

<b>CAREER CLUSTER:</b> Health Science	<b>DURATION: 20 Sessions – can be modified to fit schedule (Session = 45 to 50 Minutes)</b>	<b>TEACHER:</b>	<b>U.N. SUSTAINABLE DEVELOPMENT GOAL: #3 — Good Health and Well-being</b>
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**GLOBAL ISSUE OVERVIEW**

Despite living at a time of tremendous technological advancement, many people will die from a preventable disease or health problem. Issues such as infant and maternal mortality, substance abuse, and the spread of communicable disease continue to disrupt lives worldwide. Addressing preventable deaths of all kinds and improving the global population’s health and well-being requires addressing a broad range of challenges such as a general lack of resources and limited access to quality health care — specifically for those living in remote locations. However, there is reason for optimism on some of these issues. For example, according to global information from the United Nations, “Over the last 15 years, the number of childhood deaths has been cut in half.” (2018) This can be partially attributed to work being done by the United Nations. Through the lens of creating a better future for all, the United Nations has identified Global Goal #3: Good Health and Well-being as one of its seventeen Sustainable Development Goals (SDGs).

To address the goal of improving health and well-being globally, the United Nations has laid out thirteen targets within this SDG. These targets aim to:

- Reduce the global maternal mortality ratio.
- End preventable deaths of newborns and children.
- End the epidemics of AIDS, tuberculosis, malaria, and other communicable diseases.
- Reduce mortality from non-communicable diseases.
- Strengthen the prevention and treatment of substance abuse.
- Halve the number of deaths and injuries from road traffic accidents.
- Ensure universal access to sexual and reproductive health care services.
- Achieve universal health coverage.
- Reduce the number of deaths and illnesses from hazardous chemicals and pollution.

Successfully reaching these goals by 2030 will require a multi-layered approach requiring further advancements, such as health care policy and funding, effective educational campaigns, and improved technologies. Creative and innovative solutions to these health issues will not only help the United Nations meet their goal, but will improve the health of the global population.

**Global Competencies Addressed:**

*Investigate the World:* Initiate investigations of the world by framing questions, analyzing and synthesizing relevant evidence, and drawing reasonable conclusions about global issues.

*Recognize Perspectives:* Recognize, articulate, and apply an understanding of different perspectives.

*Communicate Ideas:* Select and apply appropriate tools and strategies to communicate and collaborate effectively — meeting the needs and expectations of diverse individuals and groups.

*Take Action:* Translate ideas, concerns, and findings into appropriate and responsible individual or collaborative actions to improve conditions.

**STANDARDS ADDRESSED**

Career/Technical Knowledge and Skills	Academic Knowledge and Skills	21 <sup>st</sup> Century Skills
<p><b>Common Career Technical Core</b> <b>Career Ready Practices</b></p> <ol style="list-style-type: none"> <li>4. Communicate clearly and effectively and with reason.</li> <li>5. Consider the environmental, social, and economic impacts of decisions.</li> <li>6. Demonstrate creativity and innovation.</li> <li>7. Employ valid and reliable research strategies.</li> <li>8. Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>12. Work productively in teams while using cultural global competence.</li> </ol> <p><b>Health Science Career Cluster</b></p> <ul style="list-style-type: none"> <li>• <b>HLC05.01.</b> Health care workers will understand how their role fits into their department, their organization, and the overall health care environment. They will identify how key systems affect services they perform and quality of care.</li> </ul>	<p><b>Next Generation Science Standards</b> Engineering Design:</p> <ul style="list-style-type: none"> <li>• <b>HS-ETS1-1.</b> Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</li> <li>• <b>HS-ETS1-2.</b> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</li> <li>• <b>HS-ETS1-3.</b> Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</li> <li>• <b>HS-ETS1-4.</b> Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria</li> </ul>	<p><b>Learning &amp; Innovation Skills</b></p> <ul style="list-style-type: none"> <li>• Creativity &amp; Innovation</li> <li>• Critical Thinking and Problem Solving</li> <li>• Communication</li> <li>• Collaboration</li> </ul>

and constraints on interactions within and between systems relevant to the problem.

**Common Core Academic Standards**

ELA/Literacy:

- **RST.11-12.7.** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
- **RST.11-12.8.** Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
- **RST.11-12.9.** Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Mathematics:

- **MP.2.** Reason abstractly and quantitatively.
- **MP.4.** Model with mathematics.

