A person standing on a boat

AI-generated content may be incorrect.

GESCI 110: Sustaining Life Workbook

* To navigate this workbook, use the “**Navigation**” tool located to the left of this page.  (If you cannot see Navigation, press **CTRL+F** or select the View tab and Choose Navigation Pane.)
* If you would like to set **bookmarks**, to mark your place, follow these [instructions](https://support.microsoft.com/en-us/office/add-or-delete-bookmarks-in-a-word-document-or-outlook-message-f68d781f-0150-4583-a90e-a4009d99c2a0).

# About this workbook

This workbook will serve as your textbook for this course. It is organized into seven sections—one for each week of the course. You will learn about each week’s topic by reading through the assigned chapters and completing the activities within each section. You only return to Canvas to take the weekly quizzes and submit your assignments by the due dates.

**Outcomes in Action**

The BYU-Idaho learning outcomes are statements describing what you are trying to become. You will become leaders in your home, in the church, and in your community. You will develop patterns of learning and working that will help you reach your full potential as a graduate of BYU-Idaho and as a disciple of Jesus Christ.

Assignments and outcomes are represented by an icon. When you see the icons, we encourage you to take action to become a leader, a BYU-Idaho graduate, and a disciple.

|  |  |
| --- | --- |
| **Learning Outcomes** | **Icon and meaning** |
| A white shirt with a purple background  AI-generated content may be incorrect.Discipleship of Jesus Christ | Assignments with this icon will help you become more like Jesus Christ as you lay hold upon the word of God. |
| **Learning Model Principle** | **Icon and meaning** |
| A blue square with white text and numbers on it  AI-generated content may be incorrect. Lay Hold Upon the Word of God | Master the learning and knowledge but do not "lay hold" on knowledge that conflicts with the word of God.([Moroni 7:25](https://www.churchofjesuschrist.org/study/scriptures/bofm/moro/7?lang=eng&id=p25#p25)). |
| A group of people holding hands  AI-generated content may be incorrect.Love Serve Teach | Assignments with this icon will help you to love, serve, and teach classmates, family and community. |

# About BYUI

As you develop in your [discipleship of Jesus Christ,](https://docs.google.com/document/d/13oj6mc6wl8-m06Nv2yz1XGMGg7RD3Nqw33tbt3PsLVU/edit?tab=t.0#heading=h.lrl8vr7fny8) you will become a leader in your home, in the church, and in your community. Although following the Savior’s invitation to become “even as I am” is a lifelong commitment, while at BYU-Idaho you will have the opportunity to learn, study, and grow within a community of disciples. Strengthening your knowledge and testimony of the gospel, learning to make and keep covenants, and dedicating your time and talents to serve God and others will develop and enhance your discipleship of Jesus Christ.

# About GESCI 110

This course addresses two crucial and compelling questions facing the world: how will we feed 9 billion people by the year 2050, and how will we care for those 9 billion people? You will investigate the challenges and opportunities involved with creating a sustainable food supply, promoting healthy lifestyles, and providing health care for everyone. Through your own sustaining life project, you will teach and bless others in your community. This course has the potential to change the world as each student strives to increase their knowledge and implement positive change wherever they live.

Welcome to GESCI 110: Sustaining Life! This course is designed to help you answer this question: **How do we feed and care for a growing world population?**

Through the activities of this course, you will be able to do the following:

* Explain the strengths and limitations of the scientific process as a source of knowledge.
* Identify engaging fields of study with good career potential.
* Analyze compelling and important questions using scientific evidence.
* Discuss challenging issues in a respectful and productive manner.

We hope you will enjoy learning more about our role as stewards to continue sustaining and improving the lives of individuals and communities of the world.

## Course Overview

Each week we will be covering a different topic related to sustaining life.

* Week 01: How We Become Wise Stewards
* Week 02: How We Increase Plant and Animal Production
* Week 03: How We Make Educated Food Choices
* Week 04: How We Promote Healthy Living
* Week 05: How We Care for Families from Birth to Death
* Week 06: How We Build Emotional Resilience
* Week 07: How We Prevent the Spread of Infectious Diseases

Each module or week is designed with similar layouts. You should plan on dedicating consistent weekly time to this class. Each week covers two main topics. For each topic, you will have a study page with videos and study questions and an Application Activity. Some weeks you will also have a Forum Preparation Activity and hold a Forum Discussion through WhatsApp. Twice in the semester, you will also do a Career Exploration assignment. Starting in Week 02, you will start working on a Sustaining Life Project that spans the whole block long and serves as a final project for this course.

## Overview: What is Project-Based Learning (PBL)?

Project-Based Learning (PBL) is a teaching method where you actively learn by working on a project over an extended period of time. In this course, all assignments are designed to support the project, called the Sustaining Life Project, which begins in Week 2 and ends in Week 6 of this course. Instead of traditional exams or quizzes, you will demonstrate your understanding by completing assignments and personal councils related to this project.

The purpose of the Sustaining Life Project is to help you become better resource managers and better disciple-leaders in your homes, Sustaining Life Project in this course, you will gain valuable skills to help you lead effectively and make informed decisions in various areas of life.

Throughout the course, each assignment directly or indirectly helps you develop the skills and knowledge needed to use the Sustaining Life Project and thus complete your final report. This means the work you do each week will build on the previous weeks, helping you to understand different aspects of resource management and how they come together in the final project. These assignments might involve researching, analyzing, planning, or applying concepts of resource management essential to the Sustaining Life Project and thus completing your final report. This is done in the week 6 final project report.

In week 7 you submit the final part of the Sustaining Life Project. It is a video presentation summarizing your work and reflects on the process, your learning, and your growth throughout this course.

By the end of the course, you will have completed a comprehensive project demonstrating your ability to manage resources effectively, solve problems, and present your findings in a professional way. Remember, each step along the way helps you get closer to successfully completing the final project presentation and the video reflection.

## Preview of the Final: Sustaining Life Project

Along with the course activities, you will complete a Sustaining Life Project to demonstrate your ability to research and analyze scientific evidence, create an action plan and project to complete, and report and reflect on your project.

Our hope is for you to select a meaningful and interesting project that is both related to sustaining life and can be applied in your home, community, or career to bless others.

The Sustaining Life Project is divided into three parts:

[Part 1](about:blank): Identify a Problem, Solution and Research Question (Due Week 02)

[Part 2:](about:blank) Report on Research and Make a Plan to Act (Due Week 03)

[Part 3](about:blank): Return and Report on Your Project and Reflect (Due Week 06)

More information about your project can be found by selecting the links above.

## Forum Discussions in WhatsApp Communities

You are not alone in this class! Each week you will have topics to discuss with your brothers and sisters around the world who are also taking this class. We want these discussions to be natural, real, and meaningful, so we have chosen to use WhatsApp for our group discussions.

You will be added to two groups in WhatsApp:

1. **The whole class GESCI 110 Community**

This is the place where the instructor will be posting announcements and reminders. Please check it 1–2 times a week for important announcements.

1. **Your GESCI 110 Forum Teams (10 students)**

This is the team you will be chatting with to discuss the forum topics each week. Feel free to share ideas, questions, or other resources you find related to our class!

The link to join your WhatsApp Community and Team is provided in Week 01 in Canvas.

**WhatsApp Forum Discussions**

Starting in Week 02, you will be discussing a forum topic using WhatsApp chat. There will be a forum preparation activity and some forum case study questions and slides to help guide your group discussion for the weekly forum discussions. Two of the weeks you will be sharing video presentations with your groups. We hope you will enjoy getting to learn with one another!

**Forum Reflection**

After participating in your weekly forum discussion, please return to the course in Canvas to report on what you learned from others and summarize what you shared in the discussion.

**WhatsApp: Additional Instructions for WhatsApp**

Stay focused and safe on WhatsApp. The GESCI 110 Community should only be used for class purposes. Don’t open messages from anyone you don’t know.

## What is Artificial Intelligence (AI) and Why Should I Not Use it Here?

Artificial Intelligence (AI)  includes programs such as ChatGPT, Microsoft CoPilot/Bing Chat, Bard, Grammarly, etc.. These programs allow you to ask a question and the AI responds to you which generates content through back-and-forth dialogue in real-time.

In the book, “Hidden Potential: The Science of Achieving Greater Things” by Adam Grant it says, “If our cognitive skills are what separate us from animals, our character skills are what elevate us above machines. Computers and robots can now build cars, fly planes, fight wars, manage money, represent defendants in court, diagnose cancer, and perform cardiac surgery. As more and more cognitive skills get automated, we're in the midst of a character revolution. With technological advances placing a premium on interactions and relationships, the skills that make us human are increasingly important to master” (Grant, 2023).

AI could complete a significant amount of work for you in this course. However, doing so would not help build your character or become a disciple leader, which are among the goals of your education here.

In the [BYU Pathway document on Academic Integrity and Artificial Intelligence](https://www.byupathway.edu/ai-and-academic-honesty.pdf), it says the following, “The courses you take have specific outcomes and objectives concerning your progress as a student. Critical thinking and analytical skills are fundamental to success in most employment environments and are key skills gained in a university education. Using AI tools as a shortcut to circumvent the critical thinking and analysis required to complete assignments is not only a violation of academic integrity but it shortchanges the learning process.”

The course outcomes for GESCI 110 are heavily based on critical thinking and developing the ability to determine the reliability of outside sources. AI cannot do this for you. Therefore, we are not interested in developing your skills utilizing artificial intelligence in this class. **We are focused on developing your intelligence, your critical thinking, and building your skills to promote sustainable, healthy living.**

To that end, **AI should never be used to produce writing for which you receive credit. Using AI to create any portion of your submitted work is plagiarism and grounds for failing the assignment and the course.**

AI may be a valuable resource for exploring a new topic, brainstorming ideas, proofreading your work (checking grammar and spelling), or even providing useful information—when that information can be verified independently as factual. (AI is notorious for creating sources that look and sound authentic but are hallucinations.) **But do not use AI to produce your writing for this class.**

# Week 01: How We Become Wise Stewards

In Week 01, we will be learning about how science and revelation work together to reveal truth and how to evaluate the reliability of a source. We will also be learning about climate and how to improve the soil for plant growth and what it means to be a wise steward over the earth. In our preparation activities, we will be discussing how urbanization impacts life and health and how we can create more sustainable cities.

**Week 01 Due Dates**

**Due by Midweek**

* Log into Canvas to submit the following:
  + W01: Syllabus and Academic Honesty Quiz
  + W01 Activity: Workbook Setup & Introduction
* Join the GESCI 110 WhatsApp Community and introduce yourself to our class.  (Instructions in Canvas W01 Discussion: Joining WhatsApp in Canvas)
* Complete the following items in your workbook and submit in Canvas:
  + W01 Study A: Ways of Knowing Truth
  + W01 Activity A: Three *R*s of Credible Information (Complete in workbook only)
  + W01 Quiz A: Ways of Knowing Truth (submit in Canvas)

**Due by the End of the Week**

* W01 Study B: Where can and should we grow our food?
* Complete the following items in your workbook and submit in Canvas:
* W01 Activity B: Topsoil Degradation
* W01 Forum Preparation: Urbanization and Sustainability
* **Optional:** Review the W1 Practice Forum Information in this workbook to prepare for forums next week.

### W01 Activity: Workbook Setup & Introduction

In Canvas, in W01, there is a W01 Activity: Course Workbook & Introduction. You answer the questions below and then copy and paste your responses from this workbook into the W01 Activity: Workbook Setup & Introduction in Canvas.

1. **AI Review:** What did you learn about AI from above provided in the workbook?

 Write your answer here.

1. **AI Statement:** Write the following statement, “I will not copy and paste AI generated text into my assignments.”

Write your statement here.

*GESCI 110 is about analyzing important issues, using scientific evidence, in the context of human experience. AI can write a definition for you, such as the definition of time management. But AI cannot tell you how you spend your time. Your assignments in this course should be based on* ***your*** *perspective, backed by scientific evidence.*

### W01 Quiz: Course Overview

**Overview**

* **Purpose:** Become familiar with how the course works and understand course expectations.
* **Task:** Read the course syllabus and take a brief quiz regarding information found in the course syllabus.

**Instructions**

1. Read the course syllabus and all the pages above before taking the quiz.
2. Return to Canvas and take the W01 Quiz: Ways of Knowing Truth. Due Midweek.
3. Feel free to refer back to the syllabus as you take the quiz.

### W01 Discussion: Join WhatsApp

*Verily, verily, I say unto you, as I said unto my disciples, where two or three are gathered together in my name, as touching one thing, behold, there will I be in the midst of them—even so am I in the midst of you."  Doctrine and Covenants 6:32*

**Overview**

* **Purpose:** Team learning is a collaborative effort. Working in groups supports the principle of love, service, and [teaching one another.](https://docs.google.com/document/d/13oj6mc6wl8-m06Nv2yz1XGMGg7RD3Nqw33tbt3PsLVU/pub)
* **Task:** Download WhatsApp and Join your GESCI 110 Forum Teams on WhatsApp.

**Instructions**

1. **Download** WhatsApp (if you do not have it downloaded).
   * Additional Resources: From the [Apple App Store](https://apps.apple.com/us/app/whatsapp-messenger/id310633997) or [Android Download page,.](https://www.whatsapp.com/android/)or [PC and MAC Desktop Download page](https://www.whatsapp.com/download/).
   * For more help go to the [WhatsApp Help Center](https://faq.whatsapp.com/).
2. **Review** the [FAQs and Classroom Policy for WhatsApp](https://sites.google.com/byui.edu/wwonline-whatsapp-lib/home).
3. **Return** to Canvas to find your WhatsApp team in W01 Activity: Join WhatsApp.
4. **Use** the WhatsApp link to join your team.
   1. Scroll to the bottom of the page, to the instructor's post, to find the WhatsApp link.
   2. Select the WhatsApp link to be taken to your team.
5. **Add** your legal first name or legal last name to the WhatsApp account so the instructor can grade your WhatsApp submissions.
6. **Post** a brief introduction **in WhatsApp** to your GESCI 110 Team. (*You do not need to post anything to this discussion board in Canvas, only in WhatsApp)*
7. **Share** questions, insights, and resources related to the weekly topic with your WhatsApp Teams.

### W01 Quiz: WhatsApp

**Overview**

* **Purpose:** Ensure WhatsApp is set up correctly.
* **Task:** Complete the W01 Quiz: WhatsApp.

**Instructions**

1. **Complete** the W01 Quiz: WhatsApp.

## Read

## W01 Study A: Ways of Knowing Truth

**At the end of this section, students will be able to:**

* **Understand the problem**
* Address how you feed and care for 9 billion people by 2050.
* **Ways of Knowing**
* Identify revelation and the scientific method as methods for accessing truth.
* Understand the scientific process.
* Identify valid applications of the scientific process.
* Explain how we can use the scientific method to solve problems.

The goal this first week is to introduce you to the primary question that will be addressed in this class: **How do we feed and care for a growing population?** We will also set the foundation of how to evaluate difficult questions.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [1.1 Addressing Population Growth](https://books.byui.edu/sustaining_life/11_addressing_population_growth)
   1. Why is it important that we focus on people as individuals (“the one”) rather than as numbers as the population continues growing?
   2. The course is split into two parts that help answer two big questions. What are those questions?
2. Read [1.2 Revelation vs. Scientific Method](https://books.byui.edu/sustaining_life/12_revelation_vs_scientific_method)
   1. What types of questions are best answered by revelation?
3. Read [1.2.1 Scientific Method](https://books.byui.edu/sustaining_life/121_scientific_method)
   1. What types of questions are best answered through science?
4. Read [1.2.2 Understanding the Scientific Process](https://books.byui.edu/sustaining_life/122_understanding_the_scientific_process)
   1. How does the scientific process work?
5. Read [1.3 Social Media: The anti-scientific method](https://books.byui.edu/sustaining_life/13_social_media_the_antiscientific_method)
   1. What are some differences between information presented on social media and that which comes from scientific research?
6. Read [1.4 Evaluating Scientific Resources](https://books.byui.edu/sustaining_life/14_evaluating_scientific_resources)
   1. Why is it important to evaluate scientific resources?
   2. What are some of the things you should look for when evaluating a scientific article?
   3. Define the Three *R*s of analyzing scientific claims.

Expounding on the discussion from the textbook on the Three Rs, we will use the following questions when evaluating if a source is Reliable, Reproducible, and Rational.

**Reliable**

* Does the author or organization writing the material have good credentials relating to the topic that is being written about?
* Are good references cited (preferably from peer-reviewed sources)?
* If the material is an article, is it peer-reviewed or, if you are looking at a website, does the domain name indicate credibility?

**Reproducible**

* Is the information based on data and research?
* Have the conclusions stated in the material been reproduced and are they supported by the majority of the research in this area?

**Rational**

* Is the information presented in a balanced way (or does it sound too good to be true)?
* Are the authors free of a conflict of interest?
* Is the content well-written and free from an emotional agenda?
* Is the information consistent with revealed truth that may be available on the topic?

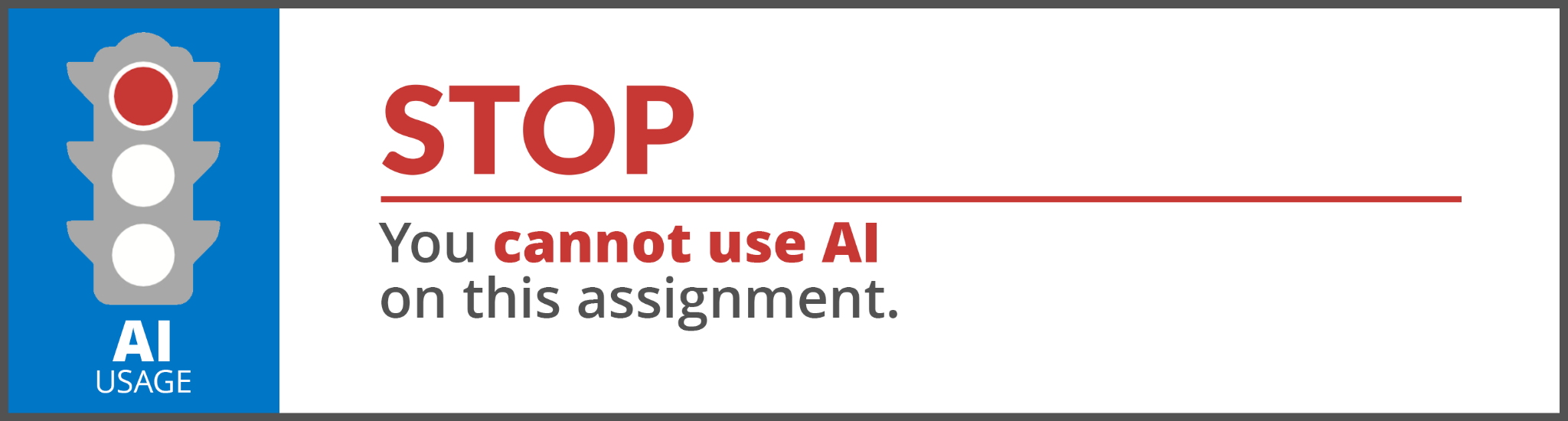
**Optional Resources**

* The following are not required but may add to your understanding:
* Watch the ["How Science Works"](https://youtu.be/Jj9iNphbY88) video (5:54 minutes) or read the ["How Science Works" transcript](https://docs.google.com/document/d/e/2PACX-1vSM-3VOQk6HkAq2ghcmVRQ8bfQhc8gHhhTXHPsaJh2eEBdvgJRaADxj7O48V4MCz1L3KwHyukKwOPFi/pub).
* Watch ["The Placebo Effect"](https://www.youtube.com/watch?v=GMqrOdCx4Yg&t=13s&ab_channel=SimpleLearningPro) video (3:35 minutes).
* Watch the ["Correlation vs. Causation"](https://www.youtube.com/watch?v=7bT17r_yIrw&ab_channel=TheWintonCentre) video (4:17 minutes).

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Truth and the Plan A blue square with white text and numbers on it AI-generated content may be incorrect.

* Read or watch ["Truth and the Plan"](https://www.churchofjesuschrist.org/study/general-conference/2018/10/truth-and-the-plan?lang=eng) by President Dallin H. Oaks.
  + Reasoning requires having sound information from reliable sources and using the Holy Ghost to guide us to truth, light, and understanding. Contrast these two examples from the scriptures:
    - Doctrine and Covenants 50:10
    - Helaman 16:17–18
  + How did both groups differ in their conclusions and how they reasoned through what was truth?

### W01 Activity A: The 3 Rs of Credible Information



**Overview**

* **Purpose:** Learning to evaluate the credibility of scientific sources is the first step in applying scientific evidence to practice. This activity allows you to apply what you have learned in your study about evaluating sources.
* **Task:** Complete the following activity evaluating how reliable, reproducible, and rational the following sources are. Check your responses with feedback below the assignment.

Two of the key learning outcomes for students who take this course are as follows:

* **Explain** the strengths and limitations of the scientific process as a source of knowledge.
* **Analyze** compelling and important questions using scientific evidence.

**The Three *R*s Evaluation Tool**

An important exercise to achieve these learning objectives is to analyze information that is being presented as scientific truth. You will use the **Three *R*s Evaluation Tool** on a weekly basis to analyze assigned readings and sources you find on your own. This continuous practice will allow you to learn how to find good sources of information when faced with hard questions in the future. Answer the questions below, then check your evaluation with the feedback provided at the end of this activity.

1. **Evaluate** the website, [The Medical Medium: Celery Juice](https://www.medicalmedium.com/medical-medium-celery-juice-movement.htm) by Anthony William, using the Three *R*s Evaluation Tool below.
2. **Enter** answers on a scale of 1–5.
3. **Review** the posted information about the author, [Anthony William](https://www.medicalmedium.com/medical-medium-about-anthony-william).

|  |  |
| --- | --- |
| The 3Rs of Credible Information: Part 1 – The Medical Medium | |
| **Reliable (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The author or organization has good credentials relating to the topic. |  |
| 1. Good references are cited. |  |
| 1. The material is sufficiently recent. |  |
| 1. Article is peer-reviewed or the website is from a reliable source (.gov, .edu,.etc.) |  |
| **Reproducible (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is based on data and research. |  |
| 1. The conclusion is reproduced and supported by the majority of studies on the topic. |  |
| **Rational (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is presented in a balanced manner. |  |
| 1. The authors are free of conflict of interest or biases. |  |
| 1. The content is well-written and not focused on an emotional agenda. |  |
| 1. Information is consistent with revealed truth available on the topic. |  |
| **Share your reasoning:** Overall, how reliable, reproducible, and rational did you feel this webpage by the Medical Medium was and why? (Write at least 3-4 sentences.) | |
| **Enter your response here:** | |

1. **Evaluate** the article, “[Why Celery Juice is Not the Miracle Some Claim](https://www.smh.com.au/goodfood/tips-and-advice/why-celery-juice-isnt-the-miracle-some-claim-20190226-h1bpv3.html),” by Carrie Dennett using the Three *R*s Evaluation Tool below. (This website wants you to create an account, but you do not have to create an account, just scroll to read the article.)
2. **Enter** answers on a scale of 1–5.
3. Review the author, [Carrie Dennett](https://nutritionbycarrie.com/my-credentials).

|  |  |
| --- | --- |
| The 3Rs of Credible Information: Part 2 – [Celery Juice is Not the Miracle](https://www.goodfood.com.au/good-health/why-celery-juice-isnt-the-miracle-some-claim-20190225-h1bpv3) | |
| **Reliable (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The author or organization has good credentials relating to the topic. |  |
| 1. Good references are cited. |  |
| 1. The material is sufficiently recent. |  |
| 1. Article is peer-reviewed or the website is from a reliable source (.gov, .edu,.etc.) |  |
| **Reproducible (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is based on data and research. |  |
| 1. The conclusion is reproduced and supported by the majority of studies on the topic. |  |
| **Rational (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is presented in a balanced manner. |  |
| 1. The authors are free of conflict of interest or biases. |  |
| 1. The content is well-written and not focused on an emotional agenda. |  |
| 1. Information is consistent with revealed truth available on the topic. |  |
| **Share your reasoning:** Overall, how reliable, reproducible, and rational did you feel this webpage by Carrie Dennett was (on a scale of 1 – 5)and why? (Write at least 3-4 sentences.) | |
| **My rating:**  **My rationale:** | |

1. **Compare and contrast** the two articles. Which one was more credible to you and why?

Write your answer here.

Thank you for completing this activity! This was a practice activity, and you will not be submitting this in Canvas.  However, you will be using the skills of evaluating sources on the Forum Preparation activities as you evaluate articles presented to you and sources you find on your own throughout our course.

### W01 Quiz: Ways of Knowing Truth

**Overview**

* **Purpose:** To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** W01 Quiz: Ways of Knowing Truth

**Instruction**

1. **Return** to Canvas and take the W01 Quiz: Ways of Knowing Truth. Due Midweek.

## W01 Study B: Climate, Weather, Soils, and Stewardship

**At the end of this section, students will be able to:**

* Climate and Weather
  + Define climate and weather.
  + Describe the conditions necessary for plants to grow and be productive.
  + Describe the factors impacting the likelihood of plants being grown in certain geographical areas (rain, temperature, economics, transportation, marketability, and so on).
* Soil
  + Define soil and describe its components.
  + Understand soil forming factors and how humans impact soil formation.

**Where Can or Should We Grow Our Food?**

Cities are spreading, and new houses are filling the surrounding areas. Farms are further from city centers, and many are being converted to non-productive land. Also, some regions of the earth are growing hotter, and are not suitable for their historic crops. Modern agriculture uses more resources and produces more waste. With the changes taking place around the world, where can or should we grow our food?

