



DEPARTMENT OF EDUCATION
SCHOOLS DIVISION OF NEGROS ORIENTAL
REGION VII

Kagawasan Ave., Daro, Dumaguete City, Negros Oriental



Trends, Networks, and Critical Thinking in the 21st Century

Quarter 3- Module 6b: ADDRESSING THE PROBLEMS OF CLIMATE CHANGE



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Trends, Networks, and Critical Thinking in the 21st Century– Grade 11
Alternative Delivery Mode
Quarter 3 – Module 6b: Addressing the Problems of Climate Change
Second Edition, 2021

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INTRODUCTORY MESSAGE

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

Why is there a need to study Trends, Networks, and Critical Thinking in the 21st Century? Perhaps, you, along with other Senior High School learners, ask this question upon learning the K to 12 SHS Curriculum.

The course provides opportunities for students to discover patterns and extract meanings from emerging trends. It aids in developing their critical and creative thinking skills-- essential tools for decision making and understanding "ethics of care". Global trends in the 21st century are examined and are either accepted or rejected on a sound set of criteria.

Students will be asked to create and analyze scenarios that will challenge them to (1) formulate their stances on issues or concerns; (2) propose interventions and (3) formulate alternative futures. The students will realize the interconnections between their neural connections and social realities.



What I Know

Directions: Read each statement carefully and write the correct answer in your notebook.

True or False: Write **True** if the statement is correct and write **False** otherwise.

- ____ 1. Cigarette smoking is an action that can mitigate climate change.
- ____ 2. Not switching off the lights when leaving one's house is a responsible use of energy.
- ____ 3. Wasting paper is wasting nature and the energy used for its production.
- ____ 4. Correcting the wasteful consumption and production patterns is one of the keys to a sustainable environment.
- ____ 5. The responsible use of energy, agricultural and food resources, forest products, minerals, and aquatic resources can slow down the depletion of natural resources.
- ____ 6. Simple acts such as not littering or selling plastic bottles for recycling demonstrate care for the environment.
- ____ 7. The school is one of the primary agents for teaching, developing, and promoting environment-friendly actions.

- ____ 8. It involves practices, policies, and technologies to prevent global warming from getting worse or to slow it down is called adaptation.
- ____ 9. Mitigation refers to the adjustment of lifestyle and introduction of adaptive changes in the areas of industry, health, and energy supply that can be easily carried out without huge spending in the part of the government.
- ____ 10. The Climate Change Act in 2009 or RA No. 9729 which led to the formation of the Climate Change Commission is an independent body tasked with coordinating, monitoring, and evaluating government programs on climate change.



What's In

Directions: Read and understand the questions carefully. Write the answer in your activity notebook.

1. What are the causes and effects of climate change?

CAUSES	EFFECTS

2. If we have the knowledge and understanding that the products we use daily affect climate change from the process of production down to consumption:

1. Why do we still use these products?

2. Can we survive without these products?

3. If we cannot survive without these products, what can we do to help curve the effects of climate change?



What's New

Directions: Read and understand the questions below. Write the answer in your notebook.

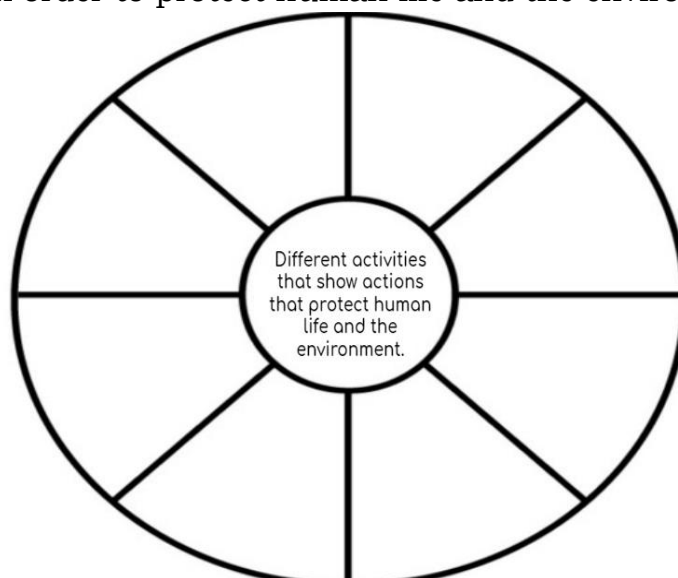
Task 1 – Personal Pledge of Commitment: Make a pledge of commitment to save the environment from the adverse effects of climate change.

