

ANNEX B

Examples of CCHRE Exercises for EPP/TLE,
MAPEH, Science, and Social Studies



A fisherman in Manila Bay
with reclamation work in
the background.

EPP/TLE**LEVEL:** Grade 4**TERM:** 2nd Quarter**CONTENT:**

Kahalagahan ng paghahalaman (Importance of gardening)

LEARNING COMPETENCY:

Natatalakay ang mga kahalagahan at kabutihang dulot ng paghahalaman sa tao, hayop, at kalikasan o kapaligiran (Discuss the importance and benefits of gardening for humans, animals, and the environment or ecosystem).

EXERCISE:

Green thumbs and growing minds: Smart and climate-resilient gardens

OBJECTIVES:

1. Explore the importance and benefits of gardening for humans, animals, the environment, and the climate.
2. Demonstrate how smart and climate-resilient gardens can help communities adapt to changing environmental conditions by providing food security, enhancing resilience to climate-related disasters, and promoting sustainable livelihoods.
3. Promote interdisciplinary learning by connecting EPP/TLE with other subjects, such as science.

PROCEDURES:

1. Preparation:
 - a. Gather the necessary gardening tools and materials, such as pots, soil, seeds or seedlings, watering cans, and gardening gloves.
 - b. Set up a designated gardening area in the schoolyard or classroom with ample sunlight and access to water.
2. Introduction to gardening:
 - a. Discuss with the students the importance of gardening and plants.
 - b. Explain how gardening benefits humans by providing fresh food as well as a sense of connection to nature. Gardens and green areas also play an important role in capturing carbon dioxide (CO²) and releasing oxygen (O²).
 - c. Discuss the importance of gardens for animals as habitats and sources of food.
 - d. Emphasize the role of gardens in enhancing environmental conservation and biodiversity.
 - e. Explain to students how natural hazards and/or extreme weather events can destroy gardens, therefore affecting food production and impacting the right to food. Emphasize the importance of adopting gardening practices that can help enhance climate resilience, such as :
 - i. Planting drought-tolerant plants and harvesting rainwater to address droughts;

- ii. Preferring polyculture, native plants and crop diversity to ensure that if one crop dies, others can still thrive;
 - iii. Adding compost to the soil to improve its quality and provide nutrients to plants, thereby enhancing their climate stress' resistance; and
 - iv. Controlling rainwater runoff in case of heavy rainfall (University of Maryland Extension, 2024).
- 3. Selection of plants:
 - a. Introduce a variety of plants suitable for gardening in the local climate and environment.
 - b. Discuss the characteristics and requirements of different plants, including sunlight, water, and soil varieties.
 - c. Allow students to choose the plants they would like to grow based on their preferences and the available resources.
- 4. Planting activity:
 - a. Provide each student or group of students with a pot or designated area in the schoolyard.
 - b. Guide the students in planting seeds or seedlings according to the instructions provided for each plant species.
- 5. Gardening maintenance:
 - a. Explain the importance of caring for plants by watering them regularly, removing weeds, and protecting them from pests.
 - b. Demonstrate proper watering techniques and encourage students to take turns in watering the plants.
 - c. Discuss the role of composting and organic gardening practices in maintaining healthy soil and plants.
- 6. Observation and recording:
 - a. Encourage students to observe their plants regularly and record their growth along with any changes they notice.
 - b. Provide notebooks or journals that students can use for writing or drawing their observations, including plant height, leaf development, and the presence of flowers or fruits.
- 7. Reflection:
 - a. Gather the students together to reflect on their gardening experience.
 - b. Discuss potential challenges encountered during the activity and how they were addressed.
 - c. Encourage students to share their thoughts about their experiences as well as the importance of gardening for themselves, animals, the environment, and the climate.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

Climate change impacts are multiple and climate-resilient gardens can mitigate these effects by improving plants' resistance, managing stormwater, enhancing ecosystem resilience, and sequestering carbon, among others.

This experiential activity enables students to gain hands-on experience to better

understand why and how gardening can help guarantee the accessibility of food by providing fresh produce, which is a key element to the human right to food.

By fostering sustainable gardening practices, this exercise can contribute to raising awareness among students about climate change adaptation and mitigation along with the importance of enhancing food security, promoting environmental conservation, protecting biodiversity, and improving the welfare and well-being of people and communities. **Read more about climate change impacts on human rights in chapter 2 of CCHRE.**

Reference

University of Maryland Extension. (2024). Sustainable gardening: Solutions to climate change. <https://extension.umd.edu/resource/sustainable-gardening-solutions-climate-change/>

EPP/TLE**LEVEL:** Grade 7**TERM:** 2nd Quarter**CONTENT:**

Agricultural hazards and risks in farm operations

LEARNING COMPETENCY:

Discuss hazards and risks in farm operations.