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [1.5 Climate, Weather, Soils and Stewardship](https://books.byui.edu/sustaining_life/15_climate_weather_soils_and_stewardship)
   1. What is the difference between weather and climate?
2. Read [1.6 Weather and climate](https://books.byui.edu/sustaining_life/16_weather_and_climate)
   1. How do weather and climate affect plant growth?
   2. What are the basic principles that account for differences in climate around the world?
   3. How do our choices affect our atmosphere?
3. Read [1.7 Soils](https://books.byui.edu/sustaining_life/17_soils)
   1. What is soil and how is it formed?
   2. What functions does soil perform?
   3. What is the best soil composition?
   4. Horizon A is the most important for plant growth. According to the reading, why do you think this is the case?
4. Read [1.7.1 Soil Loss](https://books.byui.edu/sustaining_life/171_soil_loss)
   1. Briefly define and explain the significance of the following:
   2. Salinization
   3. Desertification
   4. Erosion
   5. Contamination
   6. Urbanization
   7. What are some of the results of soil destruction?
5. Read [1.7.1.1 Urbanization at a closer look](https://books.byui.edu/sustaining_life/1711_urbanization_at_a_closer_look_)
   1. What are some of the reasons why urbanization occurs?
   2. What are some ways to mitigate the negative effects of urbanization?
6. Read [1.8 Stewardship](https://books.byui.edu/sustaining_life/18_stewardship)
   1. What is stewardship?
   2. What are the key principles of stewardship?
7. Read [1.8.1 Water Conservation](https://books.byui.edu/sustaining_life/181_water_conservation)
   1. Why is it important to conserve fresh water?
   2. What are some ways we can protect water as an essential resource?
8. Optional Resources. The following are not required but may add to your understanding:
   1. Watch the ["How Does the Climate System Work"](https://youtu.be/lrPS2HiYVp8) video (03:52 minutes) or read the ["How Does the Climate System Work" transcript](https://docs.google.com/document/d/e/2PACX-1vQQXLwxJkSE1UFKZKrxJBM1_5QuMPYCLLwfyoFN9Ep2rA9x-5CtmdENh3U26YZM-CqQrmvkUp2WC5gn/pub).
   2. Read the ["UN Report Identifies Where Global Harvests Will Rise and Fall by 2050"](https://www.cnbc.com/2018/09/17/un-report-shows-climate-change-effect-on-farming.html)
   3. Watch the ["Soils and Soil Dynamics"](https://youtu.be/mg7XSjcnZQM) video (09:21 minutes) or read the ["Soil and Soil Dynamics" transcript](https://docs.google.com/document/d/e/2PACX-1vRMjwjxh8njy_TG1PAmoHx3HYPW9QoCiebm_0EQerS7ZJGyktZMZX6DM16RZpvgShbHmSsvmcSMgAyM/pub).

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Environmental Stewardship A blue square with white text and numbers on it AI-generated content may be incorrect.

* Watch the["Our Earth, Our Home—God Created the Earth"](https://youtu.be/cGxYvos1DMw) video (1:34 minutes) or read the ["Our Earth, Our Home" transcript](https://docs.google.com/document/d/e/2PACX-1vQcT4kcbVO6rMDdKxE5rsGrKmcq5jG2vJaIQWR-uBv_OlFntpPCSjlDJc19GqBNPakJYHAHS8mXAJ0g/pub).
* Read or watch “[Our Earthly Stewardship](https://www.churchofjesuschrist.org/study/general-conference/2022/10/31causse?lang=eng),” the October 2022 general conference talk given by Presiding Bishop Gérald Caussé.
  + What are the principles of stewardship?
  + What are the most important ways we can be stewards?

### W01 Optional Application Challenge: Soils

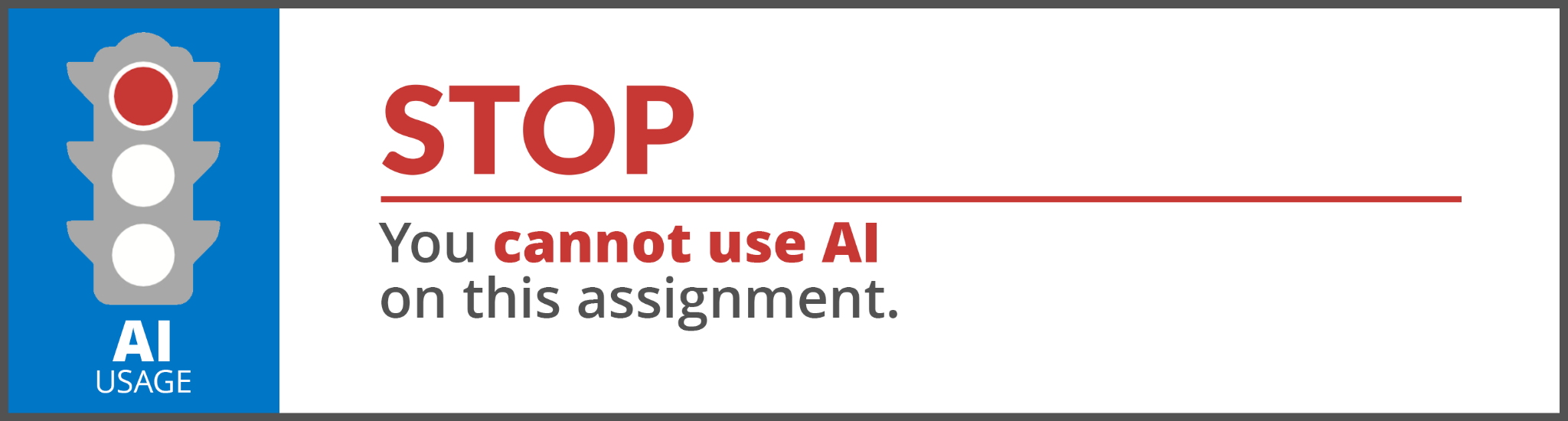
For each topic we study, several ideas will be presented for optional personal application of what we are learning. These optional challenges are invitations to you to use inspiration, reasoning and problem solving, as well as further research, to know how to apply what you are learning right now to bless yourself and others in sustaining life. If interested and able, consider selecting one idea and taking action on it or creating a plan for future action.

The final culminating project for our course will include selecting **one** topic of interest to you, researching it using reliable sources, and making a plan of action to do something related to that topic. You may use these optional personal application challenges at the end of each study section to help guide you in selecting your final project.

Consider exploring new ways to improve the soil where you live.

* **Grow the Best Variety of Plants for your Climate:** What fruits and vegetables grow best in your climate? Are there certain varieties of different crops that work better than others?
* **Extend Growing Season:** Are there ways you could extend your growing season? Explore methods such as using a ‘hot box,’ row covers, greenhouses, grow lights, hydroponics, and so on.
* **Improving Soil:** How could you improve the soil you have available to grow your own food? (See “[Basic Physical Health with Limited Resources](https://providentliving.churchofjesuschrist.org/bc/providentliving/content/english/self-reliance/health/health-fair-topics/pdf/Basic_Physical_Health_ENG.pdf?lang=eng#page=58).”) What additives would your soil need? Explore methods to improve your soil through composting, container gardens, layered or lasagna gardens, testing the pH of the soil and adding needed additives, and so on.
* **Soil Conservation:** Could your land benefit from planting a windbreak, cover crop, using no-till drilling methods, or other methods to stabilize the soil?
* **Water Conservation:** What improvements could you make to your water irrigation system or watering methods to get water to the plants you would like to grow?
* **Improving Housing Options with Urbanization:** What could be done in your community to improve the housing situation as the population increases?
* Feel free to share any optional challenges you complete or related helpful resources you find with your WhatsApp Team.

### W01 Activity B: Topsoil Degradation



**Overview**

* **Purpose:** Soil is needed to sustain life. Identifying causes and solutions of soil degradation can help to protect this valuable resource. This activity applies knowledge gained through this week’s study.
* **Task:** Research an event of soil degradation that has happened in the last 100 years. Answer the questions below and submit completed activity in Canvas.
* **Due:** This is due at the end of the week in Canvas.

Topsoil degradation is an issue from all around the world that affects our ability to grow the crops that are needed to feed the world’s growing population. In this activity, you will investigate a topsoil degradation event that has happened anywhere in the world in the last 100 years.

**Soil degradation** includes salinization, desertification, erosion, contamination, and urbanization.

Review [1.7.1 Soil Loss](https://books.byui.edu/sustaining_life/171_soil_loss).

**Instructions**

1. **Search** online for a *specific* event that occurred in the last 100 years, related to **one** of the different types of soil degradation.
   1. May **NOT** use the Dust Bowl of the 1930’s in the United States.
2. **Complete** the following chart with answers about the event.

|  |  |
| --- | --- |
| Topsoil degradation Event | |
| 1. **Type** of soil degradation (erosion, contamination, desertification, urbanization) |  |
| 1. **Link** to information source. |  |
| 1. **When** the specific soil event Occurred (Events can be selected from any date, but should be confined to a specific date or span of a couple years) |  |
| 1. **Where** did the specific soil event occur? |  |
| 1. **What** caused the specific soil degradation event? Provide a brief description (2-3 sentences). |  |
| 1. **Impact** on human health. What has been or could be the impact on human health from this event? (Include economic loss, damages, or any human casualties.) |  |
| 1. **How** to fix this type of soil degradation event. (Answering this question may result in research on your part.) |  |
| 1. **What** has already been done so far to fix this specific event in the place where the event occurred? |  |

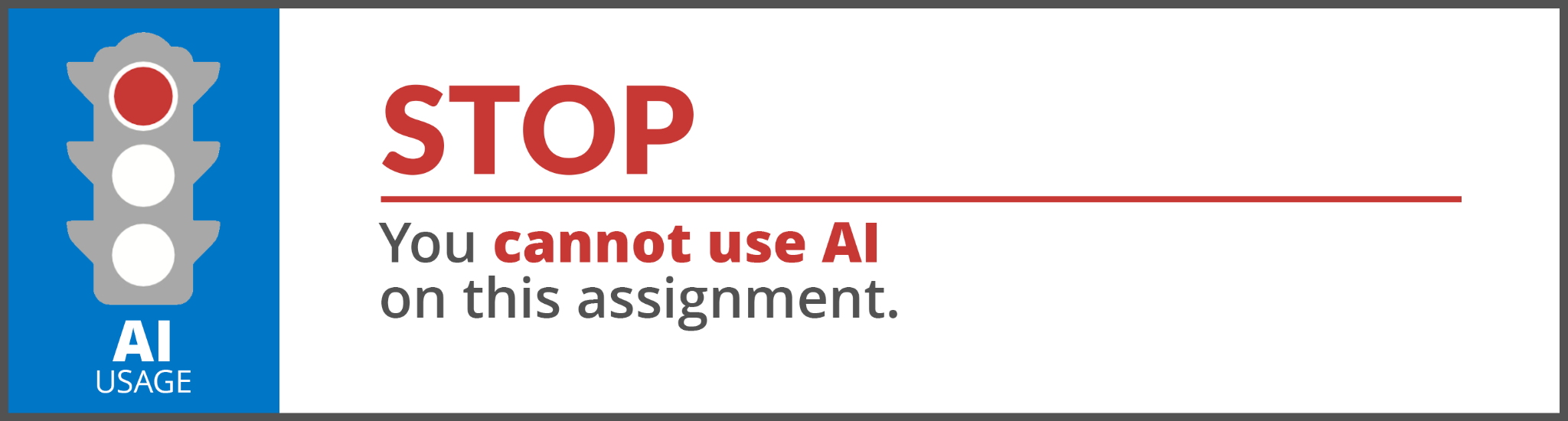
After answering the questions above, copy your work and paste it in the W01 Activity B: Topsoil Degradation assignment in Canvas.  (Do not be concerned if your chart does not copy perfectly into Canvas - the graders know what to look for.)

W01 Forum Preparation: Urbanization and Sustainability

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students how to find and evaluate good sources of scientific information when faced with difficult or ethical situations. This preparation activity introduces students to the way they will prepare for forums beginning next week.
* **Task:** Study the topic below and evaluate the given article. Search out two additional resources related to urbanization and sustainability.
* **Due:** This is due at the end of the week in Canvas.

### W01 Activity: Forum Preparation – Urbanization and Sustainability



**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students how to find and evaluate good sources of scientific information when faced with difficult or ethical situations. This preparation activity will allow you an opportunity to evaluate this resource and become aware of the topics we are discussing in our course impact communities worldwide.
* **Task:** Evaluate an article using 3Rs Evaluation tool.

How can we create sustainable cities and communities?

**NOTE:**In future weeks, the Forum Preparation activities will help you prepare for the forum discussion in your team.

**Urbanization** is the shifting of the population from rural areas to urban areas. It is the process by which towns and cities are formed and continue to grow as more people begin living and moving there.

**Instructions**

1. **Read** the “[Pathways to Sustainable Cities: Lessons from 50 years of UN Sustainable Development](https://www.iisd.org/articles/deep-dive/pathways-sustainable-cities)” article on urbanization. *Please take time to watch the short videos contained in the article as they give a world view to the challenges of urbanization.*
2. **Evaluate** the article using the Three *R*s Evaluation Tool using a scale from 1–5 with five being most reliable and one being least reliable.

|  |  |
| --- | --- |
| 3Rs Evaluation Tool: Pathways to Sustainable Cities | |
| **Reliable (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The author or organization has good credentials relating to the topic. |  |
| 1. Good references are cited. |  |
| 1. The material is sufficiently recent. |  |
| 1. Article is peer-reviewed or the website is from a reliable source (.gov, .edu,.etc.) |  |
| **Reproducible (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is based on data and research. |  |
| 1. The conclusion is reproduced and supported by the majority of studies on the topic. |  |
| **Rational (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is presented in a balanced manner. |  |
| 1. The authors are free of conflict of interest or biases. |  |
| 1. The content is well-written and not focused on an emotional agenda. |  |
| 1. Information is consistent with revealed truth available on the topic. |  |
| **Share your insights:** Include 3 reasons why you sore the document the way you did. | |

1. **Research**: Research online the topic of urbanization and building sustainable cities. Find two other credible sources that deepen your understanding of this topic. Focus your research on the benefits and challenges of urbanization and factors that impact food production and meeting the needs of a growing population.

**Source 1 Link:**

**Source 2 Link:**

1. **Describe** the three greatest benefits and challenges of urbanization using complete sentences.

|  |  |
| --- | --- |
| Benefits of Urbanization | Challenges of Urbanization |
| Benefit 1:  Benefit 2:  Benefit 3: | Challenge 1:  Challenge 2:  Challenge 3: |

1. **Research** the [17 Goals of Sustainable Cities](https://www.un.org/sustainabledevelopment/sustainable-development-goals/) from the United Nations. Select three of your favorite Sustainable Development Goals for how to build or create sustainable cities. Explore actions that can be taken to achieve these Sustainable Development Goals. Below, write three goals and actions to increase the sustainability of cities.

A chart of goals for sustainable development

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*Figure 1: Photo Credit:* [*https://www.un.org/sustainabledevelopment/*](https://www.un.org/sustainabledevelopment/) *“The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States”.*

|  |  |  |
| --- | --- | --- |
| Sustainable Development Goals | Why do you feel this goal is important? | Actions to Achieve this goal. |
| Goal 1: |  |  |
| Goal 2: |  |  |
| Goal 3: |  |  |

1. **Personal Application:** Briefly summarize what you have learned and relate what you have found in your research to your region. Include in your summary the answers to the following two questions including how this would impact a growing population.
   1. What are the biggest problems or challenges for the cities where you live or have visited?
   2. What are possible solutions or ideas to help improve those problems in your own community?

**Type your Personal Application Summary here:**

7. **Copy** the complete assignment (questions 1-7 above) and your completed charts and paste them in the W01 Assessment: Forum Preparation - Urbanization and Sustainability in Canvas.   Do not be concerned if the charts do not copy perfectly into Canvas.  The graders know what to look for!

### Optional W01 Example Forum: Urbanization and Sustainability

**Example Forum:**No required forum WhatsApp discussion is required this first week.

**NOTE: Please make sure you have installed WhatsApp, joined your GESCI 110 WhatsApp Team, and introduced yourself to your team**.

Explore the example forum slides for Week 01 (link below) and read through the key discussion questions to get an idea of the types of question you will be discussing each week in your WhatsApp Teams. You do not need to discuss these questions in your teams THIS week. Forum Discussions using WhatsApp will officially begin NEXT week.

The link below takes you to an example slides of the types of questions and case studies that may be included to guide your WhatsApp forum discussions. The slides marked with a star have the key discussion questions on them.

**Example Forum Slides:** [GESCI 110 Week 01: Urbanization and Sustainability](https://docs.google.com/presentation/d/1nD02R_UCeYbcIE2euOsfU4cS9kbPGEpF/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true)

Here are the key discussion points for this example forum:

1. Discuss the following:
   1. Why do we need cities and urbanization?
   2. What challenges are the biggest problems for the cities where you live or have visited?
   3. Share solutions or ideas to help overcome the challenges shared.
2. What were your three favorite ideas for building sustainable cities?
3. How would you vote on the Case Study? (See slides 7–8)
4. How does this topic relate to the work that is being done all throughout the world to build Zion?

In future weeks, we will have an official Forum Discussion in WhatsApp chat, at the end of the week you will report back on how your forum discussion went that week on the Forum Reflection quiz in Canvas. We look forward to all learning from one another in our class and gaining a larger world view of our class topics in the forum WhatsApp discussions!

# Week 02: How Will We Increase Plant and Animal Production?

This week we will be learning about the history and the future of plant and animal production and how we can use science in agriculture to help improve the world’s food supply. We will relate what we are learning to exploring ideas to solve problems in developing countries. We will also be discussing animal management and how to calculate and improve the feed efficiency in raising animals and eggs and milk. In our forum activity, we will be discussing the controversy around genetically-modified foods and gene editing and how this technology is changing the way we develop plants.

**Week 02 Due Dates**

**Due by midweek**

* W02 Introduction to Sustaining Life Course Project
* W02 Study A: The History and Future of Agriculture
* W02 Activity A: Developing Countries (Complete in Workbook)
* W02 Quiz: How Will We Increase Plant Production? (Complete in Canvas)
* Complete the following items in your workbook and submit in Canvas:
* W02 Forum Preparation: Are genetically-modified foods (GMOs) a problem or a solution?

**Due by the end of the week**

* Forum Discussion in WhatsApp Teams
* W02 Study B: Animal Production
* Complete the following items in your workbook and submit in Canvas:
* W02 Activity B: Calculating Animal Efficiency
* W02 Forum Reflection: GMOs Discussion
* W02 Project: Part 1 - Problem, Solutions, and Research Questions

## W02 Sustaining Life Project Introduction

This week you will complete Part 1 of the Sustaining Life Project and will identify a problem in the world, your nation, community, family or own life. Consider what it would take to start solving this problem on both a large and small scale. When you have identified a possible solution, select a more specific research question related to how you will implement your solution.

For inspiration, please read below about William Kamkwamba and how as a 14-year-old boy he harnessed the wind to bring electricity and power to his village (or watch his [TedTalk.)](https://www.ted.com/talks/william_kamkwamba_how_i_harnessed_the_wind)

*William Kamkwamba lives in the small village in Africa. In November 2001, his village experienced a drought and famine. When he was just 14 years old, he was forced to drop out of secondary school because his parents couldn’t afford school fees and food for him and his 6 sisters. Soon the family was down to eating just one meal a day. A meal that consisted of three bites each.*

*“William turned to the new library at the Wimbe Primary School. A shipment of books from the United States had just been donated. One caught William’s eye: “Using Energy”. The cover showed a long row of windmills resembling the pinwheels he and his cousin Geoffrey had made as children. When William realized this machine was powered by wind – a plentiful resource in Malawi – he became determined to build one. If successful, no longer would he have to go to bed by 7 p.m. because it was dark. (You must apply to get public utilities in rural areas and some families wait decades for power.) Maybe a windmill could also pump fresh water.” (Article accessed 11/19/2024 (*[*https://www.thestar.com/news/world/boys-dream-to-build-windmill-transforms-lives-in-*](https://www.thestar.com/news/world/boys-dream-to-build-windmill-transforms-lives-in-malawi/article_0fadb25c-3531-532a-a871-e8bc7bfeaf8d.html)*malawi/article\_0fadb25c-3531-532a-a871-e8bc7bfeaf8d.html).*

*William scrounged in salvage yards to find scrap material to build his first windmill. The windmill powered a radio. The next windmill had enough power to light 4 lights in his home and power 2 radios.* *Eventually, he built three windmills producing enough electricity to provide lighting and to pump water.*

*His ingenuity has changed the lives of his family and his village. But higher education was still out of reach for him and his younger sisters for four more years. Later, he wired the outbuilding containing his bedroom, added a battery, built electrical outlets and eventually wired the main house. He needed to construct a circuit breaker, which is now on display in Chicago’s Museum of Science and Technology.*

*Women used to walk an hour and a half to get water and now there is a pump in town thanks to William’s windmills.  After his second* [*TedGlobal*](https://www.ted.com/talks/william_kamkwamba_how_i_built_a_windmill)*, William was able to attend a private school and has sent his sisters, cousins, and neighbors to school to receive an education.*

During the time frame of our course, you will not have time to research and complete a project like Mr. Kamkwamba did when he built a windmill to power his home and village, but there are many things you can do, and you can begin on a meaningful project to help to sustain life where you live.

After you have identified a problem you are interested in, you will want to narrow your solution to a project on a small scale that you can act on during the 4 weeks left in our course. If you are having difficulty identifying a problem, you may want to consider these questions:

* What project would you like to complete related to sustaining life?
* What research will you need to complete to be able to do that project well?
* Focusing on the project you would like to do will guide you in creating more specific research questions.
* What large-scale global or community problem relates to the smaller project I would like to complete? This is the problem you will focus on for this week’s assignment.

We are introducing this project to you early this week, and you will report on the large-scale problem you have identified and your selected research question at the end of this week.

If you are struggling to identify a project related to sustaining life and a solution you can act on, consider reviewing the “Optional Application Challenges” for each study topic of our course and choose one to focus on. The challenges for each area are compiled in a list for you below.

|  |  |  |
| --- | --- | --- |
| **Optional Application Challenges** | | |
| [**Soils**](#_gjdgxs)   * Grow the Best Variety of Plants for Your Climate * Extend the Growing Season * Improving Your Soil * Soil Conservation: Stabilizing the Soil * Water Conservation: Improving Irrigation Systems | [**Plants**](#_30j0zll)   * Design and Plant a Garden * Experiment with Crossbreeding * Weed Management * Plant Challenges and Solutions * Precision Agriculture where you live * Plant Genome Mapping and Crop Selection | [**Animal Management**](#_3znysh7)   * Raise Your Own Meat * Animal By-products: Raising Chickens for Eggs or Animals for Milk * Making Milk Products * Eating Plant-based Meat * Genetically Modified Animals * Technology in Animal Production |
| [**Food Preservation**](#_2et92p0)   * Freezer Meals * Canning Foods * Dehydrating Foods * Freeze Drying Food * Strategies for Preservation in Developing Countries * Improve Family Food Storage | [**Educated Food Choices**](#_tyjcwt)   * Meal Planning and Meal Prepping to Reduce Food Costs & Increase Nutrition. * Eating the Mediterranean Diet and the Word of Wisdom   [**Limiting Food Waste**](#_3dy6vkm)   * Feeding the Hungry * Limit Food Waste * Charitable Organizations | [Chronic Illness](#_4d34og8)   * Decreasing Chronic Disease in Your Family or Country * Increasing Access to Medical Diagnosis and Care * Affordable Health care * Personal Choices and Chronic Disease * Explore DNA Testing for Chronic Illnesses |
| [**Long-term Health**](#_1t3h5sf)   * Preventing Long-term illness * Putting Health Promotion Campaign into Action. * Reduce Screen Time and Increase Connections * Nature Therapy | [**Strengthening Families**](#_2s8eyo1)   * Strengthening Family Relationships * Wholesome Recreational Activities * Children and Youth Program: Setting Goals and Serving * Challenges and Solutions in Fetal and Child Development * Researching Infertility Causes and Solutions | [**Aging**](#_17dp8vu)   * Serving the Elderly: Meals, Visits, Labor * Family History: Preserving Memories and Heritage * Increasing Aging Populations: Needs and Solutions * Take Action to Make Your Community More Age-Friendly * Research the Challenges of Aging |
| [**Mental Health**](#_3rdcrjn)   * Building Healthy Minds and Emotional Resilience * Explore Types of Therapy * Develop and Practice Stress Management * Explore Neuroplasticity and Gratitude and Mindfulness | [Infectious Disease](#_26in1rg)   * Reducing the Spread of Infectious Diseases * Causes of Common Diseases * Research in Depth Different Types of Vaccines |  |

## W02 Study A: How Will We Increase Plant Production?

At the end of this section, students will be able to:

* The History of Agriculture
  + Compare and contrast the operation of the farm from 100 years ago to today.
  + Identify how the consumption and production of key agricultural crops has changed to meet the increased demands.
  + Explain how technology has contributed to increases in key food crop production over time.
  + Describe how crossbreeding is used to develop new plant varieties.
* The Future of Agriculture
  + Recognize the importance of being a steward over our resources.
  + Identify the key resources that will need to be utilized to meet a growing demand for food.
  + Define and describe precision agriculture.
  + Describe the benefits and challenges of genetically modified organisms (GMOs).