**PROJECT DEFINITION & GOALS/OBJECTIVES**

This project stems from the United Nation’s list of Sustainable Development Goals (SDGs). The SDGs are a set of 17 goals that aim to end poverty, fight inequality, and stop climate change. Specifically, this project focuses on SDG #3: Good Health and Well-being. This project has been designed to allow ample student choice as there are thirteen targets students may choose from to develop a possible solution. Students then engage in a design process to define the problem, brainstorm possible solutions, create and test a prototype or solution, and present their solutions to community and/or global partners.

**Goals:**

- The students will gain understanding of the United Nations Sustainable Development Goals (SDGs) and develop empathy for other cultures.
- Students will acquire the skills necessary to research factors impacting global health and well-being.
- Students will use a design process to develop solutions to a complex real-world problem.

**Objectives:**

- Research a specific community/region’s access to quality health care services.
- Research a specific target selected from SDG #3, and research its impact on a community.
- Brainstorm and evaluate multiple possible solutions to the chosen problem.
- Develop a plan to complete a prototype while considering constraints.
- Create a specific solution which addresses the chosen target and improves access.
- Model the potential impact of the solution.
- Communicate the solution in a unique and creative way.

**SCENARIO OR PROBLEM: What scenario or problem will you use to engage students in this project?**

Your team is tasked with selecting a specific community or region and defining its access to medical services (e.g., hospitals, public health organizations, emergency medical services, etc.). Next, your team must dig deeper and select one of the 13 targets identified within SDG #3 and research that specific issue with relation to your chosen community and/or region. What efforts are currently employed to meet the target? What barriers exist that make it challenging to address the target? What access do citizens have to health care with specific regard to your chosen target? Armed with this new information, brainstorm possible solutions that improve access. Develop a proposal and/or a plan or prototype that will improve access to quality health care for your chosen community/region and share it with local health officials, organizations, etc. In any message you communicate or solution you propose, be sure to take into consideration the cultural and economic realities of the region.

**Essential Questions**

- How does access to health care services affect quality of life?
- What makes good health and well-being a global concern?
- How can we support the SDG #3: Good Health and Well-being?
- How does technology impact access to health care services?

**Grade Level Adaptations**

- For younger students, select a target from Goal #3, pointing them toward a singular focus. Provide them with ample articles, videos, and other materials to get them started in their research. You may want to take a lesson or two and teach specific research skills such as checking sources for accuracy, how to ask good questions, or notetaking. Once research is complete, you may even choose to narrow their outcome by requiring them to develop a specific product (e.g., a public service announcement, a

	<p>model alert system, etc.). Students would still have ample choice and voice in how they designed and created the assigned product, but by limiting the options, you will be able to provide more support in understanding complex material.</p>
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**ASSESSMENT: How will you determine what students have learned? (Check all that apply)**

FORMATIVE		SUMMATIVE	
Quizzes/Tests		Multiple Choice/Short Answer Test	
Notes/Graphic Representations	X	Essay Test	
Rough Draft		Written Product with Rubric	
Practice Presentation	X	Oral Presentation with Rubric	
Preliminary Plans/Goals/Checklists of Progress		Other Product or Performance with Rubric	
Journal/Learning Log	X	Self-evaluation or Reflection	X
Other:		Evaluation by Authentic Audience	X
		3D model	X
		Other:	

**MATERIALS, RESOURCES, or CONSTRAINTS: What materials and resources will be needed? Are there any perceived challenges?**

**Materials:**

- Computers with internet access
- Student journals
- Project rubric

**Internet Resources:**

- [U.N. Sustainable Development Goals](#)
  - [Goal #3: Good Health and Well-being](#)
  - [Sustainable Development Goals Explained: Good Health and Well-being](#) (YouTube video)
- [Sustainable Development Goals: Knowledge Platform — Health and Population](#)
- [World Health Organization](#)
- [United States Department of Transportation: National Highway Traffic Safety Association](#)

**SUPPORT, MODIFICATIONS, AND EXTENSIONS: What is needed to provide support for students who have difficulty learning the content, modify for students with special learning needs, or to provide enrichment for advanced students?**

**Support & Modifications:**

- Provide rotating small group sessions or team meetings on a regular basis with a focus on teaching research skills and strategies for students that will need support.
- Design journal templates for students that might struggle to keep their own journal organized.

**Extensions:**

- Require advanced learners to develop a teachable unit for younger students and have them deliver the lessons to classrooms.
- Develop an awareness campaign for their cause.

