal is needed in the world.

**PREPARATION:** Print and cut out each goal from page 8 and 9.

**LESSON PLAN:** Students consider individual SDGs including the main goals and where and why the goal is needed.

**CONTENT:** Start this section by briefly summarizing each goal. This includes speaking to the main target for each goal and expanding on the goal and targets if necessary.

Next, break students up into groups of 2 or 3. Each group will be assigned either one or two goals. Give each group a cut-out of their goal(s).

Students will have 15 minutes to think about their goal(s). They should consider the following questions:

- What issue is this goal addressing?
- Where are places in the world that you can think of where this goal might be needed? Explain.
- Can you think of places in your own town/community where this goal is needed? Explain
- What action can be taken to address this goal?
- What action can you and your classmates take to address this goal?



- Social protection systems
- Equal rights
- Resilience
- Mobilization of resources



- Income growth
- Social, economic, and political inclusion
- Equal opportunity
- Equality

*Example of cut-out to give students*

Following their brainstorming sessions, students will present their goal(s) to the class and share what they learned about their specific goal(s). Be sure to add any key information they might have missed (e.g., talk about the role of government in achieving the goal if students focused more on their own personal actions, and vice versa).

The table below outlines the SDGs and the target topics (topics outlined within each SDG). Please note not all the target topics are listed in the table. Print this page and the next, and split SDGs evenly between groups.

 <p><b>1 NO POVERTY</b></p>	<p><b>Goal 1: No Poverty</b></p> <ul style="list-style-type: none"> <li>• Social protection systems</li> <li>• Equal rights</li> <li>• Resilience</li> <li>• Mobilization of resources</li> </ul>	 <p><b>2 ZERO HUNGER</b></p>	<p><b>Goal 2: Zero Hunger</b></p> <ul style="list-style-type: none"> <li>• Malnutrition</li> <li>• Agricultural productivity</li> <li>• Food production</li> <li>• Genetic diversity</li> </ul>
 <p><b>3 GOOD HEALTH AND WELL-BEING</b></p>	<p><b>Goal 3: Good Health and Well-being</b></p> <ul style="list-style-type: none"> <li>• Epidemics</li> <li>• Substance abuse</li> <li>• Universal health coverage</li> <li>• Chemical pollution and contamination</li> </ul>	 <p><b>4 QUALITY EDUCATION</b></p>	<p><b>Goal 4: Quality Education</b></p> <ul style="list-style-type: none"> <li>• Free education</li> <li>• Relevant skills</li> <li>• Eliminate gender disparities</li> <li>• Education facilities</li> </ul>
 <p><b>5 GENDER EQUALITY</b></p>	<p><b>Goal 5: Gender Equality</b></p> <ul style="list-style-type: none"> <li>• Discrimination</li> <li>• Violence</li> <li>• Women's leadership</li> <li>• Access to reproductive health care</li> </ul>	 <p><b>6 CLEAN WATER AND SANITATION</b></p>	<p><b>Goal 6: Clean Water and Sanitation</b></p> <ul style="list-style-type: none"> <li>• Sanitation and hygiene</li> <li>• Water quality</li> <li>• Water-use efficiency</li> <li>• Universal access</li> </ul>
 <p><b>7 AFFORDABLE AND CLEAN ENERGY</b></p>	<p><b>Goal 7: Affordable and Clean Energy</b></p> <ul style="list-style-type: none"> <li>• Universal access</li> <li>• Renewable energy</li> <li>• Energy efficiency</li> <li>• Infrastructure and technology</li> </ul>	 <p><b>8 DECENT WORK AND ECONOMIC GROWTH</b></p>	<p><b>Goal 8: Decent Work and Economic Growth</b></p> <ul style="list-style-type: none"> <li>• Innovative technology</li> <li>• Youth employment</li> <li>• Working environments</li> <li>• Tourism</li> </ul>
 <p><b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b></p>	<p><b>Goal 9: Industry, Innovation and Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Inclusive and sustainable industrialization</li> <li>• Upgrade infrastructure</li> <li>• Scientific research</li> <li>• Technology</li> </ul>	 <p><b>10 REDUCED INEQUALITIES</b></p>	<p><b>Goal 10: Reduced Inequality</b></p> <ul style="list-style-type: none"> <li>• Income growth</li> <li>• Social, economic and political inclusion</li> <li>• Equal opportunity</li> <li>• Equality</li> </ul>