Processing questions:

1. What did you feel while coming-up with your personal pledge?

2. How important is caring for the environment for you?

Task 2 – Wheel Organizer: Using a wheel organizer, what are the different activities that show actions in order to protect human life and the environment?



Illustrated by Paul O. Pascobello



What is It

Individual Actions That Can Mitigate Climate Change

Scientists have no doubt that humans are causing global warming. We are the ones who burn fossil fuels, produce livestock and clear trees, increasing the amount of heat-trapping gases in the atmosphere. Our actions, behaviors, and attitudes leave an impact on the environment and the entire ecological balance.

The climate is changing - but are you? Changes in the way you live your life - both big and small - can help reduce one's personal carbon footprint, and encourage policy makers to act for the betterment of this planet.



(Plested 2020)

Here are 12 Simple Things You Can Do Right Now on Climate Change:

1. Switch to 100% green power

Still haven't switched to a green energy provider? Then now is the time! Throughout the world, the use of energy represents by far the largest source of greenhouse gas emissions caused by human activity. Around two thirds of global greenhouse gas emissions are linked to burning fossil fuels for energy to be used for heating, electrifying, transporting, and producing various products in different industries. And in Europe too, energy production and use, including the energy used in the transportation sector, accounts for some 80 percent of the EU's greenhouse gas emissions.

Switching to renewable energy has a multiple positive impact: by converting to green electricity you support the phase-out of coal, do your bit to accelerate the move to renewable sources and directly reduce CO2 emissions.

2. Save Energy!

It might sound like the most original-sounding tip around, but it is as relevant as ever. Saving energy not only saves you money - it also helps to cut emissions, too. Here is how you can shape up when it comes to your own daily energy efficiency:

- pull the plug
- cook with gas
- run the heater or air conditioner low and shut the door
- turn off all the unnecessary lights
- choose the right kitchen appliances that consume less energy
- say no to plastic bags
- save on laundry
- reduce water consumption
- switch over to green electricity
- save energy with digital helpers

3. Optimize your diet

In the EU, meat and dairy production is estimated to be responsible for 12-17% of total greenhouse gas emissions, while throughout the world, the global livestock industry produces more greenhouse gas emissions than all cars, planes, trains and ships combined. That doesn't mean that everyone has become vegan or vegetarian - even a small shift in diets, with a reduction in meat and dairy products, and more plant-based foods instead, could reduce the pressure that agriculture places on the environment.

When buying fruits and vegetables, try to buy organic wherever the options (and the price) will allow. Organic foods are usually not only healthier because they contain fewer harmful substances, but growing them also protects the environment and the climate. You could even go one step further and help support local organic farmers by signing up to receive a veggie box directly from people who grow the food nearby, thus also helping cut down on the emissions caused by transporting produce throughout the world.