**CALENDAR OF MAJOR LEARNING ACTIVITIES: What are the learning activities or tasks for each day? Are there any project milestones? When will formal assessment activities occur?**

**Week 1**

Monday	Tuesday	Wednesday	Thursday	Friday
<p><b>Initiating:</b> Teacher (or guest) lead lesson and discussion focused on building awareness of SDG #3.</p>	<p><b>Initiating:</b> Discussion on SDG #3 and its 13 targets. Discuss communities and regions, access to health care, and challenges facing populations with SDG #3 and its 13 goals as backdrop.</p>	<p><b>Initiating:</b> Students generate questions and challenge assumptions. Facilitate discussion and record questions for continued research.</p>	<p><b>Initiating:</b> Continue exploring student questions. Guide students to consider their audience with relation to SDG #3. Compare and contrast communities and regions across the globe as well as locally.</p>	<p><b>Planning:</b> Form teams of students and challenge them to select a community/region and explore that community’s access to health care resources. What are the needs of the people they are researching? What are their barriers to achieving better health and well-being?</p>

**Week 2**

<p><b>Planning:</b> Guide students to select a specific target from the 13 listed under SDG #3, and help them conduct research on their specific community/region. Why is this target relevant to this population? What</p>	<p><b>Planning:</b> Have students submit a brief overview of their chosen community/region that describes demographics, the impact of their chosen SDG #3 target, and provides rationale as to why they are addressing their specific place and issue.</p>	<p><b>Planning:</b> Armed with research, data, and information, student teams brainstorm possible solutions. Facilitate the brainstorming session(s) and encourages all ideas. Encourage multiple possibilities ranging from physical items to digital solutions to services or events.</p>	<p><b>Planning:</b> Students determine their best solution while keeping cultural and economic realities of their chosen community in mind. Students generate a plan to address their solution and assign team roles and tasks.</p>	<p><b>Executing:</b> Students begin creating their prototype. This might be a physical product, a digital product, or a service, plan, etc.</p>
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barriers exist? What solutions are currently being used?	Students continue to research their issue and gather data. They might research online, conduct interviews, etc.			
<b>Week 3</b>				
<b>Executing:</b> Continued creation time. Encourage testing and improving solutions throughout.	<b>Executing:</b> Continued creation time. Encourage testing and improving solutions throughout.	<b>Executing:</b> Continued creation time. Encourage testing and improving solutions throughout.	<b>Executing:</b> Continued creation time. Encourage testing and improving solutions throughout.	<b>Executing:</b> Continued creation time. Teacher encourages testing and improving solutions throughout.
<b>Week 4</b>				
<b>Executing:</b> Students complete the first iteration of their product and share it with the class/teacher/other users. Students explain the purpose and key features of their design, gather feedback, run tests, identify failure points and areas for	<b>Executing:</b> Students complete the first iteration of their product and share it with the class/teacher/other users. Students explain the purpose and key features of their design, gather feedback, run tests, identify failure points and areas of improvement, and make revisions.	<b>Executing:</b> Students complete the first iteration of their product and share it with the class/teacher/other users. Students explain the purpose and key features of their design, gather feedback, run tests, identify failure points of areas of improvement, and make revisions.	<b>Closing:</b> Students present their solutions to an authentic audience like health officials, politicians, doctors, etc.  Students also post solutions (e.g., pictures, brief summaries, etc.) to social media such as Twitter, Instagram, or Facebook using the hashtag #Goal3.	<b>Closing:</b> Students present their solutions to an authentic audience like health officials, politicians, doctors, etc.  Students also post solutions (e.g., pictures, brief summaries, etc.) to social media such as Twitter, Instagram, or Facebook using the hashtag #Goal3.

improvement, and make revisions.				
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**STUDENT REFLECTION ACTIVITIES: How will students reflect on their work? Add reflection questions and/or activities here.**

- Provide a prompt at the end of each session and have students write their reflections in their journals.
- Using a site like [Flipgrid](#), allow students to post video reflections of their work and development.
- Guide summary activities at the end of research days such as:
  - Two Dollar Summary: Students write summaries of what they learned with each word they write hypothetically costing ten cents.
  - Gallery Walk: Students write or draw what they learned on large sheets of paper then walk through the gallery reading each other's charts.
- Allow students to create a blog that details the problem they are trying to solve and the process they are engaged in for solving it.

Adapted from:

- “Unit Planning Template” by the Southern Regional Education Board, n.d., Atlanta: Southern Regional Education Board.

Works Cited:

- United Nations. (2018). *Sustainable development goals: Goal 3: Ensure healthy lives and promote well-being for all at all ages*. New York: The United Nations. Retrieved from <https://sustainabledevelopment.un.org/sdg3>