<p><b>11 SUSTAINABLE CITIES AND COMMUNITIES</b></p>	<p><b>Goal 11: Sustainable Cities and Communities</b></p> <ul style="list-style-type: none"> <li>• Housing</li> <li>• Transport systems</li> <li>• Cultural and natural heritage</li> <li>• Disasters</li> </ul>	<p><b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b></p>	<p><b>Goal 12: Responsible Consumption and Production</b></p> <ul style="list-style-type: none"> <li>• Housing</li> <li>• Transport systems</li> <li>• Cultural and natural heritage</li> <li>• Disasters</li> </ul>
<p><b>13 CLIMATE ACTION</b></p>	<p><b>Goal 13: Climate Action</b></p> <ul style="list-style-type: none"> <li>• Resilience</li> <li>• National policies</li> <li>• Education, awareness</li> </ul>	<p><b>14 LIFE BELOW WATER</b></p>	<p><b>Goal 14: Life Below Water</b></p> <ul style="list-style-type: none"> <li>• Reduce marine pollution</li> <li>• Marine and coastal ecosystems</li> <li>• Ocean acidification</li> <li>• Harvesting, overfishing</li> </ul>
<p><b>15 LIFE ON LAND</b></p>	<p><b>Goal 15: Life on Land</b></p> <ul style="list-style-type: none"> <li>• Inland freshwater</li> <li>• Forests and mountain ecosystems</li> <li>• Natural habitats</li> <li>• Local and invasive species</li> </ul>	<p><b>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</b></p>	<p><b>Goal 16: Peace, Justice and Strong Institutions</b></p> <ul style="list-style-type: none"> <li>• Violence</li> <li>• Corruption</li> <li>• Decision-making and participation</li> <li>• Laws and policies</li> </ul>
<p><b>17 PARTNERSHIPS FOR THE GOALS</b></p>	<p><b>Goal 17: Partnerships to Achieve the Goals</b></p> <ul style="list-style-type: none"> <li>• Technology</li> <li>• Capacity-building</li> <li>• Trade</li> <li>• Multi-stakeholder partnerships</li> </ul>		

TIME	ACTIVITY	LOCATION	MATERIALS
1.5 Hours	3. Taking Action with the SDGs	Indoor	Printed worksheet

# Taking Action with the SDGs

**GOAL:** For students to learn how to implement effective SDG Initiatives in their communities through the development of an action plan.

## LESSON PLAN:

**Part 1:** Identifying problems and where they stem from.

**Part 2:** Developing action plans for a given issue.

**PREPARATION:** Print root causes worksheet (page 12), print problem solving chart (page 15, 16).

**CONTENT:** The SDGs address very complex world issues (sometimes referred to as wicked problems) that have no clear solutions, many factors, many stakeholders, and different possible approaches. It is important to understand that wicked problems exist within a larger system that has its own set of rules and that benefits some and negatively impacts others. Understanding the reasons behind why a world problem exists is key to addressing it.

When problem solving, we are:

- Identifying and *understanding* a problem
- Developing a concise plan of action
- Carrying out, monitoring, and reviewing our plan

When students set out to address an issue in their community and beyond, it is important to note that they will likely not solve the problem, but instead fix a *part* of a larger system. This is called “being a **LEVER OF CHANGE.**”

## STAKEHOLDERS:

A stakeholder is any person who is connected to the system you are trying to fix. It’s important to identify all the stakeholders because these are the people who will help or hinder your project. Think about:

- Who is contributing to the problem?
- Who is trying to fix the system? This includes you, and anyone who is working on your project, or a similar one
- Who is benefiting from the system as it stands right now?
- Who is negatively impacted by the system?

## Part 1: Identifying problems

Identifying a problem is the backbone to addressing a problem. We must have a clear understanding of an issue before we can solve it. Ask students what they think should be considered when identifying a problem.

Key questions to ask:

- What is the problem?
- Why is it a problem?
- Who is affected by the problem?
- What is the root cause of the problem?

### Activity 1: Root Causes

Using the Root Causes Worksheet (page 12), demonstrate how we can identify a problem and its root causes.