4. Avoid plastic wherever you can

Plastic is the all-round material par excellence and is therefore present in pretty much every aspect of our lives. But the durability of the material (which also makes it so popular) is of course also its most drastic disadvantage: we are struggling to get rid of it. Plastic has found its way pretty much everywhere - on streets, in rivers, on the beach, in cosmetics, in waste water, in our clothing, even in the air we breathe. And there is also a close connection between climate change and our massive global plastic problem. Almost every plastic is produced from fossil fuels - and in every single phase of its life cycle, plastic emits greenhouse gases. But there are already a lot of alternatives available:

- avoid one-use plastics
- stop buying bottled water
- give up your gum and your smokes
- remove microbeads from your routine (products containing miniscule plastic beads)
- buy, lend, and borrow (cut back on buying things new, by checking out secondhand options such as online marketplaces or local neighborhood sales)
- put pressure on companies
- support projects that are tackling plastic pollution

5. Sharing is Caring

If we own less and use more things collectively, we need to produce fewer things - and that saves on resources. Sharing cars, exchanging clothes, lending, and borrowing tools - there are multiple different possibilities for collective consumption as they are being used by millions of people worldwide. You can find some examples right here:

- online free book library
- food sharing and share leftover food for composting or animal feeds
- non-profit organization that facilitates interest-free loans to people in low-income countries
- free wi-fi hotspots
- non-profit institutions and universities around the world that provide free online courses

6. Shrink your digital footprint

Every search query we type, every email we send or receive, and every song we stream causes CO2 emissions. Why? Because energy is needed for all the data we are producing - and a lot of it! By 2018, the use of digital technologies had overtaken even the aviation industry in terms of CO2 emissions. It is time to tackle the root of the problem. Let us start with the number one power-guzzler in the digital world: streaming video services. In order to

flicker across our screens on-demand, streaming video services they need a lot of bits and bytes. One single provider (Netflix) currently consumes 15 percent of the world's internet bandwidth. So, if you are a fan of a certain playlist or show - maybe try downloading them rather than streaming them anew each time you go back to them? You can also help by doing something as simple as switching to a "green" search engine such as Ecosia that plants trees, avoiding purchasing electronic devices that you don't need, and even just cleaning up your email inbox.

7. Avoid flying

There is, of course, no other means of transport that gets us from A to B as fast as the plane. But at the same time there is hardly any other activity in which a single person can emit such large quantities of CO₂ in such a short time. Not that fact is at all reflected in the prices of airline tickets! And so, the simple solution is simply to avoid air travel as much as possible. And by doing so, avoid that icky feeling you get when you do take unnecessary flights because you know how bad it is for the environment.

8. Make sustainable investments

You take your money to a bank and they look after it until you need it? Your bank works with the money - and perhaps even supports the arms trade and environmental destruction. But there are also sustainable alternatives, banks who are transparent about what happens with your money and where you can even decide where your money should work - for example in renewable energies or reforestation projects. Sustainable investments consider social, ethical, and ecological aspects as well as financial aspects - and that pays off, both for you and in the fight against climate change.

9. Get on your bike!

Still the number one form of sustainable transportation - the bicycle. In the age of electric scooters, electric mopeds and whatever else may come - when it comes to protecting the climate, the humble pedal-powered bicycle is still way ahead. In most cities, on a bike you can travel faster than by car, bus or train. And to make the whole thing even more fun: whether you are looking for a nice new cycle route to work, want to do some sports or discover nature.

10. Protect our forests and plant more trees

It has long been known how important forests both for the microclimate in individual regions are and for the global climate as a whole. They "feed" on CO₂ and convert the climate-damaging gas into oxygen, which is vital for our survival. A research team at ETH Zurich has compiled some fascinating figures: Two thirds of man-made CO₂ emissions could be removed from our atmosphere if we were to reforest 900 million hectares of forests worldwide. Forest restoration "isn't just one of our climate change solutions, it is overwhelmingly the top one," said the lead scientist, climate change ecologist Tom Crowther.

But we should not only focus on reforestation measures, but also stop the deforestation of huge areas at the same time. European meat production also plays a decisive role in this context. Poultry, pigs, and cattle are mostly fed with soya, which has grown on Brazilian soil - and tropical rainforest was previously found in these areas. So, you can contribute by limiting your meat consumption. Beyond that, you can also support international organizations that promote the rights of indigenous people living in the Amazon (such as Amazon Watch), who are the ones best placed to protect forested areas by monitoring and reporting on illegal logging.