EXERCISE:

Farm safety and climate resilience: Exploring hazards, risks, and adaptation strategies

OBJECTIVES:

1. Teach students about potential hazards and risks in farm operations, including those exacerbated by climate change.
2. Emphasize the importance of implementing risk assessment and mitigation strategies for farm safety management.
3. Raise awareness on climate change impacts on the workforce in the agricultural sector.

PROCEDURES:

1. Introduction:
 - a. Discuss the importance of farm operations in agricultural production and various tasks involved in farming.
 - b. Identify hazards and risks in farm operations and explain why and how certain activities and conditions pose potential dangers to farmers and other workers in the agricultural sector.
 - c. Explain how climate change significantly disrupts agriculture and food production, disproportionately affecting vulnerable groups, such as farmers, peasants, and women.
2. Brainstorming:
 - a. Divide the students into small groups.
 - b. Provide each group with a list of common farm operations and activities, such as:
 - i. Operation of machinery and equipment (tractors, harvesters, etc.);
 - ii. Handling and application of pesticides and fertilizers;
 - iii. Working with livestock (feeding, handling, etc.); and
 - iv. Manual labor tasks (planting, harvesting, etc.).
 - c. Encourage each group to identify and discuss potential hazards and risks associated with each activity. Prompt them to consider different factors, such as physical hazards, chemical exposure, ergonomic strain, and environmental conditions.

- d. Request students to consider climate change as a risk factor and analyze its implications on the workforce in the agricultural sector.
3. Discussion:
 - a. Reconvene as a class and facilitate a discussion based on the groups' findings.
 - b. Encourage students to share their insights and observations about the identified hazards and risks.
 - c. Discuss the potential consequences of these hazards, such as accidents, injuries, long-term health effects, and loss of livelihood.
 - d. Highlight the importance of risk assessment and mitigation strategies in farm safety management, including in light of the evolving challenges presented by climate change.
4. Case studies:
 - a. Present case studies or real-life scenarios depicting farm accidents or incidents related to hazards and risks previously discussed.
 - b. Encourage students to analyze each case study, identify contributing factors, and propose preventive measures to mitigate similar risks in the future.
5. Reflection and conclusion:
 - a. Ask students to reflect on what they learned about hazards and risks in farm operations.
 - b. Emphasize the importance of awareness, education, and proactive measures in ensuring the safety and well-being of farmers and workers.
 - c. Reflect on the significance of innovation through climate-smart practices that can enable the agriculture sector to identify and address current and future challenges brought about by climate change.
 - d. Summarize the key points discussed during the exercise and ask students how they can apply their understanding of farm safety in real-life situations.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This exercise intersects climate change and agriculture by identifying and seeking to address hazards and risks in farm management and operations. It highlights how extreme weather events like floods and droughts, altered pest and disease patterns, and changes in water availability due to shifting precipitation patterns disrupt food production (Gobin et al., 2013). Additionally, rising temperatures increase the risk of heat stress for crops and workers.

Farmers' and peasants' right to livelihood is disproportionately impacted, as they depend on favorable natural conditions for their agricultural activities. The poorest communities relying on subsistence farming in remote areas have the least capacity to adapt to changing climatic conditions, as such their rights to food and livelihood can be negatively affected. Women in low-income and lower-middle-income countries are also particularly vulnerable to climate change as agriculture remains their main source of employment (International Labor Organization, 2016). Furthermore, variability in crop yields can cause food shortages and price volatility, disproportionately affecting poor and rural populations (Stuecker et al., 2018).

This exercise emphasizes the need for adaptation and resilience-building measures, including climate-smart agricultural practices to mitigate hazards and risks while helping ensure sustainable food production. By integrating these climate change

considerations, the exercise underscores the need for proactive measures to address climate-related hazards and promote farm safety and resilience. **Read more about climate change impacts on human rights in chapter 2 of CCHRE.**

References

- Gobin, A., Tarquis, A. M., & Dalezios, N. R. (2013). Weather-related hazards and risks in agriculture. *Natural Hazards and Earth System Sciences*, 13(10), 2599–2603. <https://doi.org/10.5194/nhess-13-2599-2013>
- International Labor Organization. (2016). Women at work trends 2016. <https://www.ilo.org/publications/major-publications/women-work-trends-2016>
- Stuecker, M. F., Tigchelaar, M., & Kantar, M. B. (2018). Climate variability impacts on rice production in the Philippines. *PloS One*, 13(8), e0201426. <https://doi.org/10.1371/journal.pone.0201426>

MAPEH**LEVEL:** Grade 4**TERM:** 4th Quarter**CONTENT:**

Child's basic health rights

LEARNING COMPETENCY:

Discuss child's basic health rights for active living.

EXERCISE:

Think - Pair - Share: Heatwaves affecting your health

OBJECTIVE:

Raise awareness about the occurrence of heatwaves and how it can negatively impact children's right to health in the Philippines.