1. In the middle, write the problem (see examples on page 19, or use a local issue).
2. On the top are the "symptoms" or outcomes of the problem. What is the effect of the problem?
3. On the bottom, write the root cause of the problem. Explain that this is not always obvious, and people may spend lots of time trying to find the root causes. While we are using a simple example, point out that one of the root causes - people selfishly litter - is a very difficult issue to address.
4. At the bottom, summarize your problem in 1-2 sentences and determine which SDGs this aligns with.

See a filled-out example below on page 13.

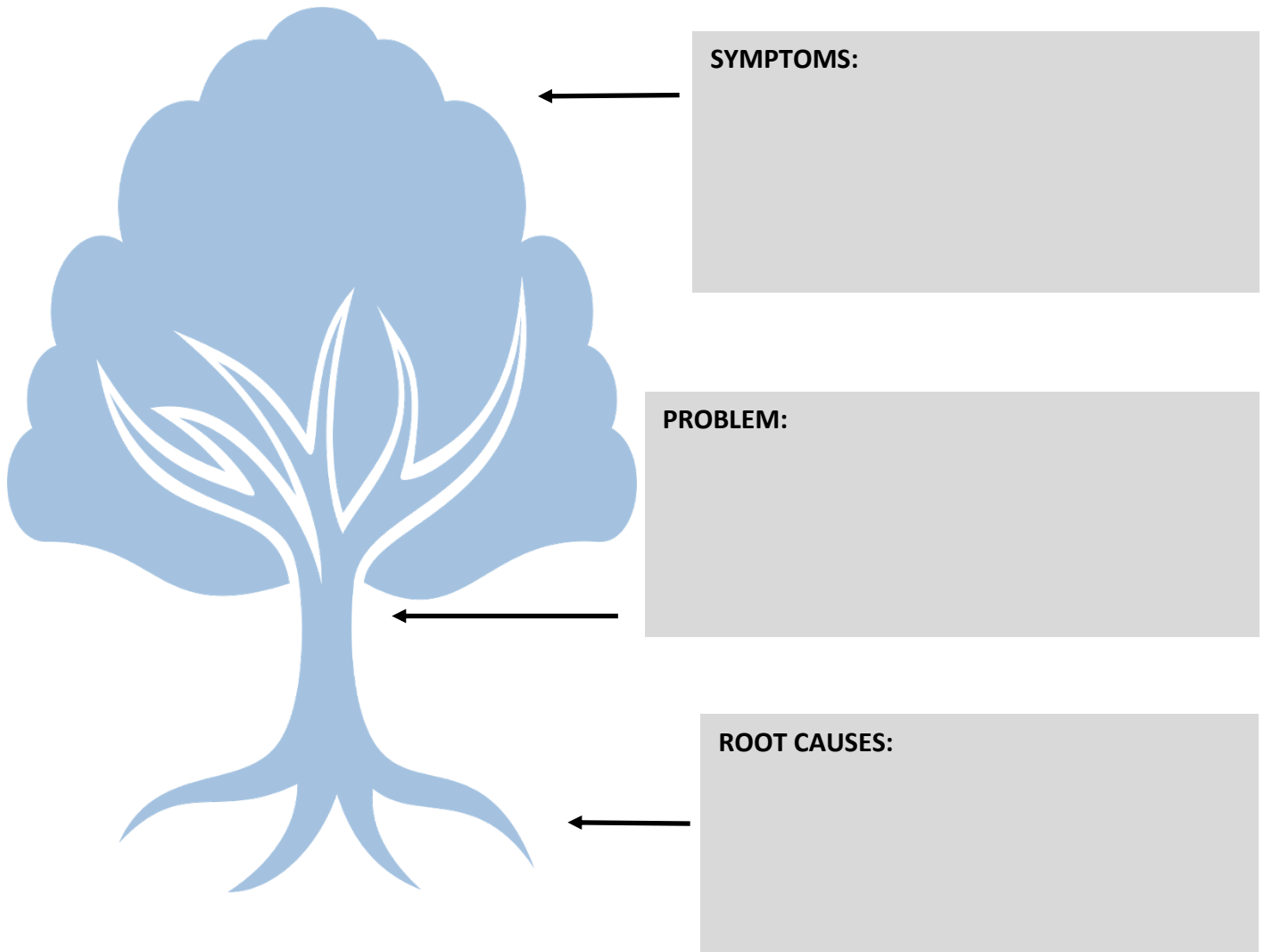


*If I had an hour to solve a problem, I would spend 55 minutes defining the problem and 5 minutes finding the solution.*