11. Make informed decisions as a consumer and as a citizen

The 100 largest companies in the world are responsible for over 70 percent of global emissions. At first glance, those huge corporations might seem quite far away from you. But we can still reach them and affect them - by exercising our rights as consumers and as citizens. We can consume more carefully and consciously, giving preference to companies that act responsibly, supporting organizations that hold companies to account for the environmental practices - and we can use our cross on the ballot paper to decide who should set the political course in the future. Find out who is committed to climate protection in your city, region and country and make your cross in the right place!

12. Go out on the street and make your voice heard!

Countless reports have stressed the urgency of taking action now if we are to stand a chance of halting the most devastating consequences of climate change. Far too little has happened so far. But the voices from civil society are getting louder. Fridays for Future, Greenpeace, Climate Action Network are some of the huge movement in which people regularly take to the streets to demonstrate for more political action to protect the climate. And Extinction Rebellion is using civil disobedience and non-violent resistance, setting up blockades in cities across Europe.

Caring for the Environment and Delaying Climate Change

Correcting the wasteful consumption and production patterns is one of the keys to a sustainable environment. It may also help to prevent the worsening of climate change. The responsible use of energy, agriculture and food resources, forest products, minerals, and aquatic resources can slow down the depletion of natural resources. Not polluting the environment also contributes to its preservation. Mining companies, for instance, should install proper waste disposal methods to avoid polluting the river or nearby grounds. Factories should provide an efficient exhaust system for smoke to minimize air pollution.

What is Being Done about Climate Change?

The effects of climate change are undeniably felt around the planet. Inability to initiate action plans to mitigate its impact will possibly result to devastating and catastrophic events which will lead to loss of millions of lives and properties. Recently, an essential international agreement is initiated to curb the realities of the dangers posed by climate change. Leaders and 194 parties from varied nations pledged under the Paris Agreement to work together to ensure that the U.S will remain a global leader in the fight against climate change.

The School and Community can Rise Up against Climate Change

As a student, you can get involved in environmental projects in communities such as promoting recycling, proper garbage segregation and disposal, and tree planting. You can also join movements that advocate environmental conservation and preservation. Such acts contribute to the delay of climate change.

The school is one of the primary agents for teaching, developing, and promoting environment-friendly actions. It can include courses collectively known as



(logado 2019)

the *green curriculum* for the care and protection of the environment. Green curriculum integrates in formal education the care and protection of the environment. In support of the green curriculum are activities such as seminars and fora on climate change, disaster risk reduction and management, and sustainable development projects. Schools can also hold competitions (poster, jingle, or video-making) to promote information about global warming and climate change.

Organizations Fighting Climate Change

Nongovernmental organizations push for certain interest and advocacies. They usually approach lawmakers and lobby for the passage of a bill to become a law. They possess a good quantity of data about their interests, study issues they want to address, and invite individuals to support their cause. Many of them have linkages with other NGOs of similar interests in international levels.

Some environmental NGOs are *Wildlife Conservation Society*, *IBON Foundations*, *Amazon Conservation Association*, *Cool Earth Organization*, *Alliance for Water Efficiency*, and *Soil and Water Conservation Society*. Their common goal is to ensure that nature is sustained for future generations and to make the international community recognize the importance of wildlife and natural resources for ecological balance. They promote the cleanliness of rivers, lakes, and other bodies of water to safeguard marine life and aquatic resources.

At the global level, member-nations of the UN ratified the **UN Framework Convention on Climate Change (UNFCCC)** to come up with strategies to address the effects of climate change. The convention took effect in 1994.