PROCEDURES:

1. Introduction:
 - a. Define what heatwaves are and what causes them. Inform students about the potential symptoms and effects on health, especially on children (United Nations Children's Fund ([UNICEF], n.d.).
2. Think:
 - a. Each student will take 10 minutes to individually think about the following questions:
 - i. How can you cope with heatwaves (does it affect your appetite, concentration, sleep, etc.)?
 - ii. Do you tend to feel unwell when the weather is too hot (thirsty or dehydrated, headache, exhausted or tired, diarrhea, vomiting, etc.)?
 - iii. What did you do to feel better (drank water and/or medicine, rest, went to the clinic or hospital, consulted a doctor, etc.)?
 - iv. If you went to the clinic/hospital and consulted a doctor, do you think you were treated quickly and well?
 - v. If you have never experienced symptoms related to heatwaves, do you remember if any of your family members (siblings, cousins, etc.) has had health issues related to heatwaves? If yes, do you know if they went to any health facilities to get treatment? How was their experience? Was it quick?
3. Pair:
 - a. Ask students to work with a partner and let them take turns in sharing if and how they experienced heatwaves.
4. Share:
 - a. Ask each pair to share their reflections with the class.

- b. Expound on why and how children are more vulnerable to heatwaves and heat-related illnesses.
- c. Highlight the potential effects of heatwaves on children’s mental health.
- d. Lead a brainstorming session to identify ways that children can reduce their vulnerability to heatwaves. During the summer season or whenever the weather is hot and sunny, the United Nations Children’s Fund ([UNICEF], n.d.) suggested some ways to help children cope:
 - i. Play indoors;
 - ii. Reduce physical activity levels;
 - iii. Hydrate and drink water more often;
 - iv. Rest and cool off in the shade or in AC rooms when starting to feel hot; and
 - v. Inform parents, guardians, or teachers as soon as symptoms appear and/or are felt (dizziness, headache, tiredness, nauseous, etc.).

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

Discussing children’s basic health rights directly intersects with climate change, particularly through the significant impact of heatwaves. This increasingly common consequence of climate change poses serious threats to children’s health and well-being.

According to Save the Children (2024), Filipino children are more and more suffering from a range of heat-related illnesses due to the rising frequency and intensity of heatwaves in the country. Heat cramps and heat exhaustion are among the common symptoms, manifesting as fatigue, dizziness, headache, vomiting, asthma, allergies, and light-headedness. Heatstroke is a severe, potentially life-threatening condition characterized by high body temperature, hot or dry skin, altered mental state, seizures, delirium, nausea, headache, rapid breathing, and muscle cramps. Heatwaves can also exacerbate existing cardiovascular and respiratory problems in children, further endangering their health (Montemayor, 2024; and Save the Children, 2024).

This exercise highlights the importance for the government to carefully consider and address the vulnerability of children when dealing with climate change impacts, such as heatwaves—the best interests of children should be prioritized in climate action. **Read more about climate change impacts on the right to health and children’s rights in [chapter 2](#) of CCHRE.**

References

- Montemayor, M. T. (2024). DOH warns Filipinos against heat stroke. *Philippine News Agency*. <https://www.pna.gov.ph/articles/1221899>
- Save the Children. (2024). Heatwaves pose health risks, disrupt students’ learning says Save the Children Philippines. *ReliefWeb*. <https://reliefweb.int/report/philippines/heatwaves-pose-health-risks-disrupt-students-learning-says-save-children-philippines>
- United Nations Children’s Fund (UNICEF). (n.d.). Heat waves and how they impact children. <https://www.unicef.org/stories/heat-waves-impact-children>

MAPEH**LEVEL:** Grade 7**TERM:** 3rd Quarter**CONTENT:**

Importance of healthy eating during adolescence

LEARNING COMPETENCY:

Explain the importance of healthy eating during adolescence.

EXERCISE:

Exploring nutrition, climate change, and human rights

OBJECTIVES:

1. Enable students to recognize the connection between eating healthy and crucial growth and development during adolescence.
2. Help students appreciate proper nutrition and develop healthy eating habits while understanding how their attitudes and behavior towards food are relevant to climate change and human rights.

PROCEDURES:

1. Introduction:
 - a. Explain why adolescence is a crucial life stage for growth and development as well as establishing lifelong habits, including healthy eating and proper nutrition.
 - b. Introduce the concept of climate change and its impact on food systems and nutrition. Discuss how climate change impacts the human rights to food and health by disrupting food production and supply (particularly in terms of availability and accessibility especially for vulnerable populations).
 - c. Ask students to share their ideas on how climate change impacts on human rights to food and health may have an influence to their current attitudes, behaviors, and habits when it comes to their food choices and preferences.
2. Film or documentary screening:
 - a. Schedule a school day when the class can watch a film or documentary focusing on climate change impacts on food and/or health. Below are some suggestions:

Food for the Future**Life in Syntropy****Will There be a Global Food Shortage?**

3. Discussion:

- a. After watching the film or documentary, engage students in a discussion focusing on how climate change is impacting the availability, accessibility, and quality of food.
- b. Ask students to reflect on the ideas, insights, and realizations they came up with from watching the film or documentary and provide concrete examples of how climate change impacts the rights to food and health—particularly on them being adolescents and their food choices and eating habits.
- c. Put an emphasis on issues relevant to climate change and human rights, such as food insecurity, malnutrition, and the increasing prevalence of diseases due to poor diet and eating habits.
- d. Encourage students to identify ways to promote proper nutrition and challenge them to commit to healthy eating habits moving forward.
- e. Ask students to identify potential solutions—individual actions and policy changes—to address the challenges posed by climate change on food security and nutrition for the benefit of adolescents.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This exercise allows students to explore how the impacts of climate change on food systems in the Philippines pose significant challenges to human rights to food and health. Climate change-induced alterations in agricultural productivity and crop yields, compounded by sea-based hazards and rising temperatures, threaten food security and nutrition, particularly in rural areas heavily reliant on agriculture and fishing. These challenges contribute to food insecurity, compromising individuals' ability to access adequate and nutritious diets. Environmental degradation further exacerbates these issues, diminishing agricultural productivity and food quality (Bermejo, 2017).

According to the Philippine Department of Science and Technology (n.d.), vulnerable populations, including adolescents, face heightened risks of malnutrition and adverse health outcomes. The human right to food underscores the obligation of states to ensure food security for all, emphasizing sustainability, nutritional quality, and accessibility. Similarly, the right to health—closely intertwined with the right to food—emphasizes the importance of adequate nutrition for maintaining good health. Yet, climate change-induced disruptions disproportionately affect vulnerable populations like adolescents. **Read more about climate change impacts on the rights to food and health in chapter 2 of CCHRE.**

References

- Bermejo, K. (2017). Climate change will impact Philippines' ability to feed its people. *Eco-Business*. <https://www.eco-business.com/news/climate-change-will-impact-philippines-ability-to-feed-its-people/>
- Government of the Philippines, Department of Science and Technology. (n.d.). *Climate change, calamities affect food security of poor Pinoy households*. Food and Nutrition Research Institute. <https://fnri.dost.gov.ph/index.php/publications/writers-pool-corner/57-food-and-nutrition/854-climate-change-calamities-affect-food-security-of-poor-pinoy-households>

SCIENCE**LEVEL:** Grade 4**TERM:** 1st Quarter**CONTENT:**

Materials and their uses

LEARNING COMPETENCIES:

Describe the chemical properties of materials, such as they can be burned, react with other materials, or are degradable or biodegradable; describe changes in properties of materials when exposed to certain changes in temperature, such as changes when wood or coal are burned.

EXERCISE:

Nature walk and material scavenger hunt

OBJECTIVES:

1. Enhance students' understanding of the chemical properties of materials and their impacts on climate and the environment.
2. Help students recognize the importance and relevance of protecting the environment to improving and promoting the welfare and well-being of people.

PROCEDURES:

1. Preparatory session:
 - a. Begin with a classroom discussion on the importance of understanding the chemical properties of materials and their environmental implications.
 - b. Explain the objectives of the nature walk and material scavenger hunt, emphasizing the connection between material properties and the environment.
 - c. Elaborate on the safety guidelines for outdoor exploration and the collection of materials, including the appropriate clothing to wear and how to handle materials with care.
2. Nature walk:
 - a. Lead students on a guided nature walk in a nearby natural environment, such as a park, forest, or garden.
 - b. Encourage students to observe and collect various materials they encounter during the walk, such as leaves, twigs, rocks, soil samples, discarded items (like plastic bottles or wrappers), etc.
 - c. Provide guidance on ethical collection practices, reminding students to respect the environment and only take materials that are safe and legally permissible.
3. Material scavenger hunt:
 - a. After the nature walk, gather students in a designated area to examine and sort the collected materials.
 - b. Provide magnifying glasses, gloves, and other tools that can enable them to closely examine and observe the materials.

- c. Guide students in categorizing the materials based on their properties, such as organic (e.g., plant matter), inorganic (e.g., rocks), and synthetic (e.g., plastics).
 - d. Encourage students to discuss the properties of each material, including whether they can be burned, react with other materials, or are degradable or biodegradable.
4. Discussion:
- a. Using the materials collected and gathered as examples, discuss the chemical properties and changes, if any, along with their implications for the people and the environment. Encourage students to share their ideas and observations with regard to pollution.
 - b. Establish the connection of the chemical properties and changes in materials to climate change and environmental degradation. Put an emphasis on why and how even simple and small actions, such as reducing waste and using biodegradable materials, can contribute to addressing these global challenges.
 - c. Discuss the relevance of climate change impacts on the right to a healthy environment, highlighting the role and responsibility of governments in defending and protecting this human right.
5. Brainstorming:
- a. Encourage students to think and share insights on practical actions they can take to promote environmental sustainability in the community.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

As students explore the chemical properties of materials and their environmental implications, they gain insight on how these reactions can contribute to climate change. With this exercise, their first-hand experience can improve their understanding of (1) how greenhouse gas (GHGs) emissions are released by burning materials like coal, plastic, and wood; (2) the importance of proper waste management; and (3) excessive demand for raw materials, that can drive deforestation and amplify climate change.