Increasing production of food over the next 50 years is a vital part in our efforts to effectively care for our growing population. During this week, we will explore the key factors that affect crop production and prospects for change that might help our goal of increasing food production despite increasing urbanization.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [Week 2: How Will We Increase Plant and Animal Production?](https://books.byui.edu/sustaining_life/week_2_how_will_we_increase_plant_and_animal_production)
   1. What do plants need to grow?
2. Read [2.1 The History of Agriculture](https://books.byui.edu/sustaining_life/21_the_history_of_agriculture)
   1. What were some of the earliest techniques developed that allowed agriculture to thrive?
3. Read [2.1.1 The Role of Science in Modern Agriculture](https://books.byui.edu/sustaining_life/211_the_role_of_science_in_modern_agriculture)
   1. What are some of the positive results of the Green Revolution?
4. Read [2.1.2 Scientific Innovations Shaping the Future of Agriculture](https://books.byui.edu/sustaining_life/212_scientific_innovations_shaping_the_future_of_agriculture)
   1. What is precision agriculture?
5. Read [2.1.3 The Impact of Climate Change on Agriculture](https://books.byui.edu/sustaining_life/213_the_impact_of_climate_change_on_agriculture)
   1. Why is climate change a concern for the future of agriculture?
6. Read [2.2 The Future of Food Production](https://books.byui.edu/sustaining_life/22_the_future_of_food_production)
   1. Describe some of the strategies that can be used to increase efficient food production.
7. Read [2.3 Introduction to GMOs](https://books.byui.edu/sustaining_life/23_introduction_to_gmos)
   1. What are GMOs?
   2. How is crossbreeding used to develop new plant varieties?
8. Read [2.3.1 Examples of GMOs](https://books.byui.edu/sustaining_life/231_examples_of_gmos)
   1. Provide an example of a GMO and the associated benefit of this particular crop.
9. Read [2.3.1.1 Pros of GMOs](https://books.byui.edu/sustaining_life/2311_pros_of_gmos)
   1. Describe at least 2 pros of GMOs.
10. Read [2.3.1.2 Cons of GMOs](https://books.byui.edu/sustaining_life/2312_cons_of_gmos)
    1. Describe at least 2 cons of GMOs.
11. Optional Resources

* Watchthe [Foods that Originally Looked Totally Different](https://www.youtube.com/watch?v=M5Qly-VQfbo) video (10:02 minutes)
* Watchthe [Plant Breeding Innovation](https://www.youtube.com/watch?v=nYMoWtTXkwI) video (02:33 minutes) (transcript coming soon)
* Watch the [What is Precision Agriculture? What is the meaning of Precision Farming?](https://youtu.be/WhAfZhFxHTs) video (05:36 minutes) or read ["What is Precision Agriculture?" transcript](https://docs.google.com/document/d/e/2PACX-1vQbA9WH9zOmzChReZRgA3ElAuG2hbMIasLCWrXdIdt3S9Lxe18OscN8Osz77tPAq6ByFXNUgXl8xhZi/pub).
* Watch the [Are GMOs Good or Bad? Genetic Engineering & Our Food video](https://youtu.be/7TmcXYp8xu4) (09:03 minutes) or read ["Are GMOs Good or Bad?" transcript](https://docs.google.com/document/d/e/2PACX-1vSTKbGb6APw2Npf3eSeXUnN9VviKp1pws6tXV46KPGW6Mqo53XhPHFG1-ECUV_8HAGotIhy8nRpqMEp/pub).

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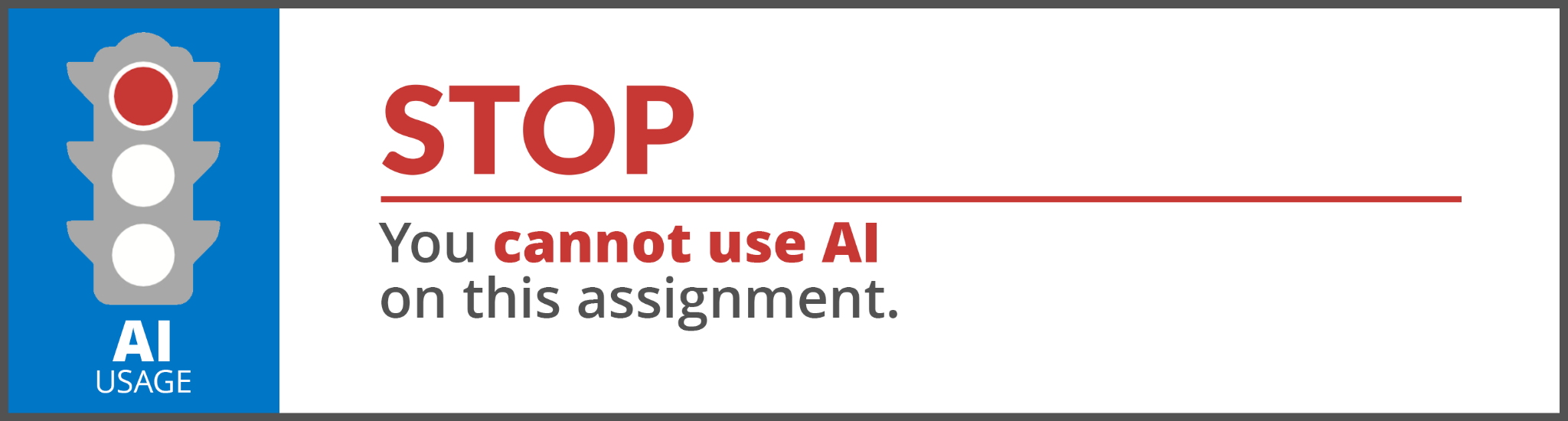
* **Watch** "[El Alto Container Gardens](https://www.churchofjesuschrist.org/media/video/2011-05-0029-bolivia-container-gardens?lang=eng)" video (03:28 minutes) or read ["El Alto Container Gardens" transcript](https://docs.google.com/document/d/e/2PACX-1vTXgcLdcCnnC01irL4yfntCkK_v5Oaf3a-7HXEpx3GjeITPBginBq32Ukpamw6hV5zuevl5GGROZ-bU/pub).
* **Read** [Planting a Garden](https://providentliving.churchofjesuschrist.org/bc/providentliving/content/english/self-reliance/health/health-fair-topics/pdf/Basic_Physical_Health_ENG.pdf?lang=eng#page=55).

### W02 Optional Application Challenges: Plants

Consider exploring one new way to improve plants grown where you live or using one of these ideas for your final project.

* **Design and Plant a Garden:** Growing foods your family will eat. Research plant varieties that grow well in your climate or zone.
* **Crossbreeding:** Experiment with crossbreeding plants and save seeds for growing in your garden. Research how a specific plant variety was developed and for what qualities.
* **Weed Investigation:** Pull weeds where you live. Research what the different names of the weeds are and if they have any beneficial qualities. Research sustainable methods for weed management.
* **Plant Challenges and Solutions**: Investigate local plant diseases, pests, or other challenges (drought, cold, and so on) that have impacted plants in your garden or area. What can be done to address these problems?
* **Precision Agriculture:** What types of precision agriculture are used where you live? Research products that are available online as well as their cost and effectiveness.
* **Plant Genome Mapping:** Research how plant genetics are tested and mapped out. How could plant genome mapping help farmers to select varieties of crop to grow?
* **Gene Editing:** Learn more about gene editing. How is it similar and different to GM crops? What is being done to improve different crops? If you were to improve a variety of a plant, which plant would you seek to improve and how? What can you find that is already being done to improve that plant variety?

### W02 Activity A: Developing Countries



**Overview**

* **Purpose:** This activity allows you to consider the factors that make sustaining life in developing countries challenging and look for solutions for how these challenges can be overcome.
* **Task:** Review the scenario and ponder what you would do in this situation. Watch the video and respond to the remaining questions.
* **Due:** Midweek.

**Instructions**

**Part 1**

Read the following Scenario and complete the chart below.

*Scenario: You live in one of the poorest towns in a developing country. 16% of the citizens are starving and many more are food insecure. Many people have anemia and other nutrient deficiencies. Over 80% of the population live below the poverty level.*

*There is farmable land available, but financial resources are not available to begin crop production. The crops produced are unlikely to sell well due to poor infrastructure, lack of technology to preserve food, and lack of markets.*

*The closest school is a 14-mile round trip. Little transportation is available, so most people wanting to go to school would have to cover this distance on foot. What little money and resources that are available are controlled by local officials and used for their personal benefit.*

|  |  |
| --- | --- |
| Question/Ponder | Prove/Answer |
| What are three factors contributing to poverty in this town? | Factor 1:  Factor 2:  Factor 3: |
| Why is it hard for individuals to improve their situation in this scenario? |  |
| Why would outside resources (charitable donations or gifts) be of little help, even though they are available, and others are willing to help? |  |

If you were the government official of this town, what three things would you do to improve life for the people you serve, and how would you try to do it with your limited resources?

|  |  |
| --- | --- |
| What I would do. | How I would do it. |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

Part 2

**Watch** the ["Yeah Samake BYU-Alumni Runs for President"](https://youtu.be/imsuxVLyiIY) video (03:05 minutes) or read the ["Yeah Samake BYU-Alumni Runs for President” transcript](https://docs.google.com/document/d/e/2PACX-1vQyM4k9aeR3g0Z2Wm_W2N25QP4aP7jM3oPhQNism1DoJQamBonCbcj0xVGb0gRzNRm7FUzPrLk2VpCr/pub).

|  |  |
| --- | --- |
| Question/Ponder | Prove/Answer |
| List 2 things Yeah Samake did to improve the situation in his town. | Improvement 1:  Improvement 2: |
| How did your plan above compare with what Yeah Samake did for his village? What was similar? What was different? | Similar:  Different: |

Prepare to report on what you learned in this assignment on the W02 Quiz: How will we increase plant production? Due midweek in Canvas.

**Optional Enrichment:**

To learn more about Yeah Samake watch the ["Leading the Change for Development in Mali”](https://video.byui.edu/media/t/0_2bqevs2k) video clip (10:02 minutes) from a devotional given by Mali Ambassador Yeah Samake or read the ["Leading the Change for Development in Mali" transcript](https://docs.google.com/document/d/e/2PACX-1vQ8KNsbHhPjeueyZMRnAmaGAzZ-wLv076wIxQzodkkU9v29KTu1TF-b4IGansEgf3LnFtYYoafb9xBi/pub).

### W02 Quiz: How Will We Increase Plant Production?

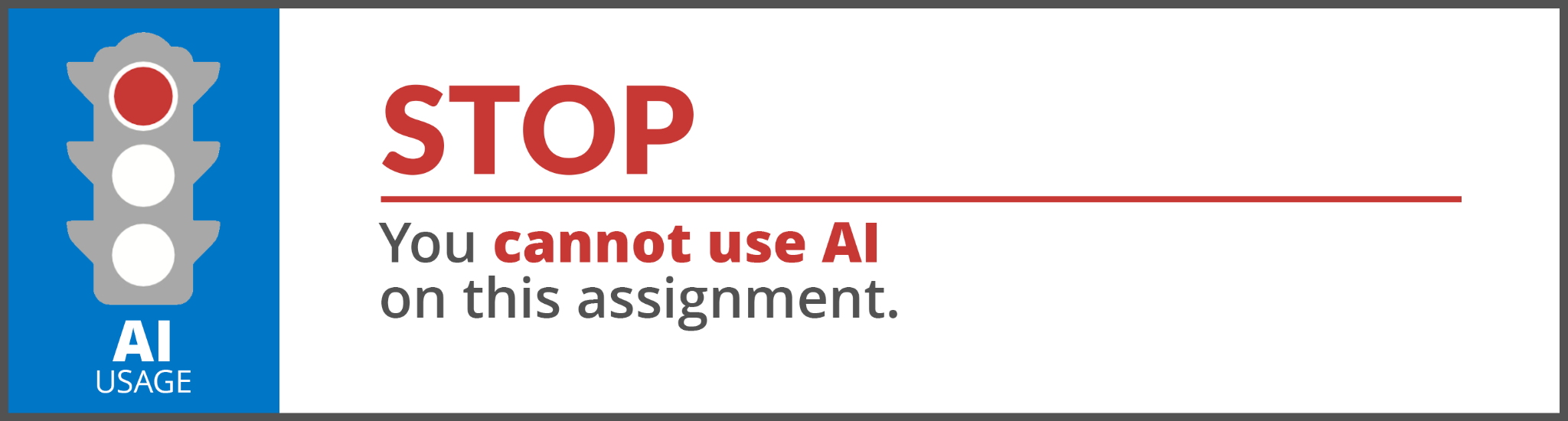
**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W02 Quiz.

**Instructions**

1. In Canvas, take the W02 Quiz: How Will We Increase Plant Production, a short 5 question quiz.
2. Due midweek.

### W02 Forum Preparation: Are Genetically Modified Foods (GMOs) a Problem or a Solution?



**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students how to find and evaluate good sources of scientific information when faced with difficult or ethical situations. This preparation activity will allow you to prepare for a respectful and productive forum discussion.
* **Task:** Study the topic below and evaluate the given article. Search out two additional resources related to genetically-modified foods. Submit your work in Canvas.
* **Due:** This is due mid-week in Canvas.

**Introduction**

Having sustainable food sources are important when considering how we will feed a growing population. With your WhatsApp Teams, you will be discussing methods to increase or improve plant production.

Genetically modified organisms (GMOs), also known as bioengineered plants or genetically-engineered plants, are one way to improve plants and increase yields. In this assignment, we will explore the pros and cons of GMOs and their use as a food source.

**Instructions**

1. **Read** the article[Science and History of GMOs and Other Food Modification Processes](https://www.fda.gov/food/agricultural-biotechnology/science-and-history-gmos-and-other-food-modification-processes) by the US Food and Drug Administration. You may want to explore the links in the article and related articles on the sidebar of the article.
2. **Rate** the article for credibility using the Three *R*s table below.

|  |  |
| --- | --- |
| 3Rs Evaluation Tool: [Science and History of GMOs](https://www.fda.gov/food/agricultural-biotechnology/science-and-history-gmos-and-other-food-modification-processes) | |
| **Reliable (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The author or organization has good credentials relating to the topic. |  |
| 1. Good references are cited. |  |
| 1. The material is sufficiently recent. |  |
| 1. Article is peer-reviewed or the website is from a reliable source (.gov, .edu,.etc.) |  |
| **Reproducible (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is based on data and research. |  |
| 1. The conclusion is reproduced and supported by the majority of studies on the topic. |  |
| **Rational (Scale of 1 – 5): 1=No credentials or expertise, 5=Has credentials or expertise** | |
| 1. The information is presented in a balanced manner. |  |
| 1. The authors are free of conflict of interest or biases. |  |
| 1. The content is well-written and not focused on an emotional agenda. |  |
| 1. Information is consistent with revealed truth available on the topic. |  |
| **Share your insights:** Include 3 reasons why you sore the document the way you did. | |
| **Rate** your feelings about using genetically modified foods (GMOs) for a food source. Record on a scale of 1–5 (one being totally against eating GMOs and five being a supporter of GMOs) and include any additional thoughts.  **My Rating:**  **My thoughts:** | |

1. **Research** online any topic of interest related to genetically-modified foods. Find two other credible sources that deepen your understanding of this topic that you would like to share with your group in the forum discussion. Include a statement of why or how your sources are credible.

* **Source 1 Link and credibility statement:**
* **Source 2 Link and credibility statement:**

1. **Research** the benefits and challenges of GMOs.
2. **Describe** the three greatest benefits and the three greatest challenges of genetically modified foods, using information from your sources. Note which source was used for each benefit and challenge.

|  |  |
| --- | --- |
| Benefits of GMOs | Challenges of GMOs |
| Benefit 1:  Benefit 2:  Benefit 3: | Challenge 1:  Challenge 2:  Challenge 3: |

1. **Summarize** what you learned from your GMO research.

|  |
| --- |
| **Your response here** |

1. **Copy** the completed Forum Preparation questions and answers above. **Paste** your work in the W02 Forum Preparation: GMOs in Canvas. Due midweek.

### W02 Forum Discussion: Are Genetically Modified foods (GMOs) a Problem or a Solution?

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students to discuss opinions in a respectful and productive manner.
* **Task:**
  + Review the forum slides.
  + Discuss what you have learned about GMOs and the key discussion questions in WhatsApp chat.
  + After your discussion, return to Canvas and submit the W02 Forum Reflection

**Forum Discussions Tips**

* Start your WhatsApp “Forum Discussion” by midweek. We recommend starting the forum discussion after submitting your forum preparation assignments. Do not wait until Saturday to start your discussion on WhatsApp.
* Review the [Week 02 slides](https://docs.google.com/presentation/d/1-Jv2qyEoOTjhmEDQOTvJMOBMhiiza9qG/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true).
* Focus your discussion on the key questions listed below. Those questions will be marked with a star in the slides.
* Make your discussions normal and natural. It is not recommended to write a long post answering all of the key questions in one post.
* Share real questions you have, other sources or articles, experiences you have had, and thoughts you have had about the forum topic. You are welcome to discuss any of the topics covered in the study this week in addition to GMOs.
* Make the discussion as interactive as possible.  You may want to share a video message so group members can see who you are (highly recommended).  You may want to share any pictures of your own gardens, plants or animals and what you have learned in your own personal experiences.

Key Forum Discussion Questions (from the slides)

* What was something new each member learned from their research on GMOs?
* What are some of the benefits and potential drawbacks of GMOs?
* How is biotechnology helping to improve the following specific plant problems or others? (Slide 10)
  + Tomatoes turn mushy as soon as they ripen
  + Strawberries hurt by early and late freezing
  + Corn ruined by European Corn Borer
  + Papayas in Hawaii and the Papaya Ringspot Virus
* What other topics from this week did you find interesting?
* Do you have any personal experiences with growing plants to share?

## W02 Study B: Animal Production

**At the end of this section, students will be able to:**

* **Animal Production: Past and Present**
  + Describe how the world’s animal product consumption has changed over time and as wealth increases.
  + Identify the tools that have been used to meet the increased demand for meat production up to this time.
  + Identify ethical concerns that need to be addressed with current and emerging technologies.
* **Animal Production: Meeting Future Needs**
  + Summarize the arguments in favor and against animal production.
  + Assess the sustainability of animal production practices.

**How Will We Increase Animal Production?**

More people around the world are adopting a Western lifestyle. The demand for luxury is increasing, and with it, the desire for more animal products. While meat is a very complete source of protein and is nutrient dense, it takes far more resources to produce animal products than plant products. Far more land, water, and other assets are needed. With the growing demand, how will we increase animal production?

The goal of this study section is to learn about tools that can be used in the future to increase availability of animal products such as meat, milk, and eggs to meet the demand of a growing human population. The effects of increased animal production on the environment and the obligation to ensure animal welfare will also be discussed.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [2.4 Advancements in Animal Production: Efficiency, Health, and Sustainability](https://books.byui.edu/sustaining_life/24_advancements_in_animal_production_efficiency_health_and_sustainability)
   * How has animal production and consumption changed over time?
2. Read [2.5 Methods for Producing Higher-Quality Animal-Derived Foods](https://books.byui.edu/sustaining_life/25_methods_for_producing_higherquality_animalderived_foods)
   * What methods have been used to produce higher-quality animal-derived foods and fiber products more efficiently?
3. Read [2.5.1 Factors Affecting the Health and Quality of Livestock](https://books.byui.edu/sustaining_life/251_factors_affecting_the_health_and_quality_of_livestock)
   * What factors affect the health and quality of livestock?
4. Read [2.5.2 Impact of Breeding Practices on Productivity](https://books.byui.edu/sustaining_life/252_impact_of_breeding_practices_on_productivity)
   * How have changes in **breeding practices** led to increased productivity in animals?
5. Read [2.5.3 Evolution of Production Systems](https://books.byui.edu/sustaining_life/253_evolution_of_production_systems)
   * How have changes in **production** **systems** led to increased productivity in animals?
6. Read [2.6 Scale of Animal Production](https://books.byui.edu/sustaining_life/26_scale_of_animal_production)
   * What type of producer raises the most food animals today (small-scale or large-scale)?
7. Read [2.6.1 Importance of Animal Health](https://books.byui.edu/sustaining_life/261_importance_of_animal_health)
   * Why is animal health important?
8. Read [2.6.2 Considerations for the Use of Artificial Hormones](https://books.byui.edu/sustaining_life/262_considerations_for_the_use_of_artificial_hormones)
   * What are some considerations for the use of artificial hormones in animal production?
9. Read [2.6.3 Trends in Consumer Preferences and Their Influence](https://books.byui.edu/sustaining_life/263_trends_in_consumer_preferences_and_their_influence)
   * What are the trends in consumer preferences for meat production and how does this influence producers?
10. Read [2.7 Goals of Sustainable Agriculture](https://books.byui.edu/sustaining_life/27_goals_of_sustainable_agriculture)
    * What are the goals of sustainable agriculture?
11. Read [2.7.1 Which Type of Livestock is the Most Feed Efficient?](https://books.byui.edu/sustaining_life/271_which_type_of_livestock_is_the_most_feed_efficient)
    * What is feed efficiency and what’s the best way to define it?
    * Which animals are the most feed efficient? The least feed efficient?
12. Read [2.7.2 How Can You Improve the Efficiency of an Animal?](https://books.byui.edu/sustaining_life/272_how_can_you_improve_the_efficiency_of_an_animal)
    * What are some strategies that can improve the efficiency of an animal?
13. Read [2.7.2.1 Feed Efficiency Ratio (FER)](https://books.byui.edu/sustaining_life/2721_feed_efficiency_ratio_fer)
    * What is the formula to calculate feed efficiency?
    * [Video demonstration](https://video.byui.edu/media/t/1_ocm0d8gk) of how to calculate feed efficiency. You just need to watch 5:40 to the end of the video.
14. Read [2.7.2.2 Calculating Feed Conversion Efficiency](https://books.byui.edu/sustaining_life/2722_calculating_feed_conversion_efficiency)
    * How does feed efficiency play into sustainability?
15. Read [2.7.2.3 Wait a minute! Is beef really that bad?](https://books.byui.edu/sustaining_life/2723_wait_a_minute_is_beef_really_that_bad)
    * What other factors should be considered (besides FER) when evaluating the efficiency of beef?
16. Optional Resources: Watch [Everything you Need to Know About Eating Insects](https://www.youtube.com/watch?v=95UGrXKDYL0) video (14:23).

## A white and purple sign AI-generated content may be incorrect.Gospel Connection: Balance and ConservationA blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the ["Ranch Balances Agriculture and Conservation"](https://youtu.be/Niks92Ab5N4) video (07:23 minutes) or read["Ranch Balances Agriculture and Conservation” transcript](https://docs.google.com/document/d/e/2PACX-1vSEYNpzAGzWjszowhe20vj1vt4dEWwfcIjcwHkCq-U4MOHvsg5IbI6cjUgv7RVJsKuvSXsWNxTZqgBT/pub)*.*

### W02 Optional Application Challenges: Animals

Consider exploring one new way to improve animal management where you live or consider using as your semester project.

* **Raise Your Own Meat:** If you were to raise an animal for meat production, which would you choose to raise and why? Research what that animal would need for protection, feed, and the costs involved.
* **Laws and Regulations:** Learn about any laws or regulations for types of animals or how many can be kept on the land you have available. Are there any groups that would be inspecting or regulating a meat operation and what requirements do they have?
* **Preserving Meat:** Try drying, smoking, freezing, or canning your own meat. What methods preserve the most nutrition? Which is most energy efficient?
* **Animal By-products—Eggs**: Research which breeds of chickens produce the most eggs year-round and what the lifespan of a chicken is. Consider what it would cost to raise, shelter, water and feed them; manage the waste from them; and protect them from disease, illness, or predators. Consider the best methods for harvesting the eggs for sale. How long do eggs stay fresh for? Are there ways eggs can be preserved for later use?
* **Animal By-products—Milk**: Research which breeds of cow, goats, or sheep produce the most milk or the highest quality of milk. Consider what it would cost to raise, shelter, water and feed, breed, manage the waste from, and protect the animals from disease, as well as some methods for keeping your animals safely in the pasture. Learn more about milking methods and how to keep the milk clean and safe from contamination both while milking and while storing. What about while transporting the milk to market? How long does milk stay fresh for? What are the many ways milk can be preserved for later use?
* **Making Milk Products**: Research and try making your own cheese, yogurt, sour cream or cream cheese, buttermilk, kiefer, or ice cream. What equipment or supplies are needed? What cultures do you need for the product you are making? What is your favorite variety? What is the nutritional value of the product you made?
* **Alternative Proteins—Plant-based Meat**: What plants can be used for producing protein and what is their nutritional value? Which foods make a “complete protein” group when put together (for example, rice and beans)? Make your own plant-based meat product (such as black bean burgers) or taste-test the different products available at your local market for plant-based meat. How sustainable or efficient are different types of plant-based meats compared to raising meat from animals?
* **Lab-grown Meat:** Research how lab-grown meat is made. What are the current challenges and how is science being used to help? How does lab grown meat compare in costs and sustainability to traditionally raised meat?
* **Technology**: How is technology assisting animal producers to make their operations more efficient or provide better care to their animals? Do the benefits of the technology outweigh the costs? If not, how could it be improved?
* **Pasture Rotation:** Research how and why pasture rotation is done. If you were to raise animals, how would you put a pasture rotation system into practice?

## W02 Quiz: Calculating Animal Efficiency

**Overview**

* **Purpose:** Changing the factors of feed efficiency can help us produce more meat in a more cost-effective way. This activity allows you to apply what we have learned this week about factors influencing animal production.
* **Task:** Calculate animal efficiency by completing the quiz in Canvas.
* **Due**: End of the week.

**Animal Efficiency Calculations**

Which type of livestock is the most feed efficient? How can you improve the efficiency of an animal? Animals can be evaluated on how efficiently they convert the feed they eat into food for people. Feed Efficiency Ratio (FER) is a ratio of output divided by input. Remember that for this calculation the **larger** the number of the ratio the **more efficient** the animal. Because it is a ratio, there is more than one way to get a high efficiency: either by increasing the output or decreasing the input.

In this activity, you will calculate the feed conversion efficiency of a dairy cow, beef steer, growing pig, broiler chicken, and laying hen by dividing output by feed intake using the following equation:

**Feed Efficiency Ratio = Output (Milk, Eggs, Meat) / Input (Feed or Grain)**

* [Video demonstration](https://video.byui.edu/media/t/1_ocm0d8gk) for calculating feed efficiency. You just need to watch 5:40 to the end of the video.

**Instructions**

1. **Return** to Canvas and complete the W02 Quiz: Calculating Animal Efficiency.
2. **Read** the feedback provided in the quiz.

## W02 Quiz: Calculating Animal Efficiency

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students how to discuss challenging issues in a respectful and productive manner.
* **Task:** Participate in the WhatsApp discussion and complete the W02 Forum Reflection in Canvas.
* **Due**: End of the week.