In 1995, the first conference of the Parties (COP) was held in Berlin to evaluate the weakness of the UNFCCC and strengthen commitments by setting policies, objectives, and time frames. In 1997, the Kyoto Protocol was established, providing targets and timetables for the huge reduction of emissions by many industrialized nations. However, the U.S refused to ratify it and other countries failed to comply in cutting targets. In 2015, the Paris Agreement was adopted to make countries promise to reduce the GHG emissions with the goal to hold the increase in the global average temperature to less than 2°C, and to limit the GHG emissions to what the trees, soil, and the oceans can naturally absorb starting anytime between 2050 and 2100. The Paris Agreement was enforced on November 4, 2016. Countries which signed the treaty must ratify it in their respective governments.



(Greenpeace 2020)

Change in Government Policies

Government agencies from every nation begin to prioritize the preservation of the environment through the adoption of policies that will push for its promotion over business. Environmental values should be the basis for decision-making. Economies should be maintained while developing ways to prevent the further stretching of the environment to suffice human needs in every region.



(Vay 2016)

The government can provide the legal bases of programs, projects, and actions for the protection of the environment and the ecosystem. It can also provide sanctions and penalties to prevent the abuse of resources. It can create national policies for the holistic approach to global warming and climate change, which includes the development of the mechanisms and technologies. It can enact laws and allocate funds for the harnessing of renewable energy sources.

The Philippine government already passed Republic Act No. 9729 or the Climate Change Act in 2009, which led to the formation of the Climate Change Commission. It is an independent body tasked with coordinating, monitoring, and evaluating government programs on climate change. It formed the National Strategic Framework on Climate Change (NSFCC) which envisions the Philippines as climate risk-resilient country.

Use of Renewable Energy

Burning is one major cause of climate change. The move to use renewable energy resulted in the development of alternative ways to produce energy such as solar power. China and India's government are investing in solar power which is directing the country away from a fossil-fuel based economy. The Paris Agreement is emphasizing of renewable energy and Greenhouse gas removal (GGR) technologies which are also being supported by the majority nations. The investment into renewable technology has made progress towards the production of cleaner energy and lower carbon emissions.



(O'Halloran 2020)

New Agricultural Practices

The Intergovernmental Panel on Climate Change (IPCC) revealed that agriculture is responsible for over a quarter of the total global greenhouse gas emissions. It is realized that innovations that will be adopted in agricultural practices and technologies can play a vital role in the mitigation of the impact of climate change. Creating and harnessing the necessary agricultural technologies will require innovations by utilizing technologies for new agricultural practices and improved global cooperation between countries to work hand in hand to achieve climate goals.



(sustainableagriculture n.d.)

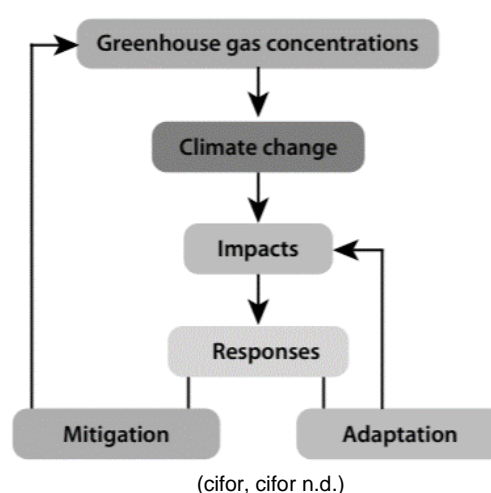
Aside from the individual, various sectors are responsible for working together to address the problem of climate and other environmental concerns. There is urgency to resolve the problems caused by climate change. The problems have existed for decades, and their negative effects are threatening human existence and other living things. What can now be done is to prevent climate change from worsening and to adapt to the situation. In other words, mitigation and adaptation are two of the responses to climate change.

Adaptation and Mitigation

The international community had focused on trying to limit CO₂ emissions. But based on the latest data, it has diversified its efforts, promoting climate change adaptation and mitigation policies to help minimize the effects of this phenomenon, whose consequences are already being seen across the world. Both strategies complement each other, and although they present different challenges, the end goal is the same.