**-Albert Einstein**

# Root Causes Worksheet

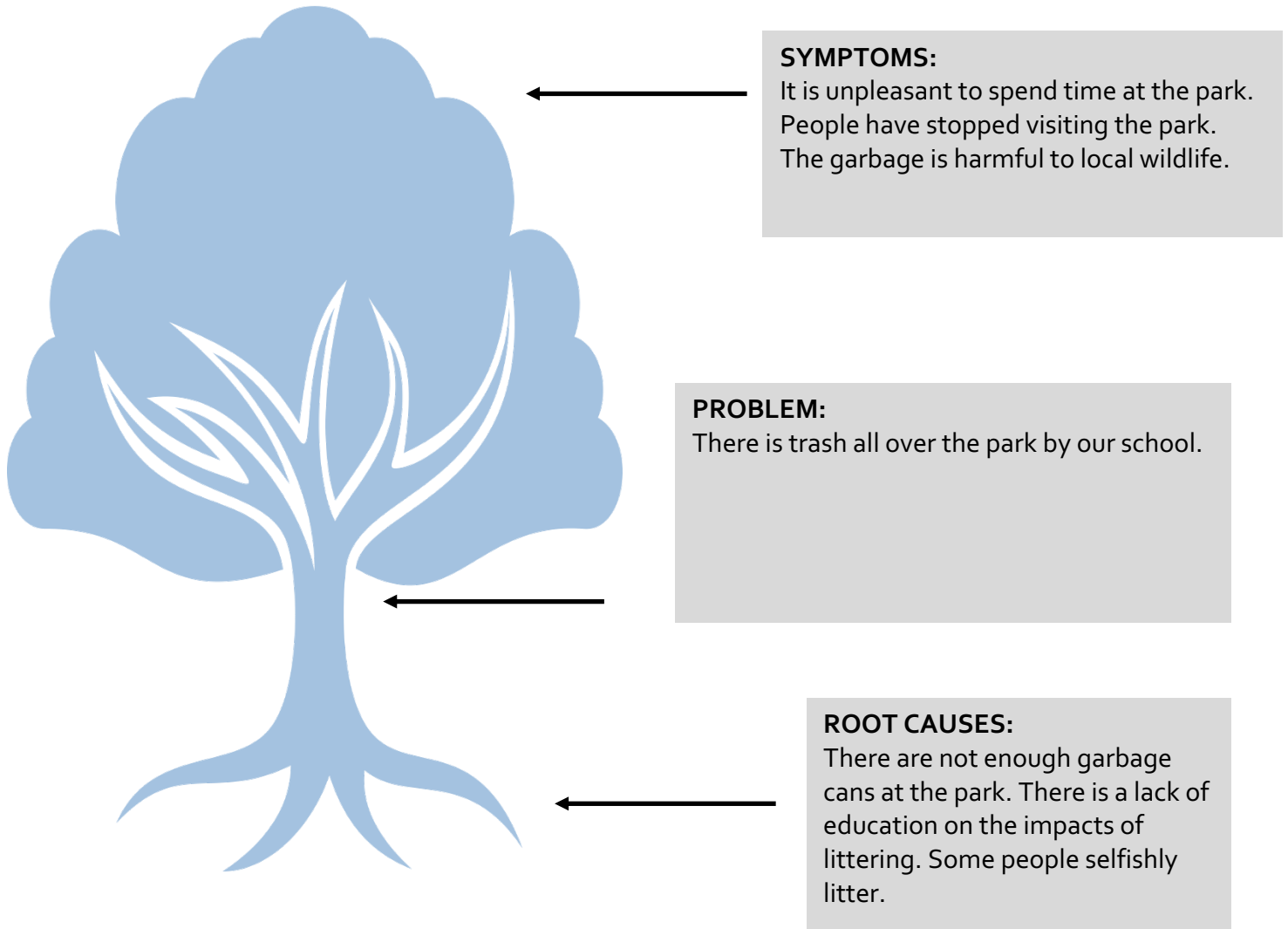
The SDGs aim to address problems in the world. This worksheet is to get you thinking about problems you see in your community and how you can fix those problems. By identifying problems and solutions locally, you'll be better able to address the SDGs. Using the Root Causes method is a great starting point to get a better idea of what perpetuates the problem you're focusing on.