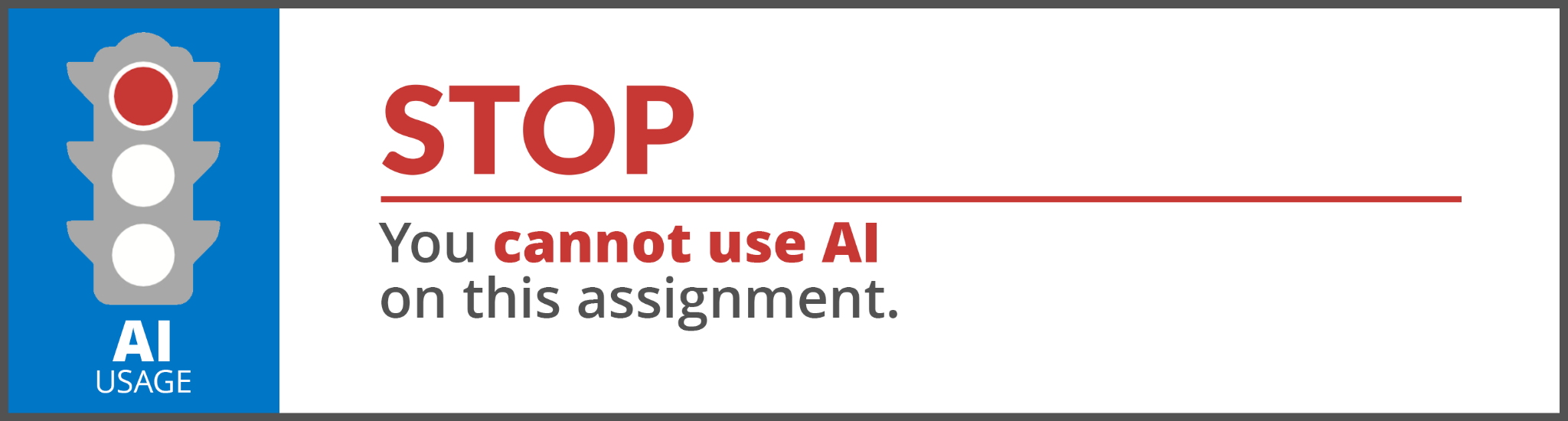
**Instructions**

1. **Reflect** on this week's WhatsApp forum discussion on **Genetically Modified Foods** by considering your participation and contributions to the discussion.
2. **Complete** the W02 Forum Reflection in Canvas/

## W02 Forum Reflection: GMOs Discussion

Reminder: After your WhatsApp discussion, return to Canvas and submit the W02 Forum Reflection Quiz.

## W02 Project: Part 1 - Problem, Solutions, and Research Questions



**Overview**

* **Purpose**: Apply skills from our course (analyzing important questions related to sustaining life, evaluate scientific sources and use both science and inspiration, and communicating respectfully) to work through a problem, solution and research questions related to a Sustaining Life Project.
* **Tasks**: Identify a large-scale global or community problem and a solution related to one of the topics of our sustaining life course that is of interest to you. Brainstorm solutions and project ideas of things you can do to help find solutions on a smaller scale to influence this larger issue. Select two research questions to guide you in creating an action plan. You will use these research questions to create an application project to be done before the end of the course.
* **Due:** End of week.

**Instructions**

1. **Using** the information and guidance learned earlier this week in the Sustaining Life Project Introduction, complete the questions in the chart below. Below are tips that will help you complete the chart and begin your project.

* **For your Project:** You will be doing a project this semester of your choosing to apply the things you are learning in our class about Sustaining Life. You will report on the progress of your project, including pictures and videos at the end of Week 6. This project is broken into 3 different parts.
* **For the Problem Section in Part 1:** We want you to explore the large-scale problem in your community that relates to your project idea.
  + For example, if you would like to grow a garden for your project this might be a small-scale solution to a much larger problem of world-hunger, food scarcity, food transportation systems, or lack of education related to self-reliance skills. For your issue or problem on this assignment, you would explore a larger world problem of your choosing and all of the factors that may be contributing to that issue.
  + For the section below on Current Solutions, you would research what has already been done to help solve this larger global problem.
* **For the 10-year or Large Scale Plan** Section - consider ideas for how you could help with the much larger problem or issue that you identified in the community, nation, or world. Be as specific as you can in your ideas.
  + Using our example above related to food - what ideas would you have for solving world hunger, food scarcity, the food transportation system or lack of education on self-reliance? What organizations, businesses or groups would you partner with to work toward solutions? What laws would need to be addressed? What experts would you need to engage the help of, etc? You will answer these questions related to the larger problem you identified.
* **Small-Scale Project Idea:** Brainstorm project ideas that you can do right now in your own life, home, family, church, work or community circles on a small-scale related to the larger problem you researched. Your small scale project idea is one that you will actually complete during the next few weeks of our class and report back on in Week 6 and needs to be a hands-on project applying what you are learning.
* **The research questions** you will write for this assignment need to be specific questions you would like to research to be successful in your small-scale project. These questions need to be specific enough that you can take action on them.
  + An example of a research question that is too broad is “How do I grow a garden?” You would need to make this question more specific to get full credit.
  + An example of a more ***specific research question*** is “What conditions and nutrients do tomato plants need to thrive in container gardens?”
* Please reach out to the instructor if you have any questions on your project!

|  |  |
| --- | --- |
| W02 Project: Part 1 – Problems, Solutions, and Research Questions | |
| 1. Identify the problem. |  |
| * What is the large-scale, global or community, problem you would like to address with your project? | Issue: |
| * What are the causes of this large-scale issue? | Causes: |
| * Where is this issue a concern? | Location: |
| 1. Course Topics | Topic: |
| 1. Current Solution | Currently being done: |

1. **Large-Scale: 10-year Plan.** If you could solve this global or large-scale issue in your community, country or the world, what solutions do you have for a 10-year plan? (Address at least 4 of the following questions)
2. What actions would you take to solve the large-scale issue over a 10-year period of time?

**Write your answer here.**

1. What professionals, organizations, or businesses would you need to recruit?

**Write your answer here.**

1. What training would you need?

**Write your answer here.**

1. Are there any cultural obstacles to overcome?

**Write your answer here.**

1. Would governments or officials need to be involved or what laws or policies would need to be followed?

**Write your answer here.**

1. What infrastructure would you need in place for your long-term plan?

**Write your answer here.**

1. **Brainstorm Smaller-scale 4-week Project Ideas.**

* What ideas do you have for a small-scale project you could complete in your home, church, work or community to help with this larger issue? Please be specific, as your project must be completed and presented within 4 weeks. You will submit a more concrete plan with actionable steps next week.
* You will be selecting one of your brainstormed ideas to actually complete during the remaining weeks of our course. Our course ends in five weeks. You will present and show pictures of the completion of your project in Week 6.

**Write your answer here.**

1. **My Research question.** 
   1. What further questions or information do you need to know in order to put your course project plan into action?
   2. Record **two** ***specific*** research questions related to your small-scale project idea. Ensure that your research questions are specific enough to take action on and will help you in making your project successful.

**Write your research question here.**

Research Questions - Put this in the form of a question. When scientists begin a project, they use a “research question” to guide their work. The question helps define the goal of what will be accomplished.

**1**

**2**

1. **Seeking Truth from the Best Sources.** Where do you plan to search for more information to answer your research questions?

Where I plan to research my questions:

1

2

3

1. **Copy and paste** the full assignment above for the W02 Assessment: Project Part 1 - Problem, Solutions, and Research Questions assignment in Canvas. (Do not be concerned if your chart does not copy perfectly in Canvas! The graders know what to look for in your assignment!)

Note: After you have submitted this assignment, begin working on Part 2 of your Project—researching your questions and creating a project you can act on. You will be reporting on your project in Week 04 & Week 06. Depending on what you have chosen for your project and how much time you need to complete it, you may want to begin your project as soon as you can.

## W02 Self-Assessment: Project

**Overview**

* **Purpose:** Progress check for the final project.
* **Tasks:** Complete a self-assessment in Canvas.

# Week 03: How We Make Educated Food Choices

In Week 03, we will be learning about how and why our diets have changed over the last 100 years. We will also be exploring food preservation techniques and methods to decrease bacteria and food hazards. This week we will also be learning about nutrition and making educated food choices. You will have the opportunity to do a three-day food journal to track the foods you currently are eating and compare it to the recommended servings of the different food groups. This week you will complete the research for your Sustaining Life Project and design an action plan to implement during our course and share it in your WhatsApp teams.

**Week 03 Due Dates**

**Due by midweek**

* W03 Study A: Food Preservation
* Complete the following items in your workbook and submit in Canvas:
  + W03 Activity A: Food Journal Activity—Part 1
  + W03 Quiz: Food Preservation
  + Work on Sustaining Life Project Part 2—Research and Action Plan

**Due by the end of the week**

* W03 Study B: Educated Food Choices
* Complete the following items in your workbook and submit in Canvas:
  + W03 Activity B: Food Journal Part 2 Return and Report
  + W03: Sustaining Life Project: Part 2—Research & Plan
  + W03 Career Exploration: Food Science and Agriculture
* Forum Discussion in WhatsApp Teams: Share project ideas
* Prepare for next week: You will be making a presentation to your group about a health care campaign of your choice. Begin now brainstorming ideas for a health care topic.

### W03 Study A: Food Preservation

**At the end of the week, students will be able to:**

* Describe the principles of food preservation.
* Define the role of preserving and processing food in feeding the world.
* List the effects of harmful pathogens with lack of proper food preservation.
* Identify emerging methods of food preservation in developing countries.

Providing for the needs of growing populations involves more than just growing crops. Goods must be transported from the sites where they are produced to the centers of population and to the remote locations where people may live. As populations have spread and farmland has become more removed from those it serves, how do we bring food to the table?

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [3.1 The Purpose of Food Preservation](https://books.byui.edu/sustaining_life/31_the_purpose_of_food_preservation)
   1. How long ago did the practice of food preservation start?
   2. Understand the basics of the seven food preservation methods mentioned in article: drying, freezing, fermenting, pickling, curing, Jam and Jelly, and canning
   3. What are the additional benefits of the food preservation process of **fermenting**?
   4. What is the key ingredient in the food preservation process of **curing**?
   5. What does the term ‘processed food’ mean?
2. Read [3.1.1 Food pathogens and Preservation](https://books.byui.edu/sustaining_life/312_food_pathogens_and_preservation)
   1. How do the following factors affect bacterial growth? Water, Oxygen, Temperature, pH, and Nutrients.
3. Read [3.2 Understanding Food Waste: A Global Perspective](https://books.byui.edu/sustaining_life/32_understanding_food_waste_a_global_perspective)
   1. Explain the differences of where food waste occurs in developed versus developing countries?
   2. What are the consequences of food waste?
   3. What barriers and opportunities exist as efforts are made to reduce food waste in developing countries?
4. Optional Resources
   1. **Read** the ["Combating Food Waste in Sub-Saharan Africa"](https://news.mongabay.com/2015/04/combating-food-waste-in-sub-saharan-africa/) article.
   2. **Watch** the ["Solar Dehydrator Construction: South Sudan"](https://youtu.be/byDRcpUldBE) video (07:38 minutes) or **read** the ["Solar Dryer/Dehydrator Construction" transcript](https://docs.google.com/document/d/e/2PACX-1vTNEdH7tO5dlSXGEUJq45hPjPs0lcIfW4bdp_UFD16424v9rvZaHFzrEM_-nAHETu2YlfzeRRv3XSL4/pub).

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Food Preservation and Storage A blue square with white text and numbers on it AI-generated content may be incorrect.

* “Food for the hungry can not come from empty shelves.” – President Marion G. Romney, "[The Celestial Nature of Self-Reliance](https://www.churchofjesuschrist.org/study/general-conference/1982/10/the-celestial-nature-of-self-reliance?lang=eng)," October 1982 general conference
* Food preservation is an important part of storing food for times of need. This week we have learned about many methods that can be used to store foods and preserve the harvest. Take time to review the counsel to build your own food storage at this link: [Gospel Topics: Food Storage](https://www.churchofjesuschrist.org/study/manual/gospel-topics/food-storage?lang=eng).
* Consider ways you could begin now to build your food storage. The videos below share the experiences of two families who were blessed by having food stored for a rainy day.
  + Watch ["Family Home Storage: Meet Jean"](https://www.churchofjesuschrist.org/media/video/2013-01-0001-family-home-storage-meet-jean?lang=eng) video (03:00 minutes) or read ["Family Home Storage: Meet Jean” transcript](https://docs.google.com/document/d/e/2PACX-1vSHzPQf_A3ZtLfzqmoJ-Ilh0cloACXeYVQisCYEo5gXBXQT7CI2F8ofAQOGpapO7echdUg-OWZZdTpN/pub)**.**
  + Watch ["The Blessing of Food Storage"](https://youtu.be/8A-Ef6YnHHs) video (03:17 minutes) or read ["The Blessing of Food Storage” transcript.](https://docs.google.com/document/d/e/2PACX-1vRi9EfJUJ-aPorf09_2O3wKsPgOhP38eWfUoJDE8N_17RxZol1BkLc3K6B_TJcVZHFzfCuN7TmuiNA5/pub)

### W03 Optional Application Challenges: Food Preservation

Consider exploring a new way to preserve food.

* **Freezer Meals:** Plan, purchase and prepare your own freezer meals. How long will these meals be good for?
* **Canning:** Learn about the different methods of canning. How do home-canning systems compare with commercial canning systems? Visit a local cannery to learn the process of how foods are canned. Experiment with canning your own fruits, vegetables, or meats. How long will canned foods last for?
* **Dehydrating:** Learn about different methods of dehydrating and storing dehydrated foods. What is the nutritional value of dehydrated food vs other methods? How can it be used in recipes later? How long do dehydrated foods last?
* **Freeze Drying:** What is the nutritional value of freeze dried foods? How long do they last for and how should they be stored? What is the cost of freeze drying food and how can they best be prepared for use?
* **Developing Countries and Preservation:** How could developing countries use food preservation to limit food spoilage when resources may be limited?
* **Food Storage**: Evaluate your current food storage supply and compare it with current church counsel to have a food storage. What do you need to add to have a three-month supply of foods you eat? What recipes can you make from the food you have? What foods should you store for your family for long term storage? Do you have the equipment you need to use the food (such as a wheat grinder)? Make a plan to grow and preserve the food needed or to work to purchase needed food.

### W03 Quiz: Food Preservation

**Overview**

* **Purpose:** Demonstrate mastery of this week’s material and to show preparedness for future course activities.
* **Task:** Complete the W03 Quiz.
* **Due:** This is due at the end of the week in Canvas.

**Instructions**

1. **Complete** the W03 Quiz: Food Preservation in Canvas.

This week you will be tracking the foods you eat for three days and reporting on it at the end of the week in the W03 Activity B: Food Journal Part 2. The information below, in W03 Activity A, and W03 Study B will give you additional insights on healthy eating and nutrition.

You will be tracking the foods you eat for three days this week. At the end of the week, you will return and report on what you ate. You are **not** graded on what you ate or if you met the recommended daily values for each food group. You are only **graded on tracking your food** and calculating the number of grams of fiber and added sugars. Simply eat as you normally do and write it down.

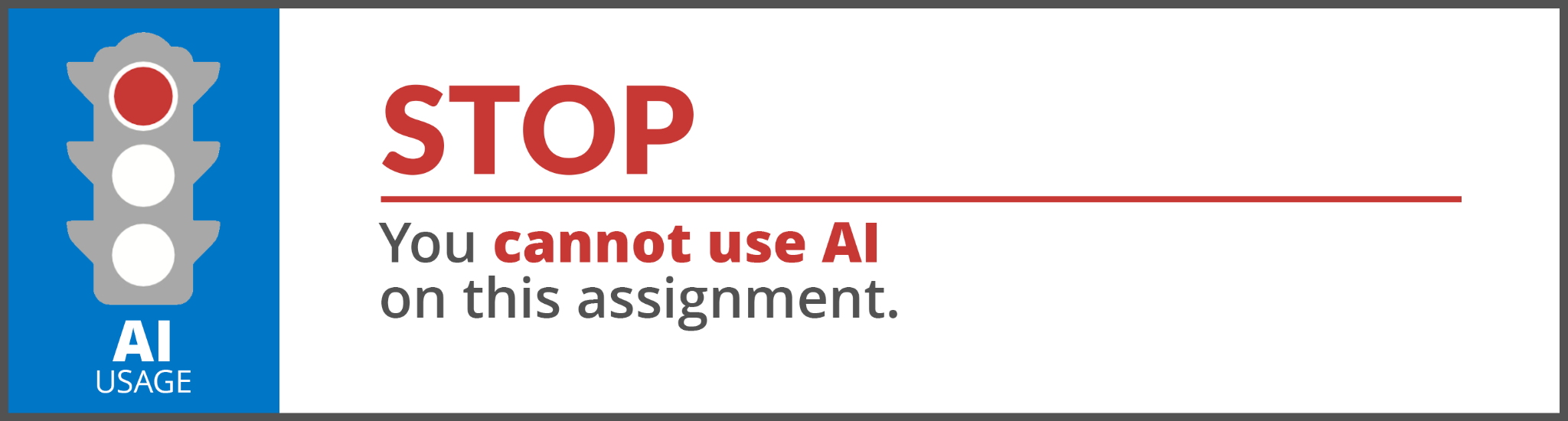
**Tools for Tracking**

You can track your eating directly in the W03 Activity B: Food Journal Part 2 Return and Report. Here is a link to a [W03 Food Journal Printout](https://docs.google.com/document/d/1AxY3upIloeCsGVXYSDkgX8guF3TIxyNO/copy) you can download and print it out. You also could opt to track your food intake on a piece of paper or track on your phone or a nutrition app.

**How should I track foods that do not have a label?**

Not all foods nor recipes will have food labels to easily see added sugars and fiber. Such food items could be fresh produce, fast food, or meals from a cafeteria. In such cases, you can either look up food charts online for fiber or sugar or use the free online tool [MyFitnessPal](https://www.myfitnesspal.com/food/search) to track these types of foods. For a quick tutorial on this tool, please watch the following video: [MyFitnessPal Tutorial](https://cdnapisec.kaltura.com/html5/html5lib/v2.85/mwEmbedFrame.php/p/1157612/uiconf_id/33020032/entry_id/1_lws7jtrw?wid=_1157612&iframeembed=true&playerId=kaltura_player_1607035789&entry_id=1_lws7jtrw).

### W03 Activity A: Food Journal Part 1 – Setting a Goal



This activity is meant to help you understand and analyze **your** typical food consumption in comparison to the food consumption recommendations.

**Overview**

* **Purpose:** This activity allows you the opportunity to record and reflect on your food consumption in a typical week and compare them to the most current dietary recommendations.
* **Task:** 
  + Review the Dietary Recommendations and links.
  + Decide how you will track your food for three days and create a nutritional goal. Open the W03 Activity A: Food Journal Part 1 quiz in Canvas. Answer the
* **Due:** This is due midweek in Canvas.

**Considerations**

* We will be focusing on eating a variety of nutrient dense foods: fruits, vegetables, whole grains, and proteins, as well as limiting added sugars. You will be graded on **tracking** the different food groups and calculating the grams of added sugar you ate.
* We will **not** be counting calories**,** and you will **not** be graded on if you are able to get all the recommended servings in. The grade will be based on **tracking** what you ate in the different food groups and calculating the grams of fiber and added sugar you ate.
* If you have dietary restrictions, please do not go against medical advice to complete this activity. Just eat as you normally would and record those meals and snacks accordingly.
* This assignment does not need to be done over three consecutive days. You simply need to record your normal eating over three days.
* For foods that do not have a label, consider using [MyFitnessPal](https://www.myfitnesspal.com/food/search) to obtain the grams of fiber and added sugars. You can also watch the [MyFitnessPal Tutorial](https://cdnapisec.kaltura.com/html5/html5lib/v2.85/mwEmbedFrame.php/p/1157612/uiconf_id/33020032/entry_id/1_lws7jtrw?wid=_1157612&iframeembed=true&playerId=kaltura_player_1607035789&entry_id=1_lws7jtrw).

**Instructions**

* **Learn** about the Guidelines for Nutritious Eating
  + [WHO Nutrition Guidelines](https://www.who.int/news-room/fact-sheets/detail/healthy-diet)
  + [The Dietary Guidelines](https://drive.google.com/file/d/1qNzWumCqOTpACrj3pbxvMlUugIh9dYGd/view?usp=sharing): Four Steps
  + The Word of Wisdom: [Doctrine and Covenants 89](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng)
  + [Small Changes Matter, Start Simple with MyPlate Today](https://www.dietaryguidelines.gov/sites/default/files/2021-03/DGA_2020-2025_StartSimple_withMyPlate_English_color.pdf)
  + [Start Simple with My Plate](https://myplate-prod.azureedge.us/sites/default/files/2022-01/SSwMP%20Mini-Poster_English_Final2022.pdf): Recommended Servings

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| **Recommendations** | **Serving Size** | **Additional Resources** |
| **Whole Grains**    6 servings of grain per day, three of which should be from whole grains | * 1 cup of oatmeal = 2 servings of whole grain * 1 sandwich on whole grain bread = 2 servings of whole grain * ½ cup of brown rice = 1 serving of whole grain * 1 cup of 50% whole grain pasta = 1 serving of whole grain * 3 cups of popcorn = 1 serving of whole grain | [Whole Grains: How Much?](https://wholegrainscouncil.org/sites/default/files/atoms/files/WG_HowMuch.pdf)    [Whole Grains 101](https://wholegrainscouncil.org/whole-grains-101) |

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| **Recommendations** | **Serving Size** | **Additional Resources** |
| **Fruit and Vegetables**   * 4–5 servings of fruit * 5 servings of vegetables per day     The WHO recommends the following tips to increase your fruit and vegetable intake:   * always including vegetables in meals * eat fresh fruit and raw vegetables as snacks * eat fresh fruit and vegetables that are in season * eating a variety of fruit and vegetables. | **Fruits**  1 serving is equal to the following:   * 1 medium fruit = the size of your fist * ½ cup fresh, frozen or canned fruit * ¼ dried fruit * ¼ cup fruit juice * **Vegetables** * 1 cup raw leafy vegetables * ½ cup fresh, frozen or canned non leafy vegetables * ½ cup vegetable juice | [Benefits of Eating Fruits and Vegetables](https://www.slofoodbank.org/benefits-eating-fruits-vegetables/) |

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| **Recommendations** | **Serving Size** | **Additional Resources** |
| **Fiber**  Fiber is found primarily in grains, fruits and vegetables including beans and legumes.  The American Heart Association recommends that women eat 21–25 grams of fiber per day and that men eat 30–38 grams of fiber per day. | [Fiber in Common Food Chart](https://www.dietaryguidelines.gov/resources/2020-2025-dietary-guidelines-online-materials/food-sources-select-nutrients/food-0)  (This link will be helpful to you in figuring out how many grams of Fiber are in different foods.) | Interactive Nutrition Fact: Fiber 2021  [Fiber: Diet and Nutrition](https://byui.instructure.com/courses/99246/files/91554306/download?download_frd=1%22%20%EF%B7%9FHYPERLINK%20%22https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/fiber/art-20043983?p=1) from the Mayo Clinic |

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| **Recommendations** | **Serving Size** | **Additional Resources** |
| **Protein**   * 2–3 servings of dairy(milk, cheese, yogurt) and * **4 to 6 1-oz servings of protein a day** (from meats, eggs, fish, nuts, and legumes).   In grams, women should 46 grams of protein per day (71 grams if you are pregnant or breastfeeding) and men should eat 56 grams of protein per day | **Serving size:** Protein portions the size of a whole deck of cards (or the palm of your hand) would equal 3 oz or 21 grams of protein.  **Examples of one dairy serving**   * 1 cup milk * 1 cup yogurt * 1 cheese stick * **Examples of 1 oz protein serving** * 1 egg * 1 small handful of nuts (2-3 Tbsp) * 1-inch meatball * ¼ cup cooked beans * ½ cup brown rice * 1 Tbsp peanut butter or almond butter * 1 small street Taco (2 Tbsp of meat) * 1 slice of deli meat (sliced ham or turkey) | [Protein and Heart Health](https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/protein-and-heart-health)  [Picking Healthy Proteins](https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/meat-poultry-and-fish-picking-healthy-proteins)  [Protein Content of Common Foods](https://www.hopkinsmedicine.org/-/media/bariatrics/nutrition_protein_content_common_foods.pdf) |

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| **Recommendations** | **Serving Size** | **Additional Resources** |
| **Added Sugar**  No more than 100 calories per day (24 grams) for women and 150 calories (36 grams) for men.  For this week's activity, we are **not** counting total carbohydrates, just **added** sugars. The easiest way to track this is to look at the labels of the food you are buying. | If you are cooking from home, remember that **1 teaspoon = 4 grams of sugar.**  You will need to calculate the number of added sugar in grams for all the foods you eat for each day.  Be sure to read the labels! | [Harvard: Added Sugar﻿](https://www.hsph.harvard.edu/nutritionsource/carbohydrates/added-sugar-in-the-diet/)  [Cut Down on Added Sugar](https://www.dietaryguidelines.gov/sites/default/files/2021-11/DGA_FactSheet_AddedSugars_2021-06_508c.pdf)  How many grams of added sugar does one 12 oz can of regular soda pop contain?  Total Grams of Added Sugar in a Soda: \_\_\_\_\_\_\_\_\_\_  How does this compare with the recommended limits? |

1. **Compare** Science and Modern Revelation. How do the recommendations above compare with what is written in the Word of Wisdom: Doctrine and Covenants section 88? Complete the chart below:

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| **Dietary Guidelines (principles)** | **Word of Wisdom (principles)**  **D&C 89**  **A blue square with white text and numbers on it  AI-generated content may be incorrect.** | **How do these two eating strategies compare?** |
| Eat a variety of vegetables | [D&C 89:10–12﻿](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng) |  |
| Include whole fruits | [D&C 89:10–12, 16﻿](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng) |  |
| At least half of grain as whole grains | [D&C 89:14, 16–17﻿](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng) |  |
| Include nuts, seeds and legumes in your variety of protein intake (moderate animal flesh) | [D&C 89:12﻿](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng)  [D&C 49:18–19](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/49?lang=eng) |  |
| Limit saturated fat and trans fats | [D&C 89:12﻿](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng) |  |
| Control added sugar and sodium intake | [D&C 59:20](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/59?lang=eng) |  |
| Balance calories to maintain a healthy weight | [D&C 59:20](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/59?lang=eng) |  |
| If alcohol is consumed, do so in moderation | [﻿ D&C 89:5–7](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/89?lang=eng) |  |
| How do these eating styles fit with the idea of feeding the world? | |  |

1. **Record** Your Nutritional Goal for the Week. Make sure your goal is related to food, nutrition, meal planning, and so on. It should be specific, measurable, and attainable. You will report back at the end of the week on how well you did at achieving your goal.