What are mitigation and adaptation?

Mitigation and *adaptation* are the two strategies for addressing climate change. Mitigation is an intervention to reduce the emissions sources or enhance the sinks of greenhouse gases. It involves practices, policies, and technologies to prevent global warming from getting worse or slow it down. Adaptation is an 'adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities' (IPCC 2001). It calls for the adjustment of lifestyle and introduction of adaptive changes in the areas of industry, health, and energy supply that can be easily carried out without huge spending by the government.



(cifor, cifor n.d.)

How do adaptation and mitigation differ?

Adaptation and mitigation present some notable differences, particularly in their objectives. Mitigation addresses the causes of climate change (accumulation of greenhouse gases in the atmosphere), whereas adaptation addresses the impacts of climate change. Both approaches are needed. On the one hand, even with strong mitigation efforts, the climate would continue changing in the next decades and adaptation to these changes is necessary. On the other hand, adaptation will not be able to eliminate all negative impacts and mitigation is crucial to limit changes in the climate system.

What are the other differences between adaptation and mitigation?

Adaptation and mitigation differ in terms of spatial scales: even though climate change is an international issue, adaptation benefits are local and mitigation benefits are global. Adaptation and mitigation also differ in terms of temporal scales and concerned economic sectors (Tol 2005).

In general, there are two different strategies when it comes to dealing with climate change. We can try to stop future warming (mitigation of climate change) or we can find ways to live in our warming world (adaptation to climate change).

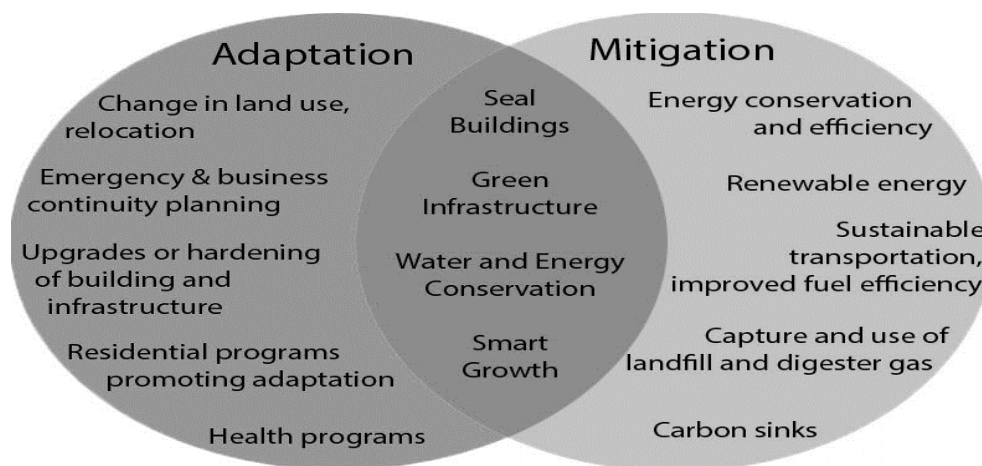
	Mitigation	Adaptation
Spatial scale	Primarily an international issue, as mitigation provides global benefits	Primarily a local issue, as adaptation mostly provides benefits at the local scale
Time scale	Mitigation has a long-term effect because of the inertia of the climatic system	Adaptation can have a short-term effect on the reduction of vulnerability
Sectors	Mitigation is a priority in the energy, transportation, industry and waste management sectors	Adaptation is a priority in the water and health sectors and in coastal or low-lying areas
	Both mitigation and adaptation are relevant to the agriculture and forestry sectors	

(cifor, cifor n.d.)