At the same time, this exercise gives teachers the opportunity to help students realize that a stable climate is crucial for the right to a safe, clean, healthy, and sustainable environment. Efficient waste management practices and the sustainable exploitation of natural resources can help mitigate climate change impacts while ensuring that people can live and benefit from a healthy environment. **Read more about climate change impacts on the right to a safe, clean, healthy, and sustainable environment in [chapter 2](#) and about relevant legislations on waste management in [chapter 3](#) of CCHRE.**

SCIENCE**LEVEL:** Grade 4**TERM:** 1st Quarter**CONTENT:**

Gathering scientific information

LEARNING COMPETENCIES:

Identify issues and concerns in the local community and how they could be addressed by science, such as the treatment of waste; and apply science process skills and attitudes in conducting a guided survey about environmental issues and concerns, including grouping and classifying, communicating, and open mindedness.

EXERCISE:

Community survey on climate change and human rights

OBJECTIVES:

1. Enhance students' awareness and understanding of environmental and climate issues and their impacts on local communities through a service learning activity.
2. Provide practical knowledge on applying scientific process skills (e.g., effective communication, open-mindedness, teamwork, classification, etc.).
3. Promote students' proactive involvement in understanding the complexities surrounding environmental and climate problems as well as encourage their participation in collaborative efforts towards finding sustainable solutions within the community.

PROCEDURES:

1. Introduction:
 - a. Begin with a discussion on the importance of environmental and climate change awareness and the role of science in addressing community issues.
 - b. Inform students on how marginalized populations can be disproportionately affected by climate change.
 - c. Introduce the concept of a community survey and its purpose.
2. Group formation:
 - a. Divide the class into small groups.
3. Brainstorming:
 - a. In their respective groups, students brainstorm potential environmental and climate change concerns in one identified local community. Encourage them to think about issues such as waste management, pollution, habitat destruction, floodings, etc.
 - b. Explain how these issues can affect the health, well-being, and dignity of the community members, among other things.
4. Survey design:
 - a. Guide each group to select one issue from their brainstorming session.

- b. Instruct the students to design a simple questionnaire intended for community members. Explain its purpose as a survey to gather information about the selected issue.
 - c. Emphasize the importance of respectful and ethical data collection practices, including the formulation of clear, concise, and relevant questions for the survey.
5. Conducting the survey:
 - a. Each group will conduct the survey within the identified local community (with prior permission and supervision).
 - b. Students should approach individuals politely, explain the purpose of the survey, and record responses accurately.
6. Data analysis:
 - a. After completing the surveys, guide students in analyzing the collected data, focusing on patterns, trends, and common concerns related to the environmental issue investigated.
7. Group presentation:
 - a. Each group presents their findings to the class, including a summary of the environmental issue and how this affects the life of community members. Proposed solutions or actions will also be presented.
 - b. Encourage other classmates/groups to ask questions and engage in a constructive discussion.
8. Reflection and action plan:
 - a. Facilitate a reflective discussion on the survey experience. Encourage students to consider how science can contribute to addressing the identified environmental/climate issues.
 - b. Guide students in developing a simple action plan outlining steps they can take individually or as a class to address the environmental/climate concerns they surveyed.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

Through this service learning activity, students explore environmental and climate change issues that can disproportionately affect local communities. Flooding and rising sea levels particularly affect low-land and coastal communities, causing damages to properties and displacement, among others. Communities highly dependent on natural resources for their survival are disproportionately affected by climate-related crop yield reductions and ocean warming causing decline in fish populations. People living in precarious conditions are particularly vulnerable to heatwaves, as they often lack access to cooling systems at home.

This exercise enables students to identify and propose science-based solutions to environmental/climate issues at the local or community level, fostering awareness and collaborative efforts toward sustainability (Turrentine, 2022). **From CCHRE, read more about climate change impacts on human rights in [chapter 2](#) and service learning activities in [chapter 4](#).**

Reference

Turrentine, J. (2022). *What are the solutions to climate change?*. Natural Resources Defense Center. <https://www.nrdc.org/stories/what-are-solutions-climate-change>

SCIENCE**LEVEL:** Grade 4**TERM:** 4th Quarter**CONTENT:**

Characteristics of the weather

LEARNING COMPETENCIES:

Identify some of the basic characteristics used to describe the weather, such as air temperature, air pressure, wind speed, wind direction, humidity, rain, and cloud cover; use weather instruments to measure and record some of the characteristics of weather during a school day.

EXERCISE:

Weather watchers: understanding climate change and human rights

OBJECTIVES:

1. Deepen students' understanding of weather characteristics.
2. Demonstrate how changes in weather patterns affect human rights.
3. Guide students as they reflect on the importance for states to adequately address climate change for a sustainable future.