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| **Goal** | **Specific nutrition goal** | **When (everyday, or three times a day, at lunch, and so on)** | **How (Is there anything you need to prepare to be successful?)** |
| This week, I will |  |  |  |
| Why is this goal important to you? | | | |

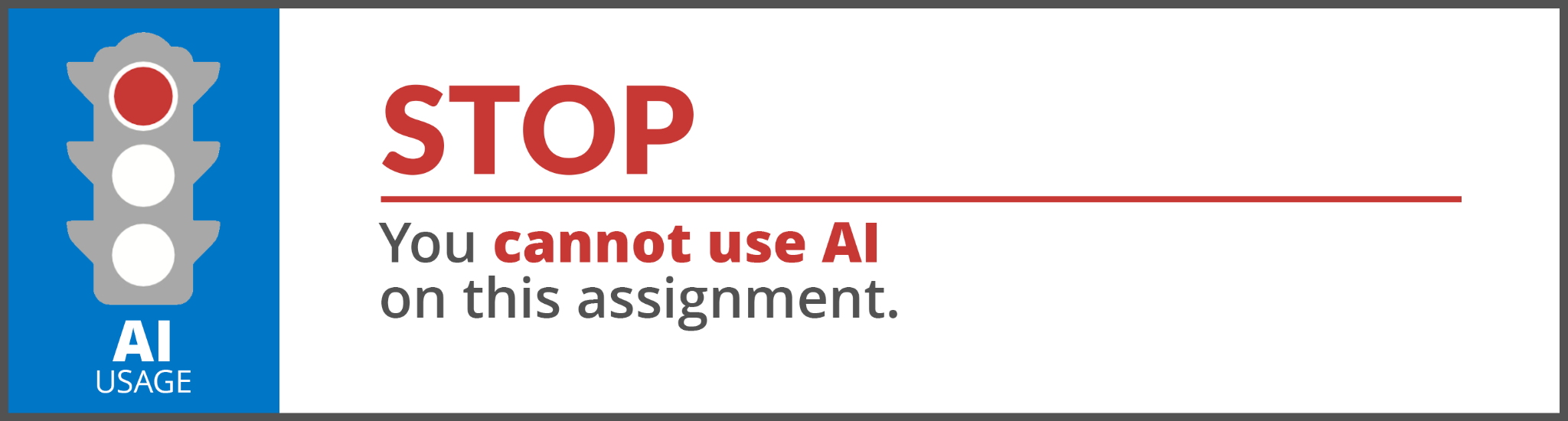
1. **Copy** your goal and paste it in the **W03 Food Journal Part A** quiz in Canvas. Then answer the rest of the questions in the quiz.
2. **Record** your nutritional goal in the Food Journal Part 2: Reflect on Goal.

### W03 Forum Preparation: Work on Sustaining Life Project Part 2

**Use the time you would have spent on the Forum Preparation this week to work on the following projects and be prepared to share your ideas in WhatsApp.**

1. **Sustaining Life Project: Part 2** (Due by the end of THIS week)
   1. After completing Part 2 of the Sustaining Life Project, you may want to begin Part 3 of this assignment where you create a slideshow to present your project.
2. **Health Promotion Campaign Presentation** (You will be presenting to your campaign with a video post and link to your slides in your WhatsApp teams next week. The Health Promotion Campaign Presentation is your mid-term so put some real thought and effort into your work.)
   1. This will be a short four-slide presentation about any health topic you feel passionate about. You will create a campaign to help others bring awareness to and take action in improving their health.
   2. Here is an example from a past student: [Disconnect to Reconnect—Student Health Promotion Campaign (Example)](https://docs.google.com/presentation/d/180KV9RA9o5kTFUxQVSmFjaJ9g6z-T6KF/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true)
   3. More details on this activity can be found in W04 Forum Preparation: Health Promotion Campaign later in this workbook.

### W03 Project: Part 2 – Report on Research and Submit Project Plan



**Overview**

* **Purpose**: Apply skills from our course (analyzing important questions related to sustaining life, evaluating scientific sources and using both science and inspiration and communicating respectfully) to work through a personal challenge and solution, research questions and create a Sustaining Life Project.
* **Tasks**: Research your Questions from the Sustaining Life Project Part 1, evaluate your sources used to find answers to your questions using the 3 *R*s Tool, and propose a detailed sustaining life project to complete in the remaining weeks of this course. You will report on the results of your project at the end of week 6 in Part 3 of the Sustaining Life Project.
* **Due:** This is due at the end of the week.

**Notes**

1. **Using** the Research Questions from Part 1 of this project, seek out answers to your questions from at least two scientific sources. If you adjusted or changed the focus of your project, please record two improved research questions.
2. **Summarize** your findings to your research questions and evaluate the scientific sources you found using the Three Rs Tool.
3. **Relate** your topic to insights from at least one source of revealed truth (scriptures, quotes from prophets, principles of the gospel, etc.)
4. **Create** a specific action plan for a Small-Scale Project you will complete in the next four weeks of this course related to the Sustaining Life issue you identified in Project: Part 1.
5. **Copy** and paste your project plan (charts below) to your instructor in Canvas.
6. Begin working on your Plan for your Sustaining Life Project, taking pictures of the process as you complete each step, and prepare to report back in Part 3 during Week 6.

**Instructions**

1. **Complete** the charts below based on your Sustaining Life Project.
2. **Copy and paste** the charts into the W03 Assessment: Project Part 2 - Report on Research and Submit Project Plan in Canvas.
3. **Share** with your WhatsApp Teams your idea for your project.

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| **W03 Assessment: Project Part 2 -** Report on Research and **Submit Project Plan** | |
| Brief description of chosen sustaining life issue from Project: Part 1 |  |
| Research Question 1 from Project: Part 1 | Question 1: **Write your question from your Project Part 1 here** |
| **1A. Summary of Research Results related to Question 1. Include 2-3 sentences for each result: (Summarize at least *three* key points from a reliable source that answer your research question)**  1.  2.  3.  Other important details found about this question or topic: | |
| 1B. Source of Information | Link |

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| **1C. Three *R*s Tool—Evaluation of Source**:   * **Reliable** * Author’s credentials * References given * Recent * Peer-reviewed or reliable website * **Reproducible** * Based on data and research * Conclusions supported by majority of studies on the subject * **Rational** * Presented in a balanced way * Motives or agenda * Well-written, not focused on emotional agenda * Consistent with revealed truth | **Summary** of how Reliable, Reproducible, and Rational this source is and why.  (Address each criterion for full points) |

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| Research Question 2 from Project: Part 1 | Question 2: **Write your question from your Project Part 1 here** |
| **2A. Summary of Research Results related to Question 2. Include 2-3 sentences for each result: (Summarize at least *three* key points from a reliable source that answer your research question)**  1.  2.  3.  Other important details found about this question or topic: | |
| 2B. Source of Information | Link |

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| **2C. Three *R*s Tool—Evaluation of Source**:   * **Reliable** * Author’s credentials * References given * Recent * Peer-reviewed or reliable website * **Reproducible** * Based on data and research * Conclusions supported by majority of studies on the subject * **Rational** * Presented in a balanced way * Motives or agenda * Well-written, not focused on emotional agenda * Consistent with revealed truth | **Summary** of how Reliable, Reproducible, and Rational this source is and why.  (Address each criterion for full points) |
| **3: Insights and Inspiration: Gospel Connection:** How does your project or what you learned in your research relate to revealed truth?  What scriptures, insights from the prophets, personal revelation or experiences did you find related to your chosen topic, questions or project plan? | |

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| **W03 Assessment: Project Part 2 -** Report on Research and **Submit Project Plan** | |
| **Summary of Project**  What small-scale project do you propose to do related to the problem you identified in Part 1?  Be sure to stretch yourself beyond just learning about a topic. This should be a hands-on project that applies what we are learning in our course about sustaining life, and blesses and educates others. |  |

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| **4A. Detailed Description of my**  **Project Plan**   * **Steps:** List at least 5 specific steps you will complete to start and finish your project in the next 4 weeks. For full credit you should have at least 5 detailed steps for your project. * **Timeline:** Give a goal due date to complete each step. (Example: Wednesday of Week 4, or October 20th).  **All Goal dates should be completed before the end of our course.** * **If** your project will take longer than 1 month to complete, please simplify your project to the steps you can complete before the end of the course. | Project Steps and Planned Timeline:  1.  Goal Date:  2.  Goal Date:  3.  Goal Date:  4.  Goal Date:  5.  Goal Date: |

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| **4B. Project Inspiration Pictures or Resources (Optional)**   * If applicable, share inspiration pictures, examples, resources, or a drawing or design of what you hope to accomplish in your project. * To add a picture in the table, put your cursor in the cell to the right, then select **Insert** from the document menu, then select **Picture.** |  |

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| **5. Motivation: Why is this issue and project meaningful or important?**   * How could your project help to Sustain Life now or in the future? What are the benefits? * What would be the impact if no actions for improvement were made? | Why is this project meaningful or important to you?      Benefits of completing this project:      Impact if No Action Taken: |

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| **6. Impact:**   * Who will be impacted by your project? * Who do you need to involve? | People Served by Project:      People I need to involve to complete My Project and why: |

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| **7. Supplies:**  What Supplies do you need to gather to complete this project? | Supplies: |
| **8. Costs:**   1. Are there any costs involved with your project? If yes, list the costs. 2. What resources do you have available to you? 3. Describe any possible changes you could make to your project to reduce the cost. 4. Does the benefit of the project justify the costs? Explain why or why not. | Cost:  1.    2.    3.    4. |
| **Other Details (optional)**  Are there any other important details you would like to share about your project? | Other Details: |

**Reminder Instructions**

1. **Complete** the charts above based on your Sustaining Life Project.
2. **Copy and paste** the charts into the W03 Assessment: Project Part 2 - Report on Research and Submit Project Plan in Canvas.
3. **Share** with your WhatsApp Teams your idea for your project.

**For your final project you will need to submit photographic evidence of the project in process. So take pictures during the next 3 weeks. Make sure you are in the photos.**

Here is a list of photographic evidence you may submit in week 06 for your final project.

1. Written Government permission.
2. Images of social media posts need to show multiple dates posting.
3. Workshops Exit Surveys.
4. Recipes and diet plans.
5. Screenshot or link to source you created.
6. Photo of something you physically created.

### W03 Forum DISCUSSION: Share Project Plan Ideas on WhatsApp

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students to discuss opinions in a respectful and productive manner. This week students will report on their plan for completing their Sustaining Life Project.
* **Task:** Share insights with your team your idea for what you would like to do for your Sustaining Life Project and any insights gained from any of the study topics this week.
* **Due:** Complete the discussion by the end of the week in WhatsApp Teams.

**Instructions**

1. **Create** a video post about your project idea. Below are two different ways you can make a video post:
   1. **Tap** on the microphone icon next to the text box in the chat. Select the camera icon to change it to a video recording. Press and hold the camera icon while recording your video. Push send after you are done recording. See [How to send a video message](https://faq.whatsapp.com/993629751672762/?cms_platform=android) for more help.
   2. **Record** a video using your camera on your phone and then go to the paper clip to attach it and navigate to your video file. You could also save the video to google photos and then create a sharable link to your video. Paste the link in WhatsApp
2. **Post** the video in WhatsApp.
3. **Share** any insights you gained from this week’s study with your WhatsApp team.
4. **Give** feedback and comment on each other’s Sustaining Life Projects to deepen the discussion.

### W03 Study B: Educated Food Choices

**At the end of this section, students will be able to:**

* **Describe** the economic and environmental impact of different eating styles.
* **Compare and contrast** the dietary guidelines and the Word of Wisdom.
* **Compare** the nutrient adequacy of various eating patterns.
* **Identify** the strengths and weaknesses of a plant-based eating style and a westernized eating style.
* **Describe** the factors that have led to increased obesity rates world-wide and how consumers, individuals, and communities can reduce obesity rates.
* **Identify** nutrient-dense foods and how to maximize the nutrient content of prepared foods.
* **List** the variable that affects the nutrient content of food during preparation.
* **Set** three defined, accurate goals on how you can reduce food waste in your life.

**How Do We Make Educated Food Choices?**

Highly refined foods make distribution easier and have a longer shelf life, but they have also led to dramatically altered eating habits around the world. Populations, once agrarian, are now relying on others to produce and deliver their meals. Tastes have changed as people have been presented foods with higher sugar, salt, and added fats. Health challenges have increased where such foods are available. With so many options, how do we make educated food choices?

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [3.3 Making Informed Food Choices for Health and Sustainability](https://books.byui.edu/sustaining_life/33_making_informed_food_choices_for_health_and_sustainability)
   1. What are food choices impacted by?
2. Read [3.3.1 Optimal Eating Styles](https://books.byui.edu/sustaining_life/331_optimal_eating_styles)
   1. What is malnutrition?
   2. What is undernutrition? Why is it a problem?
   3. What is overnutrition? Why is it a problem?
   4. What is the double-burden of malnutrition?
   5. What eating styles best represent a healthy eating pattern and what should this pattern include or limit?
3. Read [3.3.2 Food Efficiency](https://books.byui.edu/sustaining_life/332_food_efficiency)
   1. What are the primary objectives of nourishment?
   2. What does the term “nutrient dense” mean?
   3. What happens to the nutrient density of food choices as a nation’s income increases?
   4. What is “Percent Daily Value”?
   5. Why are whole grains better than refined grains?
   6. What health concerns can be connected to added sugars?
   7. Why should you store bananas, apples, and tomatoes by themselves?
4. Read [3.3.3 Challenges and Considerations](https://books.byui.edu/sustaining_life/333_challenges_and_considerations)
   1. What considerations need to be made when thinking about the proper balance between animal and plant-based materials in the diet?
5. Read [3.4 Variety](https://books.byui.edu/sustaining_life/34_variety)
   1. What does the nutrition principle of variety entail?
6. Read [3.4.1 Grain Group](https://books.byui.edu/sustaining_life/341_grain_group)
   1. What are the differences between whole and refined grains?
   2. What are the health benefits of consuming whole grains?
7. Read [3.4.2 Fruits and Vegetables Group](https://books.byui.edu/sustaining_life/342_fruits_and_vegetables_group)
   1. What are the health benefits of consuming fruits and vegetables?
   2. What does it mean to “eat the rainbow”?
8. Read [3.4.3 Dairy Group](https://books.byui.edu/sustaining_life/343_dairy_group)
   1. Why is nutrient density particularly important for dairy?
9. Read [3.4.4 Protein Group](https://books.byui.edu/sustaining_life/344_protein_group)
   1. What types of foods are high in protein?
10. Read [3.4.5 Fats and Oils (lipids) Group](https://books.byui.edu/sustaining_life/345_fats_and_oils_lipids_group)
    1. Why is it important to consume oil?
11. Read [3.5 Obesity](https://books.byui.edu/sustaining_life/ioktbyigsi)
    1. What factors have led to obesity becoming a worldwide problem?
    2. What can producers, families and individuals and communities do to help reduce obesity rates?
12. Optional Resources
    1. Read the article: [DASH Diet](https://www.eatright.org/health/health-conditions/cardiovascular-health-heart-disease-hypertension/dash-diet-reducing-hypertension-through-diet-and-lifestyle).
    2. Read the article: [Make it Mediterranean](https://www.eatright.org/food/planning-and-prep/cooking-tips-and-trends/make-it-mediterranean).
    3. Readthe article:[Globalization: Why Weight Has Become a Worldwide Problem](https://www.hsph.harvard.edu/obesity-prevention-source/obesity-causes/globalization-and-obesity/).
    4. Review the following slides used in the 14-week version of GESCI 110 about the Obesity Epidemic: [How have producers and consumers contributed to the Obesity Epidemic](https://docs.google.com/presentation/d/1oI95gTUPX4Rdlj2yiU2yktmkaXJOUWtS/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true)?

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: God’s Greatest Creation A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Read** D&C 89 on the Word of Wisdom. As you read, compare it to the dietary guidelines.
* **Watch** the ["God’s Greatest Creation"](https://youtu.be/dMZ-ETxj0hE)video (2:51 minutes) or read the ["God's Greatest Creation” transcript.](https://docs.google.com/document/d/e/2PACX-1vSzdKOMp5Sq0fuSUaMkMiHkzPZTLO7dvcCKBztVvdb5Z3kq7CFT1hj2OAOz8z2_FIuCreB3hpDkcb0z/pub)
* Read ["Nutrition and Diet."](https://providentliving.churchofjesuschrist.org/self-reliance/health/nutrition-and-diet?lang=eng#Nutrition)
* Read [Church Handbook of Instruction 22.1.2: Building Self-Reliance: Physical and Mental Health](https://www.churchofjesuschrist.org/study/manual/general-handbook/22-providing-for-temporal-needs?lang=eng#title_number10)

### W03 Optional Application Challenges: Educated Food Choices

Consider exploring a new way to make more educated food choices.

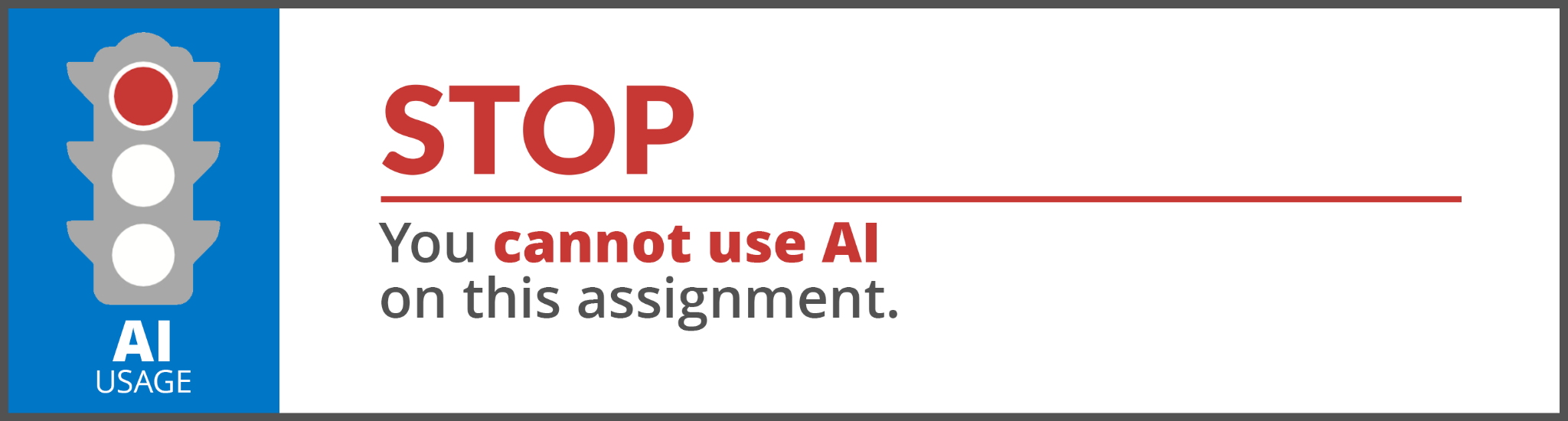
* **Meal Planning and Preparation.** Meal planning and meal prepping to reduce food costs and increase nutrition. Plan nutritious meals for yourself or your family using the food you have at home in your cupboards and freezers and by cooking from scratch. You may consider meal prepping to make lunches in advance or meals in bulk that are saved for later.
* **Eating the Mediterranean Diet and the Word of Wisdom.** Research what principles of nutrition are included in the Mediterranean Diet. How do these compare with the Word of Wisdom and the [Dietary Guidelines](https://drive.google.com/file/d/1qNzWumCqOTpACrj3pbxvMlUugIh9dYGd/view?usp=sharing) we learned about for the Food Journal? Evaluate the science that led to the conclusion that the mediterranean diet reduces chronic illness. Create a meal plan for yourself or your family using the guidelines of the Mediterranean Diet and Word of Wisdom.

### W03 Optional Application Challenges: Limiting Food Waste

Consider exploring a new way to limit food waste.

* **Fast offerings.** Consider ways you can help those you know who may need help. This may look like paying a more generous fast offering, taking a meal to someone who is shut in or in need of comfort, sharing food you have with others around you with more gratitude or thanksgiving, or making sure not to waste the food you have available to you.
* **Serve.** Research the Food Kitchens, Refugee Services, or other community efforts where you live. Consider ways you can donate, help or serve those who are hungry. If you have a church orchard, garden, ranch, cannery, or bishop storehouse near you consider making time to go and serve there. You may also find other opportunities by searching [www.JustServe.org](http://www.justserve.org/).
* **Limiting Food Waste.** What is done with the food that is wasted at the markets or restaurants near you, or even in your home? Is there a better way that food could be used?
* **Learn about recent events.** Learn about recent events where the Church is helping to provide aid to areas that are struggling by reading the [Church News](https://www.thechurchnews.com/) and notice which organizations and groups the church partners with to provide help throughout the world. Research one of these groups and consider if there are other ways you might help.
* **Learn about** [**Latter-day Saint Charities**](https://www.latterdaysaintcharities.org/)**.** Learn about the many efforts that are being made to serve those in need. Select one and get involved.
* **Limit Waste**. Identify where your community or family may be wasting food. Make a plan to preserve, reuse, or be more frugal in the use of your food resources.

### W03 Activity B: Food Journal – Part 2 - Reflect on Goal



**Overview**

* **Purpose:** Record your food consumption for three days this week and reflect on how well you did at reaching your nutrition goals.
* **Task:** Complete the chart and reflection questions below. Copy and paste all of the charts to the activity in Canvas.
* **Due:** This is due at the end of the week in Canvas.

**Notes**

This activity is meant to help you understand and analyze your typical food consumption in comparison to recommended food guidelines.

* You do **not** have to actually reach your recommended number of food group servings to get full points on this assignment. You simply need to record your normal eating over three days and fill out each box.
* You **do** need to calculate your daily grams of fiber and added sugar.

**Instructions**

1. **Record your food consumption for three days** this week and report on it at the end of the week. This activity is meant to help you understand and analyze your typical food consumption in comparison to the [food consumption guidelines](https://drive.google.com/file/d/1qNzWumCqOTpACrj3pbxvMlUugIh9dYGd/view?usp=sharing).
2. **Complete the Food Journal.** Use whatever method you chose to track your food for three days this week.
3. **Complete the chart below** recording the number of servings eaten for whole grains, fruits, vegetables and protein and the total grams of fiber and added sugar eaten.
4. **Restate the goal** below that you wrote in the W03 Activity A: Food Journal Part 1—Setting a Goal assignment.
5. **Complete** the reflection questions below the chart.

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal** |  | | |
| **Food Group** | **Day 1** | **Day 2** | **Day 3** |
| **Grain Servings**  (Goal: 6 servings, at least 3 from whole grain per day) | Total grain servings:  \_\_\_\_\_    Total whole grain servings:  \_\_\_\_\_ | Total grain servings:  \_\_\_\_\_    Total whole grain servings:  \_\_\_\_\_ | Total grain servings:  \_\_\_\_\_    Total whole grain servings:  \_\_\_\_\_ |
| **Fruit Servings**  (Goal: 4–5 servings per day) | Total fruit servings:  \_\_\_\_\_ | Total fruit servings:  \_\_\_\_\_ | Total fruit servings:  \_\_\_\_\_ |
| **Vegetable Servings**  (Goal: 5 servings per day) | Total vegetable servings:  \_\_\_\_\_ | Total vegetable servings:  \_\_\_\_\_ | Total vegetable servings:  \_\_\_\_\_ |
| **Protein Servings**  (Goal: 2–3 dairy servings;  4–6 1 oz servings of other proteins) | Total dairy servings:  \_\_\_\_\_    Total other protein servings:  \_\_\_\_\_ | Total dairy servings:  \_\_\_\_\_    Total other protein servings:  \_\_\_\_\_ | Total dairy servings:  \_\_\_\_\_    Total other protein servings:  \_\_\_\_\_ |
| **Fiber**  (Goal: Women: 21–25 grams;  Men: 30–38 grams) | Calculate Total Fiber in Grams:  \_\_\_\_\_ | Calculate Total Fiber in Grams:  \_\_\_\_\_ | Calculate Total Fiber in Grams:  \_\_\_\_\_ |
| \* Remember that Fiber is found in grain, fruits, and vegetables. Calculate using fiber charts online, nutritional labels, or food tracking app.  \*\* For added sugar: Use online charts or food labels or food apps to calculate. This is **not** the same thing as total carbohydrates eaten. | | | |
| **Added Sugar**  (Goal: Women: < 24 grams; Men: < 36 grams) | Calculate Total Added Sugar in Grams  \_\_\_\_\_ | Calculate Total Added Sugar in Grams  \_\_\_\_\_ | Calculate Total Added Sugar in Grams  \_\_\_\_\_ |

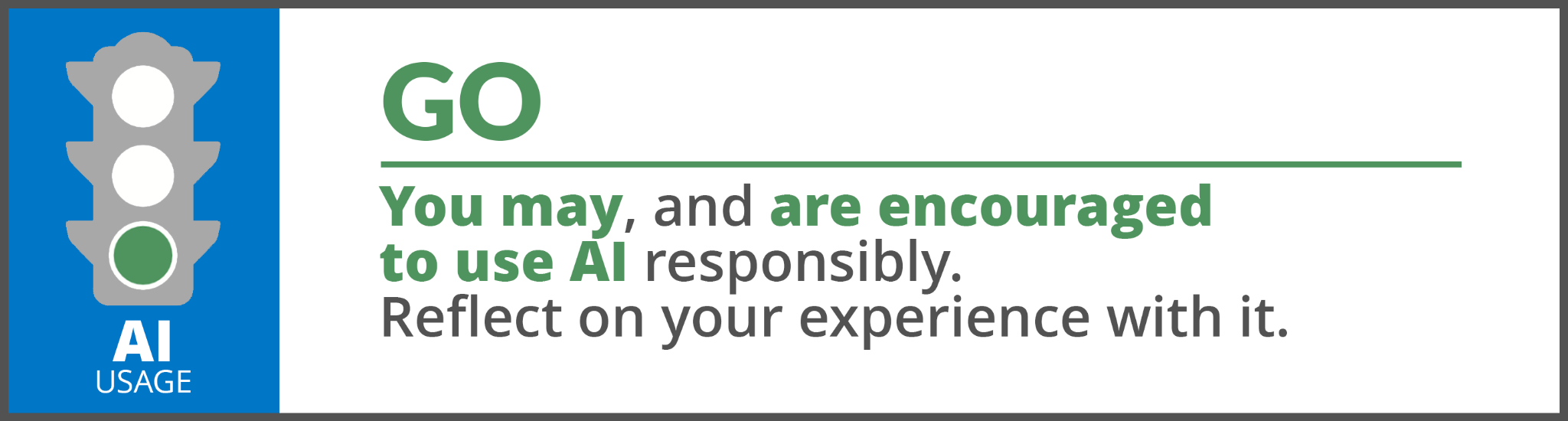
|  |  |
| --- | --- |
| **Reflection Questions** | **Your Answers** |
| 1. **Recommendations:** How did what you ate compare with the [dietary guidelines](https://drive.google.com/file/d/1qNzWumCqOTpACrj3pbxvMlUugIh9dYGd/view?usp=sharing)? Which categories were you over or under your recommended servings or limits? |  |
| 2. **Goals:** How well did you do at reaching the nutrition goal you set for yourself at the beginning of the week? |  |
| 3. **Way to Go and Ways to Grow:** What area were you most proud of? What area would you like to work on? |  |

1. **New Nutritional Goal.** Now that you have tracked and evaluated your food intake for three days, make at least one new personal nutritional goal for next week including details about the WHAT, WHEN, HOW, and WHY.

|  |  |  |
| --- | --- | --- |
| **Goal** | **Specific nutrition goal (WHAT)** | **Due Date (WHEN)** |
| I will … |  |  |
| Is there anything you need to prepare to be successful? (HOW) | | |
| Why is this goal important to you? (WHY) | | |

1. **Copy** all the charts above and paste them in the W03 Activity B: Food Journal Part 2 in Canvas. (Do not be concerned if the tables do not copy perfectly in Canvas. The graders know what to look for.)