- Adaptation involves developing ways to protect people and places by reducing their vulnerability to climate impacts. Potential climate adaptations span a variety of sectors, from agricultural, to coastal, to urban, and many more. Some strategies include:
 - *Building sea walls, elevating infrastructure, or retreating from low-lying coastal areas altogether.* In the U.S., for example, cities like Charleston, Houston, Miami, and San Francisco (to name a few) already have billion-dollar investments planned to protect their sea-bound populations.
 - *Reducing and recycling water use due to drought.* For instance, Spain — which has lost 20 percent of its fresh water in just the past 20 years — has made significant changes to its national water policy.
 - *Using prescribed fires to prevent uncontrollable wildfires.* Take the Southeastern United States — the region of the country with the highest use of prescribed fires. It is no surprise this practice is increasing in the region given that by mid-century “NOAA suggests that the risk of very large fire weeks will increase by 300%”.
 - *Favoring drought-tolerant crops* like rice, cowpea, and maize, just as many African countries have done in response to decreasing rain.
- Mitigation involves attempts to slow the process of global climate change, usually by lowering the level of greenhouse gases in the atmosphere. In practice, mitigation can take a variety of forms, including:
 - *Replacing greenhouse gas-emitting fossil fuels like coal, oil, and natural gas with clean, renewable energies like solar, wind, and geothermal.* With renewables

becoming the cheapest form of new electricity generation across two thirds of the world in 2019 (compared to in just 1 percent of the world five years ago), this measure has quickly gone from a dream to an everyday reality.

- *Replacing traditional internal-combustion vehicles with electric options (ideally charged with renewable energy).* Just like renewables, electric vehicles are looking better than ever. As Bloomberg NEF describes: “Over 2 million electric vehicles were sold in 2018, up from just a few thousand in 2010.”
- *Retrofitting old buildings to make them more energy efficient* — a fast-growing industry worth \$300 billion globally.
- *Planting trees and preserving forests so they can absorb and store more carbon dioxide from the atmosphere.* Just like the other strategies, in recent years tree planting has seen unprecedented action by governments and private groups alike. In 2017, for example, the Indian state of Madhya Pradesh planted 66 million trees in just one day.



(V 2016)

The figure demonstrates the overlap between adaptation and mitigation.

Climate change is here, and it is real. Only with coordinated actions of individuals, schools, NGOs, and governments can climate change reduction programs be implemented. The real issue that needs to be addressed now is how to slow down environmental deterioration and the worsening of climate change. Innovations that will produce less costly technologies in response to the problems of climate change are certainly most welcome.

At the core of this phenomenon is the individual person—you. You are the primary cause of the problem and workable solutions should come from you. Personal discipline, creativity, resourcefulness, moderation and balance, temperance, satisfaction, fairness, and respect for the nature and fellow human beings are the values and principles you must adhere to for you to come up with and implement workable solutions. Greed, materialism, injustice, uncontrolled capitalism, unlimited exploitation of the environment and natural resources, and view of the nature as a source of profit rather than a source of life have to be reduced and changed, if not limited. The survival of humanity is at stake and it lies in our hands—the collective individuals working together.



What's More

Directions: Read and understand the questions properly. Write the answers in your notebook.

1. Do you think helping to solve climate change on a personal basis can make a big difference? Support your answer.

2. What are some of the ways that you can devise to help stop the destruction of our environment brought about by climate change?



What I Have Learned

Directions: Make a journal to manifest your understanding about the topic. You can start by following the format provided below. Write it in your notebook.

I have learned that _____.

I have realized that _____.

I will apply _____.



What I Can Do

Directions: Read and understand the questions properly. Write the answer in your notebook.

1. How will you use your learnings to help solving climate change?

2. How can you make a stand to protect human life and the environment?



Assessment

Directions: Read and understand each statement carefully. Write the answer in your notebook.

A. Adaptation or Mitigation

Write A if the action is an example of adaptation, otherwise write M for mitigation.