PROCEDURES:

1. Introduction:
 - a. Define and identify the differences between weather and climate.
 - b. Discuss the significance of the weather and climate to the environment and people, along with the relevance to climate change and its impacts on populations.
2. Weather and climate characteristics:
 - a. Review factors that characterize the different types of weather, such as air temperature, air pressure, wind speed, wind direction, humidity, rain, and cloud cover.
 - b. Discuss the importance of measuring these factors and how they are used for weather forecasting and climate analysis.
 - c. Explain how climate change affects and/or causes changes to these factors along with the shifts in weather and climate in different regions of the world.
3. Weather instruments and data analysis:
 - a. Identify and use weather instruments to measure and record some factors that characterize the weather during a school day.
 - b. Analyze the data gathered and discuss the trends and patterns observed.
 - c. Discuss how climate change may be affecting these trends and patterns over time.
4. Climate change and human rights discussion:
 - a. Identify the impacts of changes in weather and climate—climate change—on

- human rights, such as the rights to food, water, health, and housing.
 - b. Discuss the disproportionate impacts of climate change on vulnerable groups, such as women, children, Indigenous Peoples, and people living in precarious conditions.
 - c. Emphasize the crucial role of states in protecting human rights in the context of disaster risk management and climate change adaptation/mitigation.
5. Case study:
- a. Divide the class into groups.
 - b. Instruct each group to choose a weather phenomenon that can be attributed or exacerbated by climate change (i.e. typhoons, droughts, floods, rising sea levels).
 - c. The group will conduct a simple research on the chosen weather phenomenon, including on its basic characteristics, and analyze how the changing in weather phenomenon is impacting the rights of the people (i.e. food insecurity, water scarcity, destruction of houses and crops, and health issues).
 - d. Ask each group to prepare a presentation on their research and analysis.
6. Conclusion:
- a. Discuss the importance of understanding the relationship between weather and climate, along with climate change and human rights.
 - b. Emphasize the role of individuals and communities in calling on the government to adopt robust climate action that safeguards human rights.
 - c. Underscore the need for continued learning and engagement on these issues.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This exercise highlights key climate change issues by linking different weather conditions and phenomena. It enables teachers to expound on rising temperatures, shifting wind patterns, altered rainfall, and increased humidity as well as illustrate how changes to these factors that characterize weather and climate can have negative impacts on food security, access to clean water, health, and housing, among others.

As an integrated teaching approach, the exercise encourages students to learn about the critical relationship between weather, climate change, and human rights. At the same time, it puts an emphasis on the disproportionate effects of climate change on vulnerable groups, including women, children, Indigenous Peoples, and people living in precarious conditions. Furthermore, students can gain awareness of the government's role in leading and implementing disaster risk management and climate change adaptation and mitigation efforts that can help build resilient communities and ensure equitable access to resources, therefore promoting human rights. **Read more about climate change impacts on human rights in [chapter 2](#).**

SCIENCE**LEVEL:** Grade 7**TERM:** 1st Quarter**CONTENT:**

Planning, following, and recording scientific investigations

LEARNING COMPETENCIES:

Follow appropriate steps of a scientific investigation, which includes:

- a. Aim or problem,
- b. Materials and equipment,
- c. Methods or procedures,
- d. Results, including data, and
- e. Conclusion.

EXERCISE:

Eco-innovation challenge

OBJECTIVES:

1. As a service learning activity, immerse learners in interactive guided explorations aimed at addressing community challenges at the nexus of climate change and human rights, utilizing accessible local resources.
2. Encourage learners to delve into real-world issues and foster a culture of inquiry and critical thinking.
3. Empower students to participate in investigations and actively engage on climate community concerns while helping raise awareness on human rights.

PROCEDURES:

1. Introduction:
 - a. Kick off with an interactive discussion on the importance of addressing community-based challenges linked to climate change.
 - b. Illustrate the direct impact of climate change on people's lives.
 - c. Emphasize the role of local action in driving meaningful change.
2. Problem identification:
 - a. Form groups and task learners with identifying specific climate issues within a chosen local community.
3. Guided investigations:
 - a. Provide structured guidance on conducting investigations using locally available materials.
4. Climate change and human rights discussion:
 - a. Engage learners in a reflective dialogue exploring climate change impacts on the rights of the local community.
 - b. Encourage critical thinking by probing on how these issues disproportionately

impact vulnerable groups, such as women, children, Indigenous Peoples, and people living in precarious conditions.

5. Eco-innovative solutions:

- a. Challenge each group to ideate and develop eco-innovative solutions to address the identified community problems.
- b. Foster creativity and resourcefulness by emphasizing the use of locally available materials and sustainable practices in their proposed solutions.