### W03 Career Exploration: Agriculture and Nutrition Careers



**Overview**

* **Purpose:** GESCI 110 is an introductory course that allows students to consider and explore potential careers in industries that will help feed and take care of the world's growing population. Even though the careers listed below may not be part of your chosen career path or major, there is still value in understanding different careers that play a role in feeding and caring for each.
* **Task:** Research a career that pertains to the course topics of agriculture and nutrition. Some suggestions are listed below. Complete the chart and submit your work in Canvas.
* **Due:** This is due at the end of the week.

**Instructions**

1. **Review** **one** possible career associated with the material covered from the past few weeks that is of interest to you. You only need to review **one** of the career choices in the first column related to the career you choose to explore.
2. You only need to review **one** of the careers in the first column related to the career you choose to explore.
3. **Answer** the questions below.
4. **Copy** your responses below and submit it in the W03: Career Exploration Assignment in Canvas.

Possible Careers

**Soil:** Agronomist, Soil Scientist

**Plants:** Agriculture Engineer, Crop Consultant, Farmer, Vitacultralist

**Food Science:** Food Analyst, Food Scientist

**Nutrition:** Dietician, Sports Nutritionist

**Other:** Aqua Culturist, Biochemist

If you are interested in a career not listed, feel free to reach out to your instructor to ask for permission to report on that career.

1. **Title:** What career did you choose to explore?
2. **Career Description:** Share what you learned about the job responsibilities and duties, work environment, work hours, or other interesting features of the career, and so on.
3. **Educational Requirements:** What education requirements or other preparation are needed to work in this career (bachelor's degree, master's degree, PhD, certifications, and/or licenses).
4. **Training Program:** Provide a link to a program that would provide the needed training or preparation for this career.
5. **Salary Range:** What is the salary range for this career?
6. **Current Job Openings:** Find one current job opening for your selected career. Share the link to the job opening below.  (Use a job search engine like [indeed.com.)](https://www.indeed.com/?from=gnav-jobsearch--jasx) This job opening does not have to be near your geographic location
7. **Reflection**:
   1. Why is [job title] a good career path for you? (1-3 sentences)
   2. Share how you would use this career to improve your discipleship in Jesus Christ. (1-3 sentences)
8. **Submit**: 1-7.

# Week 04: How We Promote Healthy Living

In Week 04, we will be learning about protecting long-term health by living an active and balanced life. You will be doing a five-day Wellness Activity Journal activity evaluating your exercise, sleep, and quiet moments.  In the forum, you each will be presenting on a Health Promotion Campaign topic that is important to you. We will finish out the week learning about the challenges of aging and how to prepare for the increase in the aging population.

**Week 04 Due Dates**

**Due by midweek**

* W04 Study A: Long-term Health
* Complete the following items in your workbook and submit in Canvas:
  + W04 Activity A: Wellness Journal Activity—Part 1
  + Take the W04 Study A Quiz: Long-term Health
  + W04 Forum Preparation: Health Promotion Campaigns

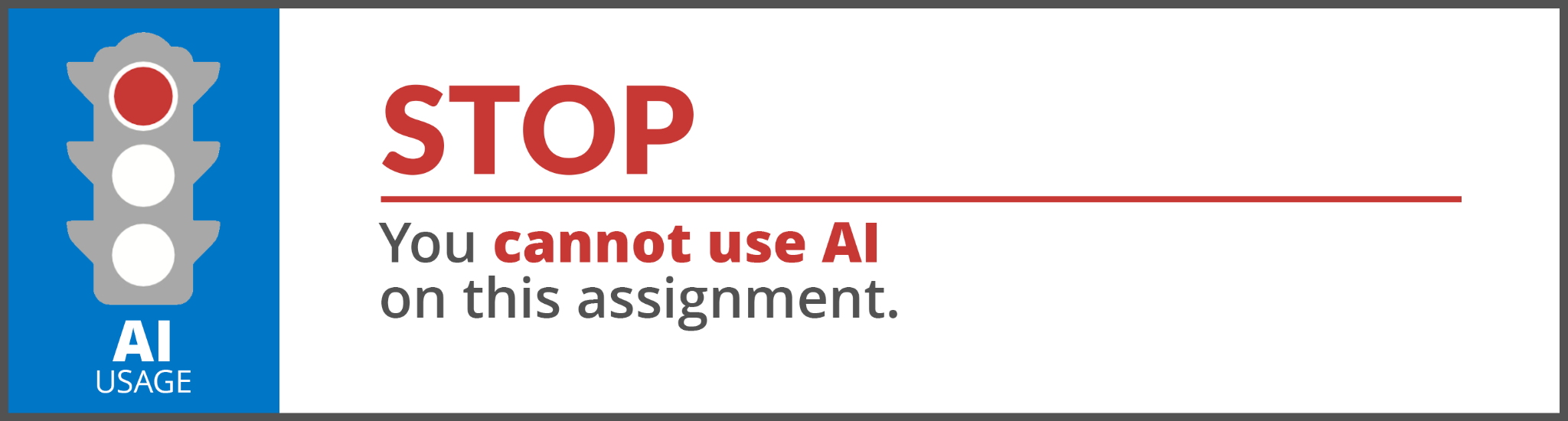
**Due by the end of the week**

* W04 Study B: Chronic Disease
* Present your Health Promotion Campaigns by a video post in WhatsApp
* Complete the following items in your workbook and submit in Canvas:
  + W04 Quiz B: Chronic Disease
  + W04 Forum Reflection
  + W04 Report back on Wellness Journal Activity.

## W04 Study: Wellness Recommendations

1. **Learn** about the Guidelines for Physical Activity for Adults. Explore the following resources and answer the question below.
   1. [WHO Physical Activity 2022 Infographic](https://cdn.who.int/media/images/default-source/health-topics/physical-activity/summary-infographic-guideline-on-physical-activity.jpg?sfvrsn=246f54b7_9).
   2. [WHO Every Move Counts](https://youtu.be/jY7YvglA92s)
   3. [WHO Physical Activity Fact Sheet](https://www.who.int/news-room/fact-sheets/detail/physical-activity) (2022)
   4. [Exercise and Fitness](https://providentliving.churchofjesuschrist.org/self-reliance/health/exercise-and-fitness?lang=eng)
      1. What are the benefits of physical activity?
      2. What are the recommendations for weekly physical activity in different categories for your age group?
      3. What do you feel inspired to do after reviewing the guidelines?
2. **Calculate** your Ideal Training Heart Rate Range.Basic Cardio Intensity Guidelines suggest that an individual’s training range should be 60–85% of their Max HR. Max HR = 220 - age.
   1. Maximum Heart Rate = 220 - Age in Years
      1. My maximum heart rate is \_\_\_\_\_\_\_
   2. Minimum Training Rate = Maximum Heart Rate x 0.6
   3. Maximum Training Rate = Maximum Heart Rate x 0.85
      1. My ideal training range is \_\_\_\_ to \_\_\_\_ beats per minute
3. **Learn** about balancing digital devices and screen time.
   1. [33+ Startling Screen Time Statistics: US vs. World](https://headphonesaddict.com/screen-time-statistics/#What%E2%80%99s-the-average-screen-time) (2023)
   2. [How to manage digital devices and get your family back](https://www.churchofjesuschrist.org/study/ensign/2020/02/how-to-manage-digital-devices-and-get-your-family-back?lang=eng) (2020)
   3. [Staying Mentally Healthy with Technology](https://www.heretohelp.bc.ca/wellness-module/wellness-module-10-staying-mentally-healthy-with-technology#top)
      1. What are the recommended time limits for screen time outside of work and school?
      2. What strategies related to your devices do you feel inspired to do after reading the articles?
4. **Learn** about Medication, Mindfulness, and Sleep. [The Power of Quiet Moments](https://www.churchofjesuschrist.org/study/ensign/2020/12/the-power-of-quiet-moments?lang=eng)
   1. Daily intentional quiet moments may look different for each person. It could include intentional breathing and relaxation exercises, meditation, pondering, mindfulness, prayer, or other ideas from the link above.  For this week's Wellness Tracking Activity, we are inviting you each day to take at least 15 minutes each day to focus on intentional quiet moments in whatever way you feel would be most meaningful to you. Oftentimes that would include setting your phone aside to have meaningful moments with the Lord.
   2. In what ways would you like to add daily intentional quiet moments into your week?
5. [Sleep and Rest](https://providentliving.churchofjesuschrist.org/self-reliance/health/sleep-and-rest?lang=eng)
   1. [Sleep Foundation: Sleep Habits](https://www.sleepfoundation.org/sleep-habits)
      1. How much sleep is recommended for your age group?
      2. What are the benefits of getting enough sleep?
      3. What are your favorite strategies shared to help improve sleep?

### W04 Activity A: Wellness Activity Journal Part 1 – Setting Wellness Goals



**Overview**

* **Purpose:** Physical wellness is important to prevent illness, protect mental health and enjoy life more fully. This activity allows you the opportunity to record and reflect on the physical activity, sleep and intentional quiet moments done in a typical week.
* **Task:** Introduce you to the Wellness Activity assignment for the week. Track your wellness activities for five days. Report back at the end of the week.
* **Due:** This is due midweek.

**Introduction**

1. **Start** this activity at the beginning of the week.
2. **Track** your physical activity, sleep and intentional quiet moments for five days. You will report back on your wellness activities at the end of the week on the [W04 Activity B: Wellness Activity Journal.](about:blank)
3. **Complete** the charts below.

**Considerations**

* For full credit, for each of the 5 days you should have recorded **effort** in at least one of the three exercise categories, recorded hours slept, and recorded the intentional quiet moments each day.
* We realize there are some that may have a number of different physical activity restrictions. Please do not go against medical advice to complete this activity. Just exercise or get moving as you normally would and record in your journal accordingly. If you feel this activity needs to be modified for personal circumstances, reach out to your instructor for modifications on this activity.

|  |  |  |
| --- | --- | --- |
| **Current Wellness Activities:** How much time do you currently spend in each category each week (estimate)? | | |
| **Activity** | **Recommended Weekly Time** | **Estimated Average Time Spent Per Week** |
| **Cardio Training (Aerobic)**  Anything that gets the heart beating faster: walks, bike rides, sports, dancing, mowing the lawn, and so on | 150 minutes of moderate  (5 days x 30 min)  **or**  75 minutes of vigorous  (for example, 3 days x 25 min jogging)  (gets your heart rate beating near the high end of your max training heart rate range) | **Cardio (Moderate):**        **Vigorous:** |
| **Resistance Training (Strength)**  Using resistance bands or weights, carrying or lifting or calisthenics to strengthen the body | Two or more times per week  30–60 minutes each time | **Resistance Training (Strength):** |
| **Flexibility (Stretching)**  Examples: yoga, Pilates, stretching | Two or more times a per week  15–30 minutes each time | **Flexibility:** |
| **Sleep** | Teen (13–18 years) = 8–10 hours per 24 hours  Adult (18–60 years) = seven or more hours per night | **Sleep:** |
| **Screen Time**    \*To check actual screen time on your phone, search for the Digital Wellbeing or Screen Time settings. | Under two years of age: No screen time  Age 3–5: Less than 1 hour per day  Age 6–adults: Recommended no more than two hours for non-school or non-work use, and should not take the place of sleep, physical activity, and other behaviors essential for health. | **Estimated hours watching TV per day:**    **Estimated social media time:**      **Actual social media time:** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Set Goals** | **Specific type of physical activity** | **Number of Minutes** | **Days of the Week** | **Time of Day** |
| **Cardio Exercise Goal:** |  |  |  |  |
| **Resistance Exercise Goal:** |  |  |  |  |
| **Flexibility Exercise Goal:** |  |  |  |  |
| **Sleep Goal:** |  | | | |
| **Intentional Quiet Moments Goal:** |  | | | |
| **How?** (Is there anything you need to prepare to be successful?) | | | | |
| **Why** are all of these goals important to you? | | | | |

1. **Copy** the charts above and **paste** them in the W04 Activity A: Wellness Activity Journal—Part 1 assignment in Canvas.

Now you are ready to track your sleep, quiet moments, and physical activities for five days. **Track** your efforts in the W04 Activity B: Wellness Activity Journal—Part 2 Reflection on Wellness Goal.

Record wellness goals at the top of Wellness Journal. You could also use your own tracking method and record your activity on your phone or a piece of paper and transfer it to the chart.

If you wish you could print or save a copy of the [GESCI 110 Wellness Activity Journal](https://docs.google.com/document/u/1/d/13g3Hp3VGiCdRhDJH6rtRIO1k2BQq5ydX/copy) to track your progress on paper through the week.

To get full credit on the Wellness Activity Journal for each of the five days, you should record your physical activity in at least one of the three categories (cardio, resistance, or flexibility), number of hours slept, and an activity you did for intentional quiet moments that last at least 15 minutes.

**Optional Resources**

**Flexibility**

* Watch the ["Full Body Flexibility Video"](https://youtu.be/9X-4dGjcIcQ) (09:41 minutes) and stretch along with the video (or read the ["Full Body Flexibility" transcript](https://docs.google.com/document/d/e/2PACX-1vRxdNCq0V-btnvmNmOFPakLx0lFQ9XhK7XDYkz1bxnDIHHO-Uj7b69XW_xmryLYknWie-GrOBIoVNVF/pub)).
* Remember some stretches take time to work [Full Body Flexibility | 25 of the Best Stretches](https://youtu.be/9X-4dGjcIcQ) or may need to be modified if you have had any injuries.
* Keep it fun! There are many ways to enjoy working out:
  + Play a game of basketball, soccer, or tennis with friends.
  + Turn on your favorite conference talk, devotional, uplifting podcast, music playlist or audiobook and go for a jog, walk or hike. You could incorporate quiet moments in your exercise, especially if you are spending time in nature.
  + Walk and talk with loved ones after dinner.
  + Go dancing, swimming, or hiking.
  + Go for a bike ride.
  + Join some of the free online live Zoom or video workouts at the [BYUI Wellness Center](https://www.byui.edu/wellness-center/physical-wellness).
* Some like to make their workouts productive by mowing the lawn, doing yard work or physical labor, intense house cleaning, vacuuming, or speed cleaning.
* There are many different free workout videos, channels and websites. If you have favorite workouts, please share them with your WhatsApp team.
* The important thing is to pick something you enjoy, commit to do it, engage your full body, push yourself to do something new and get your body moving!

## W04 Study A: Long-term Health

**At the end of this section, students will be able to:**

* **Identify** the global definition of health.
* **Identify** global and national health threats.
* **Describe** how to promote health and eliminate threats.
* **Identify** threats to long-term well-being.
* **Identify** at least three ways to increase personal health.

The goal of this topic is to understand the patterns of healthy behavior, learn how to set health goals, and examine the benefits of exercise to the individual and the society as a whole.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [4.1 Understanding the Foundations](https://books.byui.edu/sustaining_life/41_understanding_the_foundations)
   1. What 3 factors influence health?
2. Read [4.1.2 Benefits of Physical Activity](https://books.byui.edu/sustaining_life/412_benefits_of_physical_activity)
   1. What are the significant health benefits of physical activity?
3. Read [4.1.3 Finding Your Ideal Training Heart Rate Range](https://books.byui.edu/sustaining_life/413_finding_your_ideal_training_heart_rate_range)
   1. How do you calculate your training heart rates?
4. Read [4.1.4 Balancing Screen Time and Digital Devices](https://books.byui.edu/sustaining_life/414_balancing_screen_time_and_digital_devices)
   1. What are the negative impacts on physical health of too much screen time?
   2. How does too much screen time impact sleep and social life?
   3. What can you do to promote healthy use of screen time?
5. Read [4.1.5 Promoting Mindfulness and Sleep](https://books.byui.edu/sustaining_life/415_promoting_mindfulness_and_sleep)
   1. What are the cornerstones of a balanced wellness routine?
6. Read [4.1.5.1 Mindfulness Practices for Stress Reduction](https://books.byui.edu/sustaining_life/4151_mindfulness_practices_for_stress_reduction)
   1. What are some mindfulness practices you can use and what are the benefits?
7. Read [4.1.5.2 Prioritizing Quality Sleep for Vitality and Restoration](https://books.byui.edu/sustaining_life/4152_prioritizing_quality_sleep_for_vitality_and_restoration)
   1. How many hours of sleep do adults typically need?
   2. What are the benefits of quality sleep?
8. Also, please review the materials below as part of your learning for this section.
   1. **Watch** the ["Promoting Long Term Health"](https://video.byui.edu/media/t/1_0r9btsfd) video (09:28 minutes) or read the ["Promoting Long Term Health" transcript](https://docs.google.com/document/d/e/2PACX-1vSUp5nj1WoNlGPSQJOSsU1pcTJVZ0qb7U659avRzZXKj0wJH61ELyBAAqvDPSf4K6d0_Ob4SxhVlIP_/pub) and answer the questions below. As needed, you can review this slideshow: [Promoting Long Term Health.](https://docs.google.com/presentation/d/19Zw8TPJoWMkO3LgkUQ9D-v8y4zrB3t2V/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true)
      1. What is the definition of health according to the WHO?
      2. What is the number one cause of death in the US? Second? What about globally?
      3. What percent of Americans are eating enough fruits and vegetables?
      4. In 2016, how many deaths were attributed to alcohol?
   2. **Watch** the ["Exercise and Social Well-being and Long-term Health"](https://video.byui.edu/media/t/1_gb79410x) video (9:46 minutes) or read the ["Exercise and Social Well-being and Long-term Health"](https://docs.google.com/document/d/e/2PACX-1vRS2yFswRinw_OKQNLXn5ZVCedjCRGF-7ioE1X3C9bSTV_of5afZc9qJXXM5F6fvvyA9QGW4QRDPv0a/pub) and answer the questions below. As needed, you can review this slideshow: [Exercise and Social Well-being and Long-term Health](https://docs.google.com/presentation/d/1UrDl3Dib56dTJuAuxM24GAeiBMw7m5pJ/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true).
      1. What are the three factors that comprise physical health?
      2. How many minutes of moderate-intensity aerobic physical activity is suggested per week?
      3. What are some of the benefits of exercising for college students?
      4. What percentage of emerging adults stated that they were “disengaged, expressing virtually no purpose”?
      5. On average, how many hours a day do people spend on social media? On average, how many hours a day do people spend with their families?
      6. How many hours a day is the TV on in an average American household?
9. Optional Resources
   1. Read the ["To Do, To Have, To Share: The Value of Experiences Over Material Possessions Depends on the Involvement of Others"](https://eds.p.ebscohost.com/eds/detail/detail?vid=0&sid=d2e028f4-d493-451c-ac1c-c45c2aa02046%40redis&bdata=JkF1dGhUeXBlPWlwLHNzbyZzaXRlPWVkcy1saXZlJnNjb3BlPXNpdGU%3d#db=buh&AN=123613668) article (download from provided link).

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Physical Health A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the ["A Brand New Year: Physical Health"](https://www.churchofjesuschrist.org/media/video/2009-01-0010-a-brand-new-year-physical-health?lang=eng) video or read the ["A Brand New Year: Physical Health" transcript.](https://docs.google.com/document/d/e/2PACX-1vRW6u4vx4VMD_voI2viOKWnwlzJni7u1DiR3iNo4ks0B6sAgKOL20wh2a2OuxQkGM6zRe4g0FMiUSZt/pub)
* Read the["Keeping Physically Healthy"](https://www.churchofjesuschrist.org/study/manual/duties-and-blessings-of-the-priesthood-basic-manual-for-priesthood-holders-part-a/personal-and-family-responsibilities/lesson-24-keeping-physically-healthy?lang=eng) article.

### W04 Optional Application Challenges: Long-term Health

Consider learning more about one of the following and acting on it.

* **Increasing Personal Face-to-Face Time:** Research more about how screen time impacts mental health and relationships. How do we reduce screen time and increase our personal face-to-face experiences?
* **Using Resources to Improve Health.** What are the challenges you face in living a healthy life? How can we improve our physical fitness with the resources we have?
* **Nature Therapy:** Make a plan to enjoy the nature around you in all seasons in one small way every day. Take time to notice the wind, sun, weather, leaves in the trees, the snow or rain, the water, plants and wildlife around you. Keep a nature journal, or just express a silent prayer of gratitude for beauties of the earth. How does this type of therapy improve your wellbeing?
* **Put your Health Promotion Campaign into Action:** Post it to social media. Reach out to your target audience. Begin doing the program you created.

### W04 Quiz A: Long-term Health

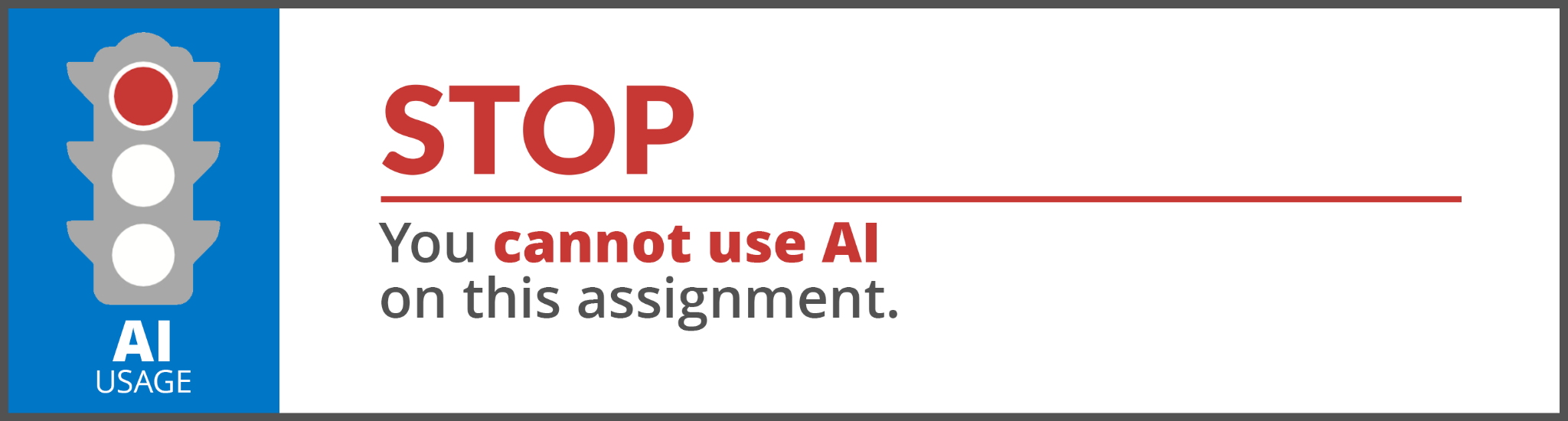
**Overview**

* **Purpose:** Demonstrate mastery of this week’s material and to show preparedness for course activities.
* **Task:** Complete the W04 Quiz A: Long-term Health, a short 5 question quiz on the topics studied above. Due Midweek

**Instructions**

1. **Complete** the W04 Quiz A: Long-term Health.

### W04 Forum Preparation: Health Promotions Campaign Part 1 – Research



**Overview**

* **Purpose:** Encouraging others to take action to promote health or to improve their health is important in Sustaining Life and protecting the lives of others. This preparation activity will allow you to prepare for your own campaign idea and explore how you would get the word out.
* **Task:** Prepare to create your own health care campaign related to any topic of your choice. Look at campaigns others have done related to your topic.
* **Due:** This is due midweek.

**Instructions**

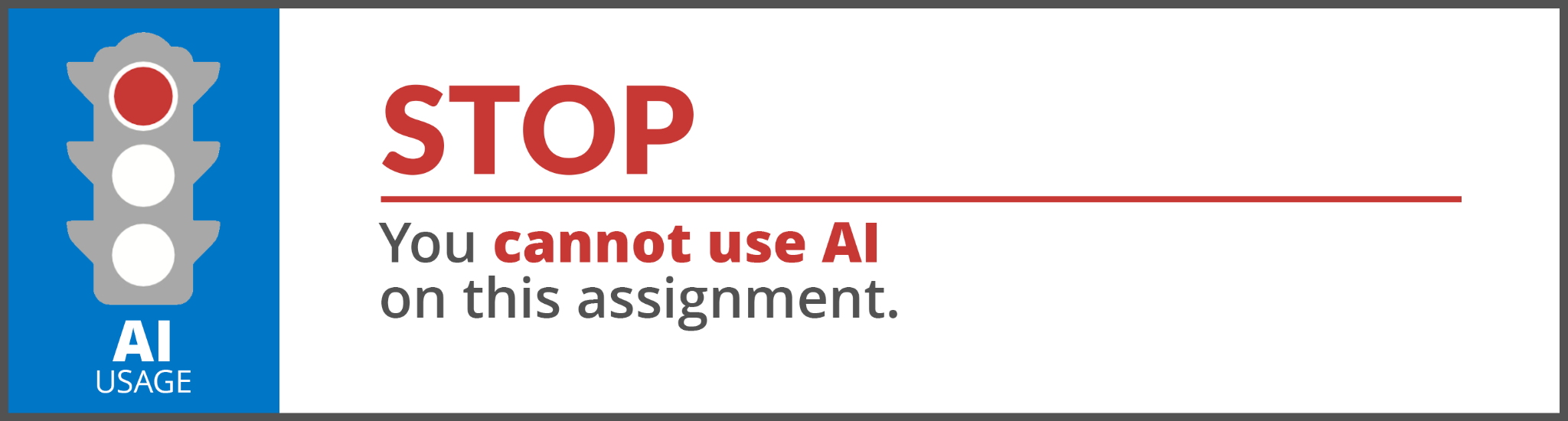
This week you will share the link to your slide presentation with your WhatsApp teams and tell your group about your health promotion campaign.