Based on your notes above, write down below the core problem that you're attempting to tackle (1-2 sentences). Which SDGs does this problem connect to?

**CORE PROBLEM:**

Using the Root Causes method is a great starting point to get a better idea of what perpetuates the problem you're focusing on.



Based on your notes above, write down the core problem that you're attempting to tackle below (1-2 sentences). Which SDGs does this problem connect to?

**CORE PROBLEM:**

People are littering at the park, which is harming the local wildlife and deterring park visitors. There is a lack of trash receptacles at the park and overall education on littering.

This aligns with SDG 11, SDG 12, and SDG 15.

## Part 2: Developing a plan

Now that students have learned how to identify problems, they can begin to develop a plan. This plan can be a way to take action on the SDGs locally. When developing a plan, we need to consider many factors.

- Does the community want this issue addressed? Is it a wise use of time and resources? Why or why not?
- How does each stakeholder connect to the problem?
- Who can help to develop and/or implement our plan? What is it going to cost?
- What does each team member need to do to enact the plan?
- How does our plan impact the problem? How can we measure this impact?
- How does this address the SDG(s)?

Walk through the filled-out example below, showing students how to develop a plan. For each section, explain how we are considering each question above.

# Problem Solving Chart

**What is the problem?** (Taken from Root Causes summary section)

**Why is it important to address the problem?** Why should time and money be put into the problem?

- 
- 
- 

**Who are the stakeholders?**

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**How do the stakeholders impact, or are impacted themselves, by the problem?**

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How are we addressing the issue?

Grey rectangular area for writing the answer to the question above.



What resources do we need?

Light blue rectangular area for writing the answer to the question above.



What will each team member do?

Name:  
Role:

Name:  
Role:

Name:  
Role:

What outcomes signal change? i.e. how will we know that it has worked?

Grey rectangular area for writing the answer to the question above.





# Problem Solving Chart EXAMPLE

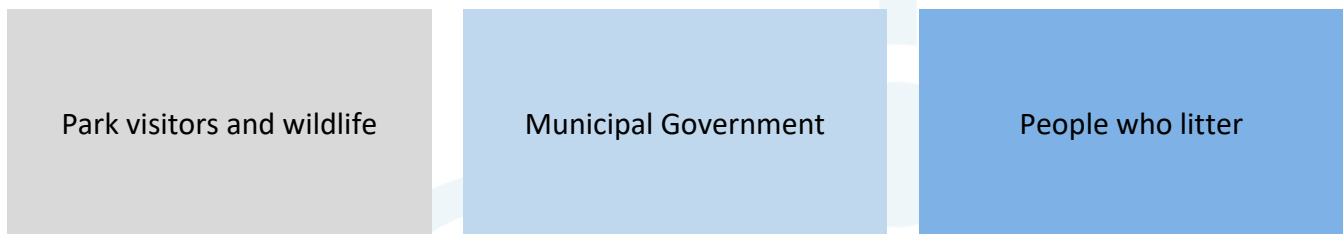
**What is the problem?** (Taken from Root Causes summary section)

People are littering at the park, which is harming the local wildlife and deterring park visitors. There are a lack of trash receptacles at the park and overall education on littering.