6. Group presentations:

- a. Guide groups in preparing dynamic presentations showcasing their investigations, the identified problems, and their eco-innovative solutions.
- b. Encourage the use of visual aids, models, or demonstrations to effectively communicate and illustrate their ideas as part of the presentation by each group.
- c. Facilitate a constructive discussion following each presentation, encouraging feedback and highlighting the potential impact of the proposed solutions on the community.
- d. Prompt learners to reflect on their learning journey and insights gained regarding the interconnectedness of climate change, human rights, and community issues.

7. Action plan:

- a. Guide them in developing actionable plans for implementing their eco-innovative solutions that can be further shared with the identified community.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This service learning exercise engages students in proactively identifying and addressing community challenges at the intersection of climate change and human rights. Through guided investigations and structured research, students can explore how climate change impacts human rights, in particular the disproportionate effects on vulnerable groups.

By developing eco-innovative solutions tailored to the identified community and presenting their findings to the class, students can actively promote environmental stewardship, climate resilience, and help raise awareness on climate change impacts on human rights. **From CCHRE, read more about climate change impacts on human rights in [chapter 2](#) and service learning activities in [chapter 4](#).**

SOCIAL STUDIES**LEVEL:** Grade 4**TERM:** 4th Quarter**CONTENT:**

Karapatan at Tungkulin ng Mamamayang Pilipino (Rights and duties of Filipino citizens)

1. Kahulugan (Meaning)
2. Uri ng Karapatan (Types of rights)
 - a. Karapatang Sibil (Civil rights)
 - b. Karapatang Politikang (Political rights)
 - c. Karapatang Panlipunan at Pangkabuhayan (Social and economic rights)

LEARNING COMPETENCIES:

Natatalakay ang mga karapatan at tungkulin ng isang mamamayan (Discuss the rights and duties of citizens).

EXERCISE:

Exploring the tapestry of rights and responsibilities in the context of climate change: Unveiling the citizen's journey in the Philippines

OBJECTIVES:

1. Educate learners on various types of human rights (namely civil, political, economic, social, and cultural rights) and their significance in society. By providing examples and facilitating discussions, learners should gain understanding of the importance of human rights.
2. Enhance students' awareness of climate change impacts on human rights.
3. Help and empower learners to recognize that they—as citizens—can help address climate change and protect human rights by promoting positive change and being actively involved in their communities.

PROCEDURES:

1. Introduction:
 - a. Citing the United Nations (n.d.), provide an overview of the different categories of human rights, as follows:
 - i. Civil and political rights
 - ii. Economic, social, and cultural rights
 - b. Provide examples for each category of human rights based on relevant human rights legislations in the Philippines and international treaties (such as the International Covenant on Civil and Political Rights [ICCPR] and the International Covenant on Economic, Social, and Cultural Rights [ICESCR]).
 - c. Let students provide additional examples based on how they understood the categories of human rights, following through with an emphasis on their importance in society.
2. Brainstorming and debating on climate change and human rights:
 - a. Begin by asking the class what they know about climate change. Let them write

their responses on the whiteboard or a chart paper.

- b. Divide the class into groups and facilitate brainstorming on climate change impacts on human rights. Remind each group to take note of their answers. To help the students come up with ideas, provide examples such as the following:

- i. Civil and political rights:

- The right to life can be affected by more frequent natural hazards, extreme weather events and/or the spread of diseases (e.g., epidemics).

- ii. Economic, social and cultural rights:

- The rights to food and water can be affected by the decline in agricultural productivity and/or contamination of water sources.
- The right to housing can be affected when people are forced to leave their homes due to earthquakes, flooding, tsunamis, etc..

*The right to self-determination (falls within both categories of rights) can be affected if people and communities are disproportionately affected by the lack of adequate resources to adapt to climate change.

Note: If possible, kindly ask students to give examples based on real-world scenarios.

- c. Have each group appoint a representative to share and expound on their responses with the rest of the class. Encourage further discussion and debate to foster analysis and critical thinking while maintaining decorum, diplomacy and respect for everyone's opinion.

3. Reflection:

- a. Based on the answers given and discussed by the groups during the brainstorming session, reflect on the importance of protecting human rights in the context of climate change.
- b. Encourage students to ponder on how they can contribute to addressing climate change and protecting human rights in their daily lives. Some ideas might include the following:
 - i. Reduce carbon footprint by recycling/reusing to minimize waste, using energy-efficient appliances, and walking or biking instead of driving.
 - ii. Advocate for policies that address climate change and protect human rights.
 - iii. Raise awareness among peers and community members about simple acts that actually help address climate change and protect human rights.
- c. Have students commit to one action they will take to proactively address climate change and protect human rights.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This exercise explores the rights and duties of students—as Filipino citizens—amidst climate challenges. Students learn to associate climate change impacts (e.g., heat waves, rising sea levels, droughts, floods, etc.) with fundamental human rights. Teachers can help students recognize and better understand how climate change is negatively impacting civil, political, economic, social, and cultural rights in the Philippines and the rest of the world.