1. **Pick** a health promotion topic that is important to you and that you would want to create a campaign to promote. It can be **any** issue related to improving health that you feel passionate about and should be on a **different topic** than your Sustaining Life Project. For ideas, consider any of the topics below:
   1. Health issues that are prevalent in developing countries, such as: access to health care, HIV, STIs, unsafe water, high-threat pathogens like Ebola, various infectious diseases, hunger, smoking, and so on.
   2. Issues typically associated with developed countries: Lack of exercise, poor diet, obesity, mental health, diabetes, cardiovascular disease, cancer, vaccination resistance, lack of accessible health care, and so on.
   3. Something in your region you feel needs to be addressed.
2. **Research** your topic.Research to figure out how you are going to tackle this issue. You might look at what others have done and what the experts are recommending. It is typically recommended you target one specific behavior you would like to change. A successful campaign that changes behavior is difficult to achieve, so see if you can find out what strategies work the best! In a health care campaign you are inviting others to take action. Here are a couple of websites you can review to get you started in your research.
   1. [CDC and Campaigns](https://www.cdc.gov/health-communication/php/communication-resources/featured-campaigns.html) (Here are a few examples of campaigns. Explore a few to see who they are targeting, their campaigning strategy, and so on.)
   2. [Fast Facts: Health and Economic Costs of Chronic Conditions | Chronic Disease | CDC](https://www.cdc.gov/chronic-disease/data-research/facts-stats/index.html#cdc_facts_stats_high-diseases) (Explore the links on this page to learn more about your specific topic.)
   3. [VicHealth Health Promotion](https://www.vichealth.vic.gov.au/about/health-promotion) (These are examples from Australia of health promotion. Take time to watch the video.)
   4. [Creating a Winning Marketing Campaign](https://www.i7marketing.com/blog/internetmarketing/6-steps-develop-winning-marketing-campaign) (Notice strategies for making your campaign fun and effective, and keep in mind who your target audience is. How will you best reach and influence your target audience?)
3. **Answer** the questions below.

|  |  |
| --- | --- |
| **Questions to Answer:** | **Your Response:** |
| 1. After reviewing the websites above, what are the **general** purposes of health promotion campaigns? | The general purposes of health promotion campaigns are to **increase awareness, change behaviors, and empower communities** to take actions that improve health outcomes. Campaigns aim to prevent disease, reduce health risks, promote healthier lifestyles, and address both immediate and long-term health challenges. They also seek to **influence policy, reduce stigma**, and create environments where healthy choices are the easiest choices. |
| 2. What health promotion topic did you choose and why do you think it is important to address? | Your Topic: Reducing Sugary Drink Consumption  Why is this important to you: Sugary drinks are one of the leading contributors to obesity, type 2 diabetes, and cardiovascular disease. |
| 3. Target Audience and Plan   1. What actions are you inviting others to take? 2. Who is your target audience? 3. How will you reach them? 4. What challenges will you face in implementing this campaign? | Implementation of Campaign: Replace at least one sugary drink per day with water  1. Youth and young adults  2. Short TikTok and Instagram Reels showing easy swaps (“#SwapTheSoda Challenge”).  3.  Partnering with schools, gyms, and local stores to display posters or offer discounts on healthier drinks.  4. Cultural attachment to sweetened drinks. |
| 4. Two sources you used to research your campaign: | Sources:  1. CDC – [Fast Facts: Sugary Drinks and Health](https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html)  2. VicHealth – Sugar Reduction Campaigns |
| 5. Potential Career  What are possible careers of interest to you related to your campaign? | Careers:  1. Public Health Educator  2. Nutrition Policy Analyst |

1. **Copy and paste** the table above, in the W04 Forum Preparation: Health Promotion Campaign Part 1 - Research, in Canvas.

### W04 Presentation: Health Promotions Campaign Part 2



**Overview**

* **Purpose:** Learn how to create a presentation to encourage others around you to take action to improve their health. Campaign presentations will be shared in the forum discussion.
* **Task:** Create a slide presentation of your campaign idea and your research on this health topic. Share the link to your slides and a video post in the WhatsApp Teams to tell about your campaign idea, what you would want to encourage others to do, how you would reach your target group, and why you feel strongly about this topic.
* **Due:** This is due midweek.

**Instructions**

1. **Create** a five-slide presentation using Google Slides, [Canva](https://www.canva.com/), or Microsoft PowerPoint. You will share your slides with your WhatsApp Team and create a video post to talk about your campaign. The five slides should be as follows:
   1. **Slide 1: Cover Slide**—Include your name, where you are from, and the title for your health promotion campaign. Select a fun and catchy name to help promote your topic.
   2. **Slide 2: What & Why:** This slide should communicate **what** the health problem is, **why** your problem is concerning, and why you are raising awareness about it.
      1. What is the Health Problem: Your response
      2. Why is this problem a concern: Your response
   3. **Slide 3: Who & How** —This slide should communicate **who** is affected by the problem, who your target audience is, and strategies for **how** you will reach them or get the word out about your campaign.
      1. Who is affected by the problem: Do not say ‘everyone’ as your project has a narrow focus most likely for your immediate community.
      2. Who is your target audience: For example, is your target audience your neighbors or your government?
      3. How will you reach your target audience: Your response.
   4. **Slide 4: Taking Action**—This slide should communicate what actions you hope your target audience will take to improve their health and what actions you will take to support those who are seeking to change.
   5. **Slide 5: References**: References to the sources you used in creating your campaign.
2. **Download/save presentation slides as a PDF file** and submit it to W04 Assessment: Health Promotion Campaign Part 2 - Presentation in Canvas.
   1. To get your file into PDF format, do the following:
      1. Google Slides - Go to “File” then “Download” then “PDF”.
      2. Canva - Go to “Share” then “Download” then “PDF”.
      3. PowerPoint - Go to “File” then “Save As” then under “File Format” select “PDF”.

### W04 Forum Discussion: Health Promotions Campaign Part 2 – Presentation on WhatsApp

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students to discuss opinions in a respectful and productive manner. This week students will report on their health care campaigns.
* **Task:** Prepare five slides on a health promotion topic of your choice. Share your slides with your WhatsApp Team and make a video post to tell about your project. After your discussion, return to Canvas and submit the W04 Forum Reflection.
* **Due:** This is due at the end of the week in WhatsApp Teams.

**Instructions**

1. **Share** your Health Promotion Slides with your WhatsApp Team
2. **Create** a video post following the instructions below.
   1. Make a video post in WhatsApp to talk about your campaign.  Share why this topic was important to you and why you chose it and what your plan would be to promote health in that area. Do not worry if your video or your English is not perfect!  We just want to see you!
   2. You can make a video post in two different ways (choose 1):
   3. Tap on the microphone icon next to the text box in the chat. Select the camera icon to change it to a video recording. Press and hold the camera icon while recording your video. Push send after you are done recording. See [how to send a video message](https://faq.whatsapp.com/993629751672762/?cms_platform=android) for more help.
   4. Record a video using your camera on your phone and then go to the paper clip to attach it and navigate to your video file.
3. **Review** your Team members’ health care campaigns and video posts.
4. **Comment** on each other’s projects and celebrate the progress of each member of your team.
5. **Complete** theW04 Forum Reflection: Health Promotions Campaign in Canvasreporting what you learned from others and what you shared in the discussion.

## W04 Study B: Non-communicable Diseases – heart disease, cancer, and diabetes

**At the end of this section, students will be able to:**

* **Describe** the global trends of three key non-communicable diseases: cancer, cardiovascular disease, and Type 2 diabetes.
* **Differentiate** the challenges faced by developed and developing countries.
* **Explore** the factors that account for the trends that are being observed worldwide.
* **Identify** the factors that are associated with the increasing prevalence of cancer, cardiovascular disease and Type 2 diabetes.
* **Describe** how personal choice can impact the likelihood of contracting one of these diseases.

Diabetes, cancer, and cardiovascular disease are among the most prevalent of chronic diseases. They have a substantial impact on not only the length of life, but also the quality of life. The prevalence of these diseases vary around the world. Learning to manage these diseases will be an important piece in caring for a growing population over the next 50 years.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [4.2 Promoting Long-term Health](https://books.byui.edu/sustaining_life/42_promoting_longterm_health)
   1. Why are noncommunicable diseases of particular concern in low- and middle-income countries?
   2. How much aerobic activity is recommended per day for healthy adults?
   3. What is Nature Deficit Disorder?
   4. What is the leading cause of death globally?
2. Read [4.3 Managing Chronic Diseases in a Growing Population](https://books.byui.edu/sustaining_life/43_managing_chronic_diseases_in_a_growing_population)
   1. What is a Noncommunicable Disease (NCD)? What is the trend for their prevalence?
   2. Why are NCDs an increasing concern in developing countries?
   3. What is Diabetes?
   4. What is Cancer?
      1. What is Cardiovascular Disease?
3. What factors contribute to higher cancer rates?
4. Optional Resources
   1. See how your lifestyle choices are predicted to impact your longevity: [How Long Will I Live?](https://www.blueprintincome.com/tools/life-expectancy-calculator-how-long-will-i-live/)
   2. Read the ["WHO Non-Communicable Disease Fact Sheet"](https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases) article
   3. Watch the ["What is Diabetes?"](https://www.diabetes.org.uk/diabetes-the-basics) video (2:23 minutes) or read the ["What is Diabetes?” transcript](https://docs.google.com/document/d/e/2PACX-1vQbacbNKQ3iq-g5gMuRZG2bh0uUzPCCV3VYG9qRWIYQOcz0hvIr2oXFRLUJV6j-sh3thwwE8vjPQ5Jc/pub).
   4. Watch the ["What is Cancer?”](https://www.youtube.com/watch?v=UopUxkeC4Ls) video (6:55 minutes) or read the [“What is Cancer” transcript](https://docs.google.com/document/d/e/2PACX-1vQsEM5R2yfeWHMWUygG6c5RRGpTrHaytMKTNf1-CqcWgVWWq59P06n2cJFM93XMgdJSK-kYhSJ0prTv/pub).
   5. Read the ["Atherosclerosis Overview"](https://www.webmd.com/heart-disease/what-is-atherosclerosis) article.
   6. Use the [Heart Disease Risk Calculator to check your own risk for heart disease.](https://www.mayoclinichealthsystem.org/locations/menomonie/services-and-treatments/cardiology/heart-disease-risk-calculator)
5. *DNA Screening for Chronic Illness.* Through modern DNA testing, many people can learn of their risk for specific chronic illnesses. Early detection of a person’s risk for these diseases is a viable option for prevention. Our current technology allows us to screen a person’s DNA for possible patterns that put them at increased risk for certain health conditions. There are two types of testing that can be done: SNP-based testing and Whole Genome testing.
   1. If you would like to learn more about some of the projects that are being done related to genetics, check out [Genomics England](https://www.genomicsengland.co.uk/).
   2. Several companies offer DNA testing and vary in costs and services provided and may or may not be available in every country. Below are examples of three companies that offer DNA testing for chronic illnesses that you can explore to learn about services that can be provided.
      1. [23andMe (SNP-based test)](https://www.23andme.com/)
      2. [DNA Sequencing](https://dna.sequencing.com/) (Whole Genome)
      3. [Veritas Genetics (Whole Genome Sequencing)](https://www.veritasgenetics.com/myGenome)
6. There are some controversies about genetic testing. If you would like to explore more of the possible benefits and challenges with DNA testing, review this presentation used in the full 14-week version of this course: [Is Genetic Testing a Blessing or a Curse?](https://docs.google.com/presentation/d/1gjTQRD9NvLB7ABWPKFVBBv2OPmS6Diyd/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true)

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: In Sickness and Health A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the [“In Sickness and Health](https://www.churchofjesuschrist.org/media/video/2009-11-0040-in-sickness-and-health?lang=eng)” video (04:26 minutes) or read the ["In Sickness and Health" transcript](https://docs.google.com/document/d/e/2PACX-1vS_qQQULEc2O1D3W3C3tC9SPKWQtVu_HYV1DqEIDnrOVW2JD9xiLFez6VkAuQmfYBk_Ma3LkG-zfo2M/pub).

### W04 Optional Application Challenges: Chronic Illness

Consider learning more about one of the following and acting on it.

* **DNA Testing:** Research how DNA can be tested to show chronic illness risk. Test your own DNA and have it evaluated for chronic illness.
* **Crispr and Chronic Illness:** Research how Crispr technology is being used to help those with chronic illness. What are the limitations? What diseases have had positive results?
* **Chronic Illness in Your Country:** What are the chronic disease challenges faced by your country? What is one challenge that you could focus on and what could be done to help reduce the impact of this disease?
* **Health Care Access:** Learn what the biggest challenges are in receiving treatment for chronic disease in your country. What could be done to help those who need health care or screenings?
* **Health Care Costs Reduction**: Research ways costs of health care could be reduced in your country.
* **Risk Factors Reduction:** What personal choices impact the likelihood of having a chronic disease. Pick one that you could change in your own life and make a plan to work on it.

### W04 Quiz B: Chronic Illness

**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W04 Quiz B: Chronic Disease, a short 5 question quiz in Canvas.

### W04 Activity B: Wellness Activity Part 2 – Reflection on Wellness Goals

**Overview**

* **Purpose:** This activity allows you the opportunity to record and reflect on the physical and wellness activities you did this week.
* **Task:** Report back on your Wellness Activity for the past five days. Copy and submit in Canvas.
* **Due:** This is due at the end of the week in Canvas.

**Notes**

* For full credit on each of the five days, you should record your physical activity in at least one of the three categories (cardio, resistance, or flexibility), number of hours slept, and intentional quiet moments.
* You do **not** need to meet the recommendations to get full credit. You are given credit for **tracking** the activities completed.
* You also do **not** need to do something in every physical activity category every day. One day you might have done cardio and the next day strength training.

**Introduction**

This is Part 2 of the Wellness Activity we started at the beginning of the week.

1. **Complete** in the chart below for each category.
2. **Reflect** on your progress to reach your goals.
3. **Copy** the charts below **and paste** them into the assignment in Canvas.

My Goals: This week, I planned to do the following:

 150 minutes of cardio.

 2 strength training sessions (30–60 min).

 Flexibility twice (15–30 min).

 7–8 hours of sleep per night.

 15 minutes of intentional quiet moments daily.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Activity** | **Day 1** | **Day 2** | **Day 3** | **Day 4** | **Day 5** |
| **Cardio**  150 minutes of moderate  **or**  75 minutes of vigorous intensity | Activity: 30-min brisk walk Total minutes: 30 | Activity: 25-min jog Total minutes: 25 | Activity: 40-min bike ride Total minutes: 40 | Activity: Rest day Total minutes: 0 | Activity: 45-min basketball Total minutes: 45 |
| **Resistance and Strength Training**  2 times a week 30–60 minutes | Activity: Upper body (push/pull) Total minutes: 40\_ \_\_ | Activity: Rest      Total minutes:  \_ \_\_ | Activity: Leg day (squats/lunges) Total minutes: 50\_ \_\_ | Activity: Rest      Total minutes:  \_ \_\_ | Activity:      Total minutes:  \_ \_\_ |
| **Flexibility**  *2 times a week 15–30 minutes* | Activity: Stretch routine Total minutes: 30\_ \_\_ | Activity:      Total minutes:  \_ \_\_ | Activity:      Total minutes:  \_ \_\_ | Activity:      Total minutes:  \_ \_\_ | Activity:      Total minutes:  \_ \_\_ |
| **Sleep (Hours)** | Total hours: 7 hours  \_ \_\_ | Total hours:  6 h | Total hours:  8 | Total hours:  7 | Total hours:  7 |
| **Intentional Quiet Moments**  At least 15 minutes  Record the activity done. (For full credit, the activity done needs to be recorded, not time) | Activity: Meditation | Activity: Prayer | Activity: Prayer | Activity: Meditation | Activity: Meditation |

|  |  |
| --- | --- |
| **Reflection Questions** | **Your Answers** |
| 1. **Recommendations:** Where did you find areas for improvement? | I noticed that my sleep dropped below 7 hours some nights, and I didn’t get flexibility in until later in the week. I also skipped one cardio day. |
| 2. **Goals:** How well did you do at reaching the wellness goals you set for yourself at the beginning of the week? | I met my cardio total (140 minutes was close, but basketball pushed me over), hit my two strength sessions, and completed two flexibility sessions. Sleep was inconsistent, but I did quiet moments daily. |
| 3. **Way to Go and Ways to Grow:** What area were you most proud of? What area would you like to work on? | *Proud of*: Staying consistent with cardio and strength training. |

1. **New Wellness Activity Goal.** Now that you have tracked and evaluated your physical activity for five days, make at least one new personal wellness or activity goal for next week including details about the WHAT, WHEN, HOW, and WHY.

|  |  |  |
| --- | --- | --- |
| **Goal** | **Specific Type of Physical Activity (WHAT)** | **WHEN** |
| I will … | 20–30 minute morning jogs. | Number of minutes:30  Days of the Week:3  Time of the Day:6 am |
| Is there anything you need to prepare to be successful? (HOW)  Set clothes and shoes out the night before, track with a running app, sleep earlier to wake up energized. | | |
| Why is this goal important to you? (WHY)  Helps me stay energized during the day, builds consistency, and improves my cardio/heart health. | | |

1. **Copy** the 4 charts above and paste them in the W04 Activity B: Wellness Activity Journal Part 2 – Reflection on Wellness Goals in Canvas. (Do not be concerned if the tables do not copy perfectly in Canvas. The graders know what to look for.)

### W04 Forum Reflection: Health Promotions Campaign

**Overview**

* **Purpose**: Reflect on your Health Promotions Campaign.
* **Task:** Complete the W04 Forum Reflection: Health Promotions Campaign in Canvas.

# Week 05: How We Care for Families from Birth to Death

In Week 05, we will be learning about families from birth to death. We will be learning briefly about how the male and female reproductive systems function, the growth and development of children and adolescents, and finishing with discussing how we can support the aging population. In forum you will be sharing what you have learned to strengthen families. This week you will also be doing a career exploration activity for health-related careers.

**Week 05 Due Dates**

**Due by midweek**

* W05 Study A: Human Reproduction, Growth and Development
* Complete the following items in your workbook and submit in Canvas:
  + W05 Quiz A: Reproduction and Infertility
  + W05 Activity A: Strengthening Families

**Due by the end of the week**

* W05 Forum: Strengthening Families from Birth to Death
* W05 Study B: Aging Well
* W05 Activity B: Domains of Aging Activity *(*Completed in workbook*)*
* Complete the following items in your workbook and submit in Canvas:
  + W05 Quiz B: Aging
  + W05 Career Exploration: Health Careers

## W05 Self-Assessment: Project

**Overview**

* **Purpose:** Progress check for the final project.
* **Tasks:** Complete a self-assessment in Canvas.

## W05 Study A: Human Reproduction, Growth, and Development

**At the end of this section, students will be able to:**

* **List** the basic anatomy and physiology of the male and female reproductive system.
* **Explain** the general sequence of events during the menstrual and ovarian cycles.
* **Explain** the process of conception including pathways that gametes follow for fertilization.
* **Examine** the developmental process from fertilization to birth.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [5.1 Unveiling the Wonders of Reproductive Anatomy](https://books.byui.edu/sustaining_life/51_unveiling_the_wonders_of_reproductive_anatomy)
   1. List the 3 key mechanisms that take place during the journey from birth to death.
2. Read [5.1.1 Reproductive Anatomy Definitions](https://books.byui.edu/sustaining_life/511_definitions)
   1. Give a basic definition for the following: Vagina, Cervix, Uterus, Clitoris, Ovaries, Fallopian Tubes, Testes, Prostate Gland, Seminal Vesicles, Ejaculatory Duct, Hormones
3. Read [5.1.2 Male Reproductive System](https://books.byui.edu/sustaining_life/512_male_reproductive_system)
   1. Why is it important that sperm is formed in the scrotum?
   2. Where does sperm mature?
   3. What components do the seminal vesicles contribute to the sperm?
   4. What is seminal fluid composed of? It may be helpful to list this by percentage.
   5. What helps neutralize the acidic pH of the vagina?
4. Read [5.1.3 Female Reproductive System](https://books.byui.edu/sustaining_life/513_female_reproductive_system)
   1. What does the vestibule contain?
   2. What functions does the vagina perform?
   3. Which layer of the uterus is sloughed off during menstruation?
   4. What do the ovaries produce?
5. Read [5.2 Embarking on the Journey of Human Reproduction](https://books.byui.edu/sustaining_life/52_embarking_on_the_journey_of_human_reproduction)
   1. Describe the process of fertilization.
   2. What is a blastocyst and what path does it take to implantation?
   3. What are the germ layers and which ones produce which things?
   4. What happens in order throughout pregnancy?
   5. What are some major birth complications that occur worldwide?
   6. Name one value associated with sperm that was surprising or interesting to you.
   7. Name one value associated with eggs that was surprising or interesting to you.
6. Read [5.2.1 Exploring Contraceptive Methods](https://books.byui.edu/sustaining_life/521_exploring_contraceptive_methods)
   1. Describe the difference between the following methods of contraception:  Intrauterine, Hormonal, Barrier, Permanent
7. Read [5.2.2.1 Female Infertility](https://books.byui.edu/sustaining_life/5221_female_infertility)
   1. After what time frame should a couple consult a professional if they have not become pregnant?
   2. What are some ways to treat infertility?
8. Read [5.2.2.2 Advanced Reproductive Technology (ART)](https://books.byui.edu/sustaining_life/5222_advanced_reproductive_technology_art)
   1. What is Artificial Insemination (AI)? What is the cost and average success rate?
   2. What is In Vitro Fertilization (IVF)? What is the cost and average success rate?
9. Read [5.2.2.3 Male Infertility](https://books.byui.edu/sustaining_life/5223_male_infertility)
   1. What does semen analysis test for?
10. Read [5.2.2.4 Sexually Transmitted Infections](https://books.byui.edu/sustaining_life/5224_sexually_transmitted_diseases)
    1. What are some ways to prevent spreading STIs?
    2. Why are STI services important?
11. Read [5.3 Nurturing Relationships and Understanding Reproductive Health](https://books.byui.edu/sustaining_life/53_nurturing_relationships_and_understanding_reproductive_health)
12. Read [5.3.1: Cultivating Healthy Relationships](https://books.byui.edu/sustaining_life/531_cultivating_healthy_relationships)
    1. Why do some marriages falter?
    2. What are some ways to nurture a marriage?
13. Optional Resources
    1. [The Reproductive System and In Vitro Fertilization](https://docs.google.com/presentation/d/1hY22wb7PRe2MgBrSA9VQ58UrG04qrFsm/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true) slideshow

* ["Fertilization"](https://video.byui.edu/media/t/0_e9b2kzac) video
  1. Read the ["Contraception: CDC"](https://www.cdc.gov/reproductivehealth/contraception/index.htm) article.
  2. Child Development Stages
* [Maternal and Infant Care](https://www.churchofjesuschrist.org/study/manual/the-latter-day-saint-woman-basic-manual-for-women-part-b/homemaking/lesson-22-maternal-and-infant-care?lang=eng)
* [Fetal Development Week by Week](https://www.babycenter.com/pregnancy/your-baby/fetal-development-week-by-week_10406730)
* [Age Characteristics of Children](https://www.churchofjesuschrist.org/study/manual/teaching-no-greater-call-a-resource-guide-for-gospel-teaching/c-teaching-different-age-groups/2-age-characteristics-of-children?lang=eng)
* [Understanding Child Development](https://www.churchofjesuschrist.org/study/manual/strengthening-the-family-instructors-guide/session-two-understanding-child-development?lang=eng)
* [Raising Resilient Children](https://www.churchofjesuschrist.org/study/liahona/2013/03/raising-resilient-children?lang=eng)

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Church and Family A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the ["The Family: A Proclamation to the World"](https://youtu.be/sWt18DbwIYI) video (8:20 minutes) or read the ["The Family: A Proclamation to the World" transcript](https://www.churchofjesuschrist.org/study/general-conference/1995/10/the-family-a-proclamation-to-the-world?lang=eng).
* **Read** selected Church policies and guidelines from the Church’s handbook of instruction.
  + [38.6.5 Chastity and Fidelity](https://www.churchofjesuschrist.org/study/manual/general-handbook/38-church-policies-and-guidelines?lang=eng#title_number102)
  + [38.6.4: Birth Control](https://www.churchofjesuschrist.org/study/manual/general-handbook/38-church-policies-and-guidelines?lang=eng#title_number101)
  + [38.6.9: Fertility Treatments](https://www.churchofjesuschrist.org/study/manual/general-handbook/38-church-policies-and-guidelines?lang=eng#title_number218)
* **Watch** the["Coping with Infertility and Loss"](https://www.churchofjesuschrist.org/media/video/2017-09-0004-coping-with-infertility-and-loss?lang=eng) video (3:50 minutes). The transcript is in the link below the video.
* The articles below can help you discuss sexual intimacy with loved ones and your children.
  + [Lessons for Teaching Children: Sexual Intimacy is Sacred and Beautiful](https://www.churchofjesuschrist.org/study/manual/help-for-parents/lessons-for-teaching-children/sexual-intimacy?lang=eng)
  + [Family Conversations](https://www.churchofjesuschrist.org/study/manual/help-for-parents/family-conversations/why?lang=eng): Help for Parents article

### W05 Optional Application Challenges: Strengthening Families

Consider exploring one of the ways to strengthen families below:

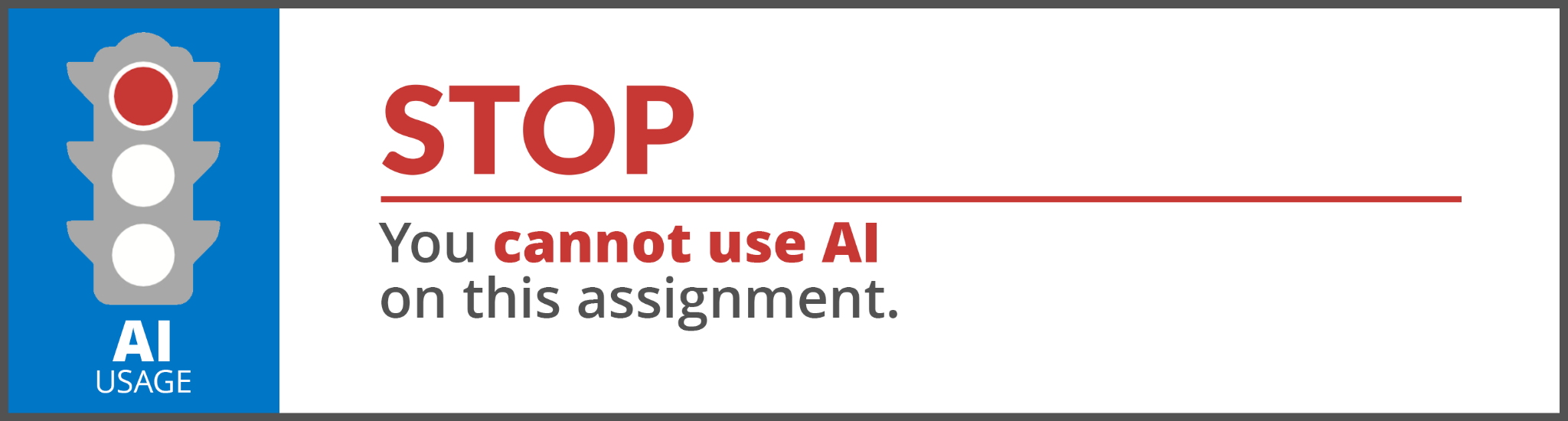
* **Strengthening Marriages**: Research ways to improve healthy and loving relationships between husband and wife. Put your research into action in your own family.
* **Population Control**: Reflect on if reducing the number of children we bring into the world is the solution or a problem for sustaining human life? What are the pressures and trends in the places where you live? How do we keep the commandment to multiply and replenish the earth when the world might be sending a different message?
* **Infertility**: Research the main factors in my area of the world that impact conception. What can be done to improve these problems?
* **Work and Wholesome Recreational Activities:** Families are strengthened in many ways. Make time to strengthen your family by spending regular time working and playing together.
* **Children and Youth Program:** Setting Goals and Serving. Learn more about the purposes of the children and youth program to help individuals grow and develop. Choose ways you can implement this program in your family or ward with more fun, effort, and engagement.
* **Challenges and Solutions in Fetal and Child Development**: Research the main factors in my area of the world that interfere with proper fetal or child development. How can we improve these problems?