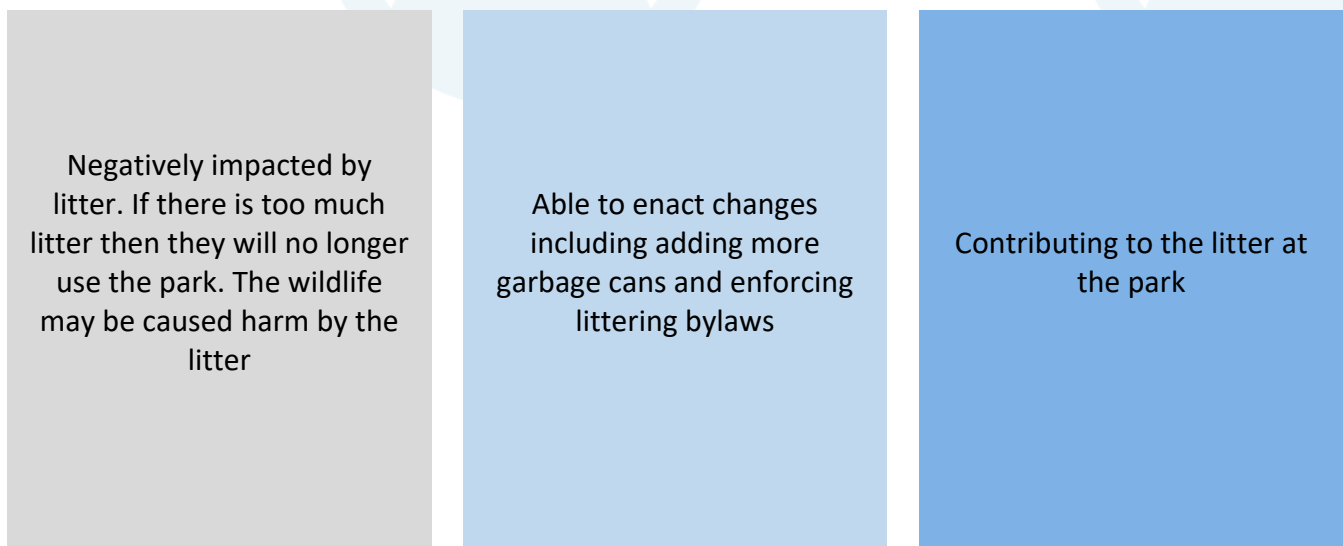
**Why is it important to address the problem?** Why should time and money be put into the problem?

- People should be able to enjoy the park without looking at trash.
- Trash can be harmful to children, animals, and wildlife.
- It is a reasonable area to improve.

**Who are the stakeholders?**



**How do the stakeholders impact, or are impacted themselves, by the problem?**



### How are we addressing the issue?

Removing trash that is currently there  
Petitioning for more trash cans  
Outreach to the community to educate on the importance of putting trash in trash cans



### What resources do we need?

Communication with the local government  
Grabbers and trash bags to clean up park  
Educational resources on impacts of trash and littering



### What will each team member do?

**Name:** Sally

**Role:** Contacting and communicating with City Hall explaining the problem and the need for more trash cans.

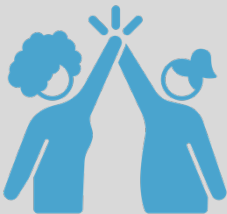
**Name:** Jeff

**Role:** Calculating a budget, purchasing/ sourcing clean-up tools (trash bags and grabbers), and organizing a clean-up day.

**Name:** Regina

**Role:** Researching the impacts of trash on wildlife and park spaces. Plan a demonstration at the park to educate the public on littering.

### What outcomes signal change? I.e. how will we know that it has worked?



Less or no litter at the park  
More park visitors/ healthy wildlife  
More trash cans at the park

TIME	ACTIVITY	LOCATION	MATERIALS
1.5 Hours	3. Conclusion	Indoor	Printed worksheet

## Conclusion - Plans in Action

Break students into appropriately sized groups. Each group is given one of the issues below. Using the process discussed above, they should address the issue and come up with a plan (can use the root causes and problem solving chart as guidelines again). Use the debrief questions at the bottom of the page to summarize this activity.

### Issues:

1. Most residents in your town are throwing almost all their waste in the garbage.
2. Your city publishes a report stating that more than 75% of residents are driving by themselves to work.
3. You want to help with the growing number of homeless people in your city.
4. You've noticed your school is using fluorescent lightbulbs, high flush toilets, and inefficient heating techniques (e.g. running the heat on high and leaving the windows open).
5. A local business owner has been complaining that it has becoming too expensive to stay open now that a big box store has opened down the street.
6. Students can use their own identified issue, upon teacher approval.

### ALTERNATE ACTIVITY

**Note: This activity is a class initiative and could take an unknown amount of time.**



As a class, find a real issue present in your community. Using the Root Causes worksheet and the Problem-Solving Chart, work as a class to develop a plan of action. Reach out to other community members for support (and potentially funding - there are many organizations that offer grants for community initiatives).


Enact your plan!

Debrief with the following questions:

- What was challenging about developing your plan?
- How did you overcome these challenges?
- What would you do differently next time?
- How did it feel to see your plan in action? Are you happy with the results? Why or why not?

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Show us your results! Snap a picture and share it with us on social media,  
or email it to the MABR Coordinator at  
 [mandy.hobkirk@viu.ca](mailto:mandy.hobkirk@viu.ca)