As teachers encourage discussion and debate in this exercise, students can reflect

on why and how individual and collective efforts are crucial to addressing climate change and protecting human rights. Students also gain a better understanding of the obligations of states to respect, protect, and fulfill human rights as enshrined in national legislations and international treaties. Therefore, while addressing climate change, they must protect these rights. **From CCHRE, read more about climate change impacts on human rights in chapter 2 as well as the legal and policy framework in the Philippines in chapter 3.**

Reference

United Nations. (n.d.) Human rights. *Global issues*. <https://www.un.org/en/global-issues/human-rights#:~:text=The%20United%20Nations%20has%20defined,in%20carry-ing%20out%20their%20responsibilities>.

SOCIAL STUDIES**LEVEL:** Grade 7**TERM:** 4th Quarter**CONTENT:**

Kalagayang ng Karapatang Pantao sa Pilipinas at Timog Silangang Asya (Human rights situation in the Philippines and Southeast Asia)

1. Pagtatatag ng ASEAN Intergovernmental Commission on Human Rights (AICHR) (Establishment of the ASEAN Intergovernmental Commission on Human Rights)
2. ASEAN Human Rights Declaration (AHRD)
3. Mga Isyung hinaharap ng ASEAN kaugnay sa karapatang pantao (Current issues that ASEAN faces relating to human rights)

LEARNING COMPETENCY:

Nasusuri ang papel ng ASEAN sa usapin ng karapatang (Analyzing the role of ASEAN in addressing human rights issues).

EXERCISE:

Understanding the role of ASEAN in addressing climate change and human rights

OBJECTIVES:

1. Explain to students the purpose and significance of the ASEAN Intergovernmental Commission on Human Rights (AICHR) and the ASEAN Human Rights Declaration (AHRD).
2. Inform students about the climate change impacts on human rights in the Southeast Asian region, where the Philippines is geographically located.
3. Help students develop a deeper understanding of how the Association of Southeast Asian Nations (ASEAN) can promote human rights while addressing climate change.

PROCEDURES:

1. Instructions:
 - a. Provide students with content and/or materials about the human rights situation in the Philippines, as well as the Southeast Asian region. In particular, focus on the establishment of the AICHR, the AHRD, and future challenges ASEAN can face with regard to climate change and human rights.
2. Discussion:
 - a. Ask students the following questions:
 - i. What is the purpose of the AICHR?
 - ii. Describe some human rights identified and/or specified in the AHRD.
 - iii. Why is the AHRD significant to Southeast Asia, and the Philippines in particular?
3. Brainstorming:
 - a. Review climate change impacts, and discuss its implications for Southeast Asia.
 - b. Ask students to identify at least two human rights included in the AHRD and explain how these are subject to climate change impacts.

- c. Let students reflect on the role of ASEAN and share their ideas on how the regional organization can ensure that human rights are protected while addressing climate change.

RELEVANCE TO CLIMATE CHANGE AND HUMAN RIGHTS:

This exercise provides the opportunity to discuss a broad spectrum of climate change impacts in Southeast Asia. The region faces rising temperatures and extreme weather events, such as heat waves, floods, and typhoons that alter rainfall patterns and water availability, among others (Prakash, 2018).

Climate change impacts on human rights in Southeast Asia are diverse because of reduced agricultural productivity, increased food insecurity, displacement of populations, and threatened water security and public health. According to the Asian Development Bank ([ADB], 2024), climate change-related hazards are reducing the ability of Southeast Asian countries to meet their SDGs, particularly on poverty reduction and food security.

The AHRD can guide ASEAN member states on how to uphold human rights while addressing climate change. For example, guaranteeing the participation of the population and access to justice in case of a breach of a human right are crucial in adequately addressing the climate crisis (United Nations Office of the High Commissioner for Human Rights [OHCHR], n.d.; Pearson, 2024; and Amnesty International, n.d.). A comprehensive understanding of the AHRD and effective strategies for addressing current and future human rights challenges is crucial for promoting human rights protection, accountability, dialogue, and cooperation as well as enhancing the regional human rights discourse within the Southeast Asian region (Bon Tai Soon and Vathanaganthan, 2023). Leveraging regional frameworks like the AHRD also becomes essential to strengthen human rights mechanisms and empower civil society, including in the context of the climate crisis (Bon Tai Soon and Vathanaganthan, 2023; United Nations Development Programme [UNDP], 2023; and ADB, 2024). **Read more about climate change impacts on human rights in [chapter 2](#).**

References

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- Asian Development Bank (ADB). (2024). Climate change impacts severely impede SDGs, says ADB–UN report. ADB News. <https://www.adb.org/news/climate-change-impacts-severely-impede-sdgs-says-adb-un-report#:~:text=ADB%E2%80%93UN%20Report,Cli-mate%20Change%20Impacts%20Severely%20Impede%20SDGs%2C%20Says%20ADB%E2%80%93UN%20Report,the%20impacts%20of%20climate%20change>
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