### W05 Quiz A: Reproduction and Infertility

**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W05 Quiz A: Reproduction and Infertility, a short 5 question quiz in Canvas.

### W05 Activity A: Strengthening Families



**Overview**

* **Purpose:** Families are the basic unit of society and are vital for sustaining life. Every family experiences challenges to overcome to grow from the lessons of life. Teaching from reliable sources, the scriptures, living prophets, and directly from heaven can help guide us and comfort us as we experience life’s challenges.
* **Task:** Select a family challenge to research. Seek for wisdom, guidance, and inspiration to find solutions that may help. Share what you are learning with someone. Gain further insights from your discussion. Reflect on what you have learned.
* **Due:** This is due midweek in Canvas.

**Instructions**

1. **Select** a family challenge you or a family member may be facing right now. You could also select a topic that you are interested in learning more about.
2. **Research** your topic on <https://www.churchofjesuschrist.org/> For ideas on topics to explore, review the following resources:
   1. [Happiness in Family Life](https://www.churchofjesuschrist.org/topics/family/happiness?lang=eng)
   2. [Building Eternal Families](https://www.churchofjesuschrist.org/study/manual/the-eternal-family-class-prep-material-2022?lang=eng)
      1. **Possible Family Challenges to Research**
         1. Strengthening marriages
         2. Infertility
         3. Reducing contention at home
         4. How to prevent abuse and/or heal from abuse
         5. Improving communication
         6. Teaching young children or teens
         7. Faith to raise a child
         8. Preparing a child to leave on their mission or to college
         9. [Lessons for Teaching Children: Sexual Intimacy is Sacred and Beautiful](https://www.churchofjesuschrist.org/study/manual/help-for-parents/lessons-for-teaching-children/sexual-intimacy?lang=eng)
         10. [Family Conversations](https://www.churchofjesuschrist.org/study/manual/help-for-parents/family-conversations/why?lang=eng): Help for Parents
3. **Search** for principles, scriptures, practices or teachings that inspire you with solutions to help strengthen your faith and family and respond to your selected family challenge. Cite at least 1 scripture or quote in your response.
4. **Discuss** what you learned with a peer. Record the key points you learn from your discussion and any additional insights or experiences they share.
5. **Ponder** these challenges and inspired solutions.
6. **Complete** the chart below, identifying one thing you would like to start doing, one thing you would like to stop doing, and one good thing you have already been doing that you would like to continue to do in your own life, your family, or your relationships to improve the situation?
7. **Copy and paste** the chart below in the W05 Activity A: Strengthening Families Assignment in Canvas.

|  |  |
| --- | --- |
| **Questions** | **Your Answer** |
| What topic did you research? | |  | | --- | |  |  |  | | --- | | **Improving communication in families.** | |
| Summarize what you learned and cite at least one scripture or quote. | I learned that communication in families is strengthened by love, patience, and listening with the intent to understand. The Church teaches that families are blessed when we “speak the truth in love” (Ephesians 4:15). |
| What is the relationship with the person you discussed this topic with? | I discussed this with a close family member (sibling). |
| What did you learn from your discussion (include 2-3 key points) | 1. They shared that active listening—really hearing instead of reacting—can prevent most arguments.  2. They said setting aside devices during meals makes communication more meaningful. |
| What will you START doing? | I will start putting my phone away during family meals so I can give my full attention. |
| What will you STOP doing? | |  | | --- | |  |  |  | | --- | | I will stop interrupting or jumping to conclusions when someone is sharing their feelings. | |
| What will you CONTINUE doing? | I will continue expressing love and appreciation in words daily, even in small ways. |

### W05 Forum Discussion: Strengthening Families

**Overview**

* **Purpose:** BYU-Idaho's Learning Model has five principles, one of which is to [love, serve, and teach one another](https://docs.google.com/document/d/13oj6mc6wl8-m06Nv2yz1XGMGg7RD3Nqw33tbt3PsLVU/edit?tab=t.0#heading=h.lrl8vr7fny8). When students teach diligently, they receive deeper insight and are instructed more perfectly (see [D&C 88:78](https://www.churchofjesuschrist.org/study/scriptures/dc-testament/dc/88?lang=eng#78)).
* **Task:** Share insights with your team from any of the study topics this week or insights gained from the strengthening families activity.
* **Due:** Complete the discussion by the end of the week in WhatsApp Teams.

**Instructions**

1. **Review** the study topics and activities for this week on the reproductive system, growth and development and aging.
2. **Share** with your team any insights you gained to help strengthen family relationships from Birth to Aging.
3. **Comment** on each other’s WhatsApp posts to deepen the discussion.

## W05 Study B: Aging

**At the end of this section, students will be able to:**

* **Identify** the demographics of aging and potential problems from the rising older population.
* **Explain** the domains of aging well.
* **List** age-related challenges faced by many older persons.
* **Explain** the need for proper diet and exercise in older persons.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [5.4 Embracing the Journey: Understanding Aging and Promoting Well-being](https://books.byui.edu/sustaining_life/54_embracing_the_journey_understanding_aging_and_promoting_wellbeing)
2. Read [5.5 The Demographics of Aging](https://books.byui.edu/sustaining_life/55_the_demographics_of_aging)
   1. How has life expectancy changed in the last 150 years and how will this shift impact society?
   2. What are some of the physical and cognitive challenges that affect the elderly?
   3. What are the 3 domains of aging well?
   4. What are some barriers of staying physically active?
   5. What is the “terminal drop”?
   6. Why is social engagement important for seniors?
3. Read [5.5.1 Addressing Age-Related Health Issues](https://books.byui.edu/sustaining_life/551_addressing_agerelated_health_issues)
   1. Name 2-3 things that can help prevent some of the common elderly health issues.
4. Read [5.6 Promoting Nutrition, Physical Activity, and Quality of Life](https://books.byui.edu/sustaining_life/56_promoting_nutrition_physical_activity_and_quality_of_life)
   1. What are some things that improve quality of life for older adults?
   2. What are some barriers to aging well?
5. Optional Resources
   1. **Watch** the UN ["Decade of Health Aging"](https://www.decadeofhealthyageing.org/about/about-us/what-is-the-decade) video.
   2. **Read** the [Why Population Aging Matters: A Global Perspective](https://www.nia.nih.gov/sites/default/files/2017-06/WPAM.pdf) article.

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Service Through Song A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the "[Service Through Song](https://www.churchofjesuschrist.org/media/video/2016-01-0002-service-through-song?lang=eng)" (3:18 minutes) ["Service Through Song" transcript.](https://docs.google.com/document/d/e/2PACX-1vRsetSjo6JVVQSqbjeCW1UC4q9njTu9nAXvXJlp4u6_MQV-eMVzllHrtMweTjC3VkF_gJXpk_EozhrN/pub)
* **Read** ["What Church Leaders Have Said about Aging Faithfully,"](https://www.churchofjesuschrist.org/study/ensign/2020/08/what-church-leaders-have-said-about-aging-faithfully?lang=eng) Ensign 2020
* **Watch** the ["Enduring Love"](https://www.churchofjesuschrist.org/media/video/2013-06-0010-enduring-love?lang=eng) video (4:16 minutes)
* **Read** Help for Caregivers: ["Finding Answers for Family Caregiving"](https://www.churchofjesuschrist.org/study/ensign/2018/06/finding-answers-for-family-caregiving?lang=eng) article

### W05 Optional Application Challenges: Aging

* **Research** the work being done to make communities more age-friendly (["Age-Friendly in Practice"](https://extranet.who.int/agefriendlyworld/age-friendly-practices/)).Assess your own community or workplace using one of the age-friendly practices and implement solutions to improve access in your community for those who are aging.
* **Explore** the topics in the UN ["Decade of Aging Platform"](https://www.decadeofhealthyageing.org/find-knowledge/resources) about work being done worldwide to help the aging. Take action to help with one of their initiatives.
* **Serve** the elderly in your community and do one of the options: Meals on Wheels, Senior Centers, visiting homes for the elders, singing, creating a safer home environment, taking them out to events that they enjoy, and just listening and being a real friend are all great options.

### W05 Activity B: Domains of Aging

**Overview**

* **Purpose:** Apply what you have learned about the domains of aging well.
* **Task:** Evaluate the needs of the grandfather in the case study and brainstorm strategies for how to support someone who is aging. Complete the chart below.
* **Due:** This is due midweek.

**Scenario**

*Imagine that your grandmother passed away about nine months ago. Your grandfather has grieved since that time. Over the last few months, your grandfather has started to be careless with his physical health and you are worried about his overall well-being. You have invited your grandfather to come live with you for a while and he has reluctantly agreed.*

*Your grandparents were married for over fifty years. They used to do lots of activities together when they were younger like fishing, riding bikes, and playing tennis. As they got older, their activities became slower-paced due to your grandmother's poor health. Your grandfather has mentioned he might like to get back into some of those activities he did when he was younger.*

*He is now 73 years old, and before your grandmother's passing, he was in fairly good shape. However, since your grandmother's passing, he has been sedentary (physically inactive). He has only been eating processed meals that need to be microwaved or come from a can.*

*He likes to read, but his vision has gotten worse, and he can only read for about 10 minutes before his eyes hurt too much. You have no idea what his financial situation is. Every time you ask, he seems to shy away from the subject. You know his home is paid for and he no longer has a mortgage, but that is about it. You haven't had any conversations about how long he plans to stay with you, if or when he plans to go back to his house, or if or when he might transition to a care facility. You've asked him about the possibility of dating, and he has zero interest.*

*After two weeks of your grandfather living with you, you realize unless some things change about your grandfather's habits and lifestyle, he will only continue to get worse. Thankfully, he realizes this too and is grateful for any help you are willing to give him. As you and your grandfather discuss his goals for the future, discuss strategies to improve in the* ***Five Domains of Aging Well.***

* **Physical Health and Function:** Proper exercise and nutrition.
* **Mental and Cognitive Effectiveness:** Continual learning and maintaining mental development.
* **Social Support Resources:** Limiting loneliness and isolation through a social network of friends and family found through church, hobbies, or community events.
* **Daily Life Activities:** Appropriate schedule each day (when to wake up or go to sleep, mealtimes, naps, activities, and so on).
* **Material Security: Financial freedom and ability to take care of oneself** by properly budgeting and living within one's means.

**Instructions**

Make this activity meaningful to you by envisioning your own aging loved ones and how you would work together with them to make a plan, while still respecting their opinion, insights and desires.

1. **List** things you and your grandfather can do to improve his health and function in each of the areas below. Record actions that could be taken in each of the Five Domains.
2. **Explain** how or why those actions will help.

|  |  |
| --- | --- |
| **List actions to improve this domain** | **Explain how and why these proposed actions will help** |
| **Physical Health**  Actions to take: |  |
| **Mental and Cognitive Effectiveness**  Actions to take: |  |
| **Social Support Resources**  Actions to take: |  |
| **Daily Life Activities**  Actions to take: |  |
| **Financial and Material Security**  Actions to take: |  |

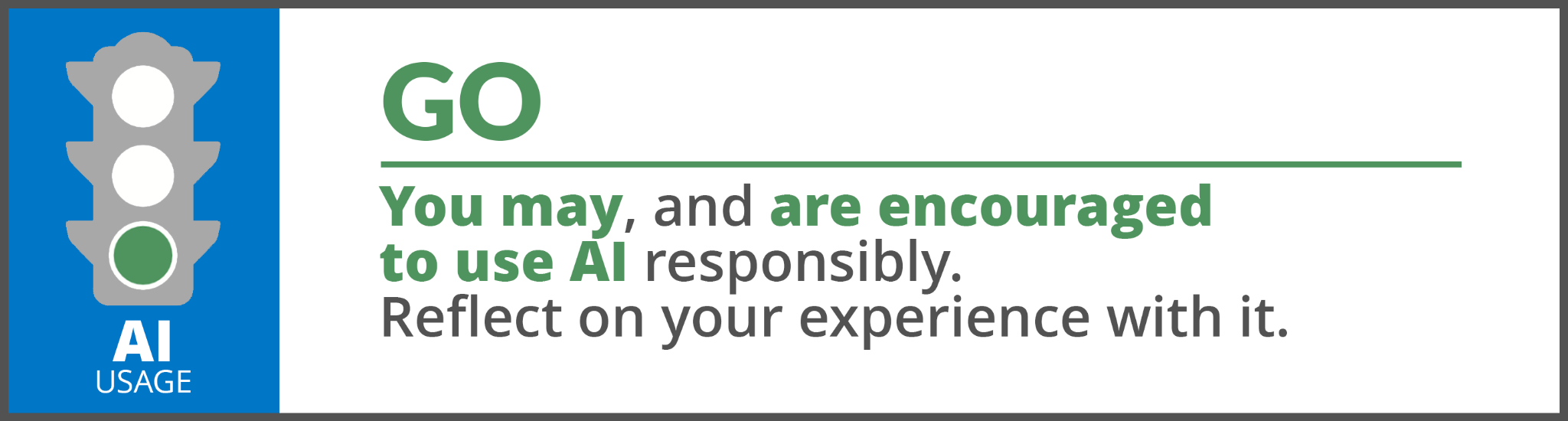
1. **Prepare** to share on the W05 Quiz B: Aging what you learned from doing this activity and how it applies to those who you love who are aging.

### W05 Quiz B: Aging

**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W05 Quiz B: Aging in Canvas.

### W05 Career Exploration: Health Careers



**Overview**

* **Purpose:** GESCI 110 is an introductory course allowing students to consider and explore potential careers in industries that will help feed and take care of the world's growing population. Even though the careers listed below may not be part of your chosen career path or major, there is still value in understanding different careers that play a role in feeding and caring for the world’s population.
* **Task:** Research a career that pertains to the course topic of health. Some suggestions are listed below. Complete the chart and submit your work in Canvas.
* **Due:** This is due at the end of the week in Canvas

**Instructions**

1. **Review** and report about one possible career associated with the material covered from the past few weeks that is of interest to you.
2. You only need to review **one** of the careers in the first column related to the career you choose to explore.
3. **Answer** the questions below.
4. **Copy** your responses below and submit it in the W03: Career Exploration Assignment in Canvas.

Possible Careers

**Feeding the Hungry:** Welfare

**Health Promotion:** Public Health, Recreation Therapy, Assisted Living

**Medicine:** Doctor, Nurse, Physician’s Assistant, Genetic Counselor

**Mental Health:** Counselor, Psychologist

**Communicable Disease:** Epidemiologist

**Chronic Illness:** Research Scientist, Oncologist, Lab Technician

**Aging and Health:** Physical Therapist, Hospital Administration

If you are interested in a career not listed, feel free to reach out to your instructor to ask for permission to report on that career.

1. **Title:** What career did you choose to explore?
2. **Career Description:** Share what you learned about the job responsibilities and duties, work environment, work hours, or other interesting features of the career, and so on.
3. **Educational Requirements:** What education requirements or other preparation are needed to work in this career (bachelor's degree, master's degree, PhD, certifications, and/or licenses).
4. **Training Program:** Provide a link to a program that would provide the needed training or preparation for this career.
5. **Salary Range:** What is the salary range for this career?
6. **Current Job Openings:** Find one current job opening for your selected career. Share the link to the job opening below.  (Use a job search engine like [indeed.com.)](https://www.indeed.com/?from=gnav-jobsearch--jasx) This job opening does not have to be near your geographic location
7. **Reflection**:
   1. Why is [job title] a good career path for you? (1-3 sentences)
   2. Share how you would use this career to improve your discipleship in Jesus Christ. (1-3 sentences)
8. **Submit**: 1-7.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | C | D |
| AI Prompt and Response | Prompt was original and led to a collaborative effort (asked more than three questions) to enhance learning about career wellness. | Prompt was personal and helped improve the student learning about career wellness. | Prompt was a cut and paste from the assignment with clarifying details. | Prompt was a cut and paste from the assignment. |

### W05 Forum Reflection: Strengthening Families

**Overview**

* **Purpose**: Participate in your WhatsApp discussion.
* **Task:** Complete the W05 Forum Reflection: Strengthening Families in Canvas.

# Week 06: How We Build Emotional Resilience

In Week 06, we will be learning about mental health and the importance of living a balanced life. We will learn about common challenges with anxiety, depression, addiction, and suicide. In the forum, we will be presenting and reporting on the progress of your Sustaining Life Project.

**Week 06 Due Dates**

**Due by midweek**

* W06 Study A: Mental Health and Balance
* Complete the following items in your workbook and submit in Canvas:
  + W06 Activity: Mental Health and Balance Activity
  + W06 Forum Preparation: Sustaining Life Project Presentation

**Due by the end of the week**

* W06 Forum Discussion: Sustaining Life Project Presentations
* W06 Study B: Addiction and Suicide Prevention
* Complete the following items in Canvas:
  + W06 Sustaining Life Project: Part 3 Reflection

## W06 Study A: Mental Health

**At the end of this section, students will be able to:**

1. **Describe** the current trends in mental health issues.
2. **Identify** why it is important to prevent a continuing increase in mental health issues.
3. **Explain** the basic biology that is important to understanding the ability of a person to modify their brain patterns.
4. **Identify** and explain the seven pillars of keeping your brain healthy.
5. **Differentiate** several of the common types of mental illness.
6. **Describe** positive changes a person can make to manage or prevent mental health issues.

This week, our topics will include sensitive issues, including mental illness and suicide. Please be sensitive to the experiences of others during our discussions this week.

Additionally, we will be exploring mental health as it impacts populations rather than individuals. Treatments vary greatly from case to case, and what works for one country may not work for another country. The class should not suggest treatment for any specific person or country.

A poster with a person and text

AI-generated content may be incorrect. **Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read Week 6: [How do we Build Emotional Resilience?](https://books.byui.edu/sustaining_life/week_6_how_do_we_build_emotional_resilience)
   1. Mental health shapes what 3 things?
2. Read [6.1 Unveiling the Landscape of Mental Health](https://books.byui.edu/sustaining_life/61_unveiling_the_landscape_of_mental_health)
   1. What are some symptoms of depression?
   2. What are some symptoms of anxiety?
   3. What are some symptoms of ADHD?
   4. Describe a few positive life changes that can help improve mental well-being.
   5. What stands out to you from the statistics about mental health worldwide?
   6. What is mental health stigma? What are some ways to deal with it?
3. Read [6.2 Making Mental Health a Global Priority](https://books.byui.edu/sustaining_life/62_making_mental_health_a_global_priority)
   1. What stands out to you about why mental health should be a global priority?
4. Read [6.3 Understanding Depression and Anxiety](https://books.byui.edu/sustaining_life/63_understanding_depression_anxiety_and_addiction)
   1. What 2 things make depression more likely?
5. Read [6.3.1 Depression and Anxiety](https://books.byui.edu/sustaining_life/631_depression_and_anxiety)
6. Read [6.3.1.1 - Lost connections](https://books.byui.edu/sustaining_life/6311__lost_connections)
   1. What can contribute to depression in the workplace?
   2. What role could a person’s values play in depression?
   3. How could a society with a shrinking middle class and growing low and high class contribute to depression?
   4. How does depression impact the brain?
7. Read [6.3.1.2 Boys Adrift](https://books.byui.edu/sustaining_life/6312_boys_adrift)
   1. What are some reasons that Leonard Sax proposes to be the reason that so many boys are struggling?
8. Read [6.3.1.3 Girls on the Edge](https://books.byui.edu/sustaining_life/6313_girls_on_the_edge)
   1. What is proposed to help young women on the edge?
9. Read [6.3.1.4 A Shift in Parenting Techniques](https://books.byui.edu/sustaining_life/6314_a_shift_in_parenting_techniques)
   1. What is the core issue that has led to some of the problematic changes in children?
   2. What types of parenting techniques are suggested as a way to build more resilient youth?
10. Read [6.5 Nurturing Minds: Understanding Mental Illness and Promoting Well-being](https://books.byui.edu/sustaining_life/64_nurturing_minds_understanding_mental_illness_and_promoting_wellbeing)
    1. Why is accurate diagnosis important?
11. Read [6.5.1 Understanding Mental Illness](https://books.byui.edu/sustaining_life/641_understanding_mental_illness)
    1. Why is self-diagnosis problematic?
    2. What is the DSM-5 and what does it contain?
12. Read [6.5.2 Embracing Positive Life Changes](https://books.byui.edu/sustaining_life/642_embracing_positive_life_changes)
    1. What are some positive life changes that can mitigate mental illness?
    2. Also, please **watch** the ["What Makes a Healthy Brain"](https://video.byui.edu/media/t/1_t14msfug) video (10:31 minutes) or read the [“What Makes a Health Brain” transcript](https://docs.google.com/document/d/e/2PACX-1vT7l5_hNsaX177UWOmQQyDcluwVJOcQZ3vcXtxjGDv2zi9suprz7b9fLI7fgTzH3lh1oKHQF9Eh6CeJ/pub) and answer the questions. As needed, you can review this slideshow: [What Makes a Healthy Brain](https://docs.google.com/presentation/d/131CzNG2b6KPKC956LQ6B7O_Fog4gClxF/edit?usp=share_link&ouid=111621096177507775047&rtpof=true&sd=true).
    3. What age group has the highest rate of mental health problems?
    4. What factors contribute to mental health issues in college students?
    5. What is neuroplasticity and how does it relate to mental health?
    6. What are the seven pillars of mental health?
13. Optional Resources
    1. Read the [Mental Health: Overcoming the Stigma of Mental Illness](https://www.mayoclinic.org/diseases-conditions/mental-illness/in-depth/mental-health/art-20046477) article from the Mayo Clinic.
    2. **Read** the ["Facing Challenges: A self help guide"](https://www.churchofjesuschrist.org/bc/content/shared/english/charities/pdf/2020/WEL_PD60011069_FacingChallenges_FINAL.pdf) article and answer the questions for yourself.
14. **Additional Resources: Campaigns to help reduce the stigma of mental illness**
    1. [Bring Change to Mind](https://bringchange2mind.org/learn/psas/strongerthanstigma)
    2. [Time to Change: Be in your Mate's Corner](https://www.youtube.com/watch?v=JP3oTRLPq1E)
    3. [#AskTwice](https://www.youtube.com/watch?v=nOkH2jGK4p0)
    4. [Behind the Mask](https://www.youtube.com/watch?v=wGhXdv1UTE8)
    5. [Reaching Out Can Be a Sign of Strength](https://youtu.be/YN69VIDKBFs)

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Mental Health A blue square with white text and numbers on it AI-generated content may be incorrect.

* Read the following article and answer the questions below: ["For Those Struggling with Mental Illness: 4 Messages from Church Leaders You Need to Hear."](https://www.ldsliving.com/For-Those-Struggling-with-Mental-Illness-4-Messages-from-Church-Leaders-You-Need-to-Hear/s/85535)
* What are the four messages from Church leaders about mental health?
* What is the gospel message in regard to mental health challenges?
* Watch the "Like a Broken Vessel" video (11:37 minutes) or read the "Like a Broken Vessel" transcript.
* Watch the[“Anxiety After My Mission"](https://www.youtube.com/watch?v=OybKO1y_mAI&ab_channel=TheChurchofJesusChristofLatter-daySaints) video (5:06 minutes) or read the ["Anxiety After My Mission" transcript.](https://docs.google.com/document/d/e/2PACX-1vQWNssCwEQUs2EmGHwjVZZcR4iaBCgwfEFjO-_NQOe5tEfYuL29iMDyefwtbJQB-EwsQSz4z37t14Yv/pub)
* Explore the Mental Health Website for the Church of Jesus Christ of Latter-day Saints.

### W06 Optional Application Challenges: Mental Health

Consider exploring one or more of these application challenges.