- ___ 1. Planting crops at different times of the year
- ___ 2. Capturing and re-using rainwater
- ___ 3. Relocating people away from coasts
- ___ 4. Building sea walls
- ___ 5. Switching from coal to solar electricity-generation
- ___ 6. Mandating more fuel-efficient vehicle
- ___ 7. Reducing overall energy use
- ___ 8. Making vehicle and industrial equipment more energy-efficient
- ___ 9. Reforestation
- ___ 10. Generating electricity from solar panels

B. Essay Writing (Please be guided with the rubric)

1. As a Senior High School student, what solutions can you suggest in order to help minimize the devastating effects of Climate Change?

2. Make a stand on how the consequences of one's action affect the lives of others and the environment.

Rubric for Essay Writing

Criteria	4	3	2	1
Ideas	Ideas were expresses in a clear and organized fashion. It was easy to figure out what the letter.	Ideas were expresses in a pretty clear manner, but the organization could have been better.	Ideas were somewhat organized but were not very clear. It took more than one reading to figure out what the letter was about.	Ideas seemed to be a collection of unrelated sentences. It was very difficult to figure out what the letter was about.
Content Accuracy	Contains all accurate facts.	Contains mostly accurate facts.	Contains some accurate facts.	Contains no accurate facts.
Sentences and Paragraphs	Sentences and paragraphs are complete, well-constructed and varied structure.	All sentences are complete and well-constructed (no fragments, no run- on) Paragraphing is generally done well.	Most sentences are complete and well-constructed. Paragraphing needs some work.	Many sentence fragments or run-on sentences or paragraphing needs lots of work.
Length	The number of words is more than 100.	The number of words is between 75-100.	The number of words is between 50-74.	The number of words is less than 50.



Answer Key

WHAT I KNOW

1. False
2. False
3. True
4. True
5. True
6. False
7. True
8. False
9. False
10. True

WHAT'S NEW

Task 1 – Personal Pledge of Commitment: Make a pledge of commitment to save the environment from the adverse effects of climate change.

Processing questions:
(Answer may vary)
1. What did you feel while coming-up with your personal pledge?
(Answer may vary)
2. How important caring for the environment is to you?
(Answer may vary)

Task 2 – Wheel Organizer: Using a wheel organizer, what are different activities that show actions that protect human life and the environment?
(Answer may vary)
4Rs, save electricity, save water, use energy efficient, responsible consumption, using non-ecological detergents and softeners, using reusable bottled water, planting trees, use food waste as fertilizers, etc.

WHAT'S IN

1. What are the causes and effects of climate change? (Answer may vary)

CAUSES	EFFECTS
<ul style="list-style-type: none"> - coal-fire/fossil-fueled power plants - transportation - industrial farming - deforestation - fertilizes - oil drilling - garbage - volcanic eruption 	<ul style="list-style-type: none"> - extreme weather event intensification - direct harm to health and safety - crop and infrastructure failure - melting of glaciers - sea level rise - disease carrier and pest propagation - human and migration and conflict - habitat destruction

2. If we have the knowledge and understanding that the products we use daily affect climate change from the process of production down to consumption:
1. Why do we still use these products?
(Answer may vary)
2. Can we survive without these products?
(Answer may vary)
3. If we cannot survive without these products, what we can do to help curve the effects of climate change?
(Answer may vary)

ASSESSMENT

A. Adaptation or Mitigation

1. A

2. A

3. A

4. A

5. M

6. M

7. M

8. M

9. M

10. M

B. Essay Writing

1. Make a resolution specifying one's personal contributions in helping solve climate change. (Answer may vary)
2. Make a stand on how the consequences of one's action affect the lives of others and the environment. (Answer may vary)

WHAT'S MORE

1. Do you think helping to solve climate change on a personal basis can make a big difference? Support your answer. (Answer may vary)
2. In what ways can we help stop the destruction of our environment brought about by the climate change? (Answer may vary)

WHAT I CAN DO

1. How will you use your learnings to help solving climate change? (Answer may vary)
2. How can you make a stand to protect human life and the environment? (Answer may vary)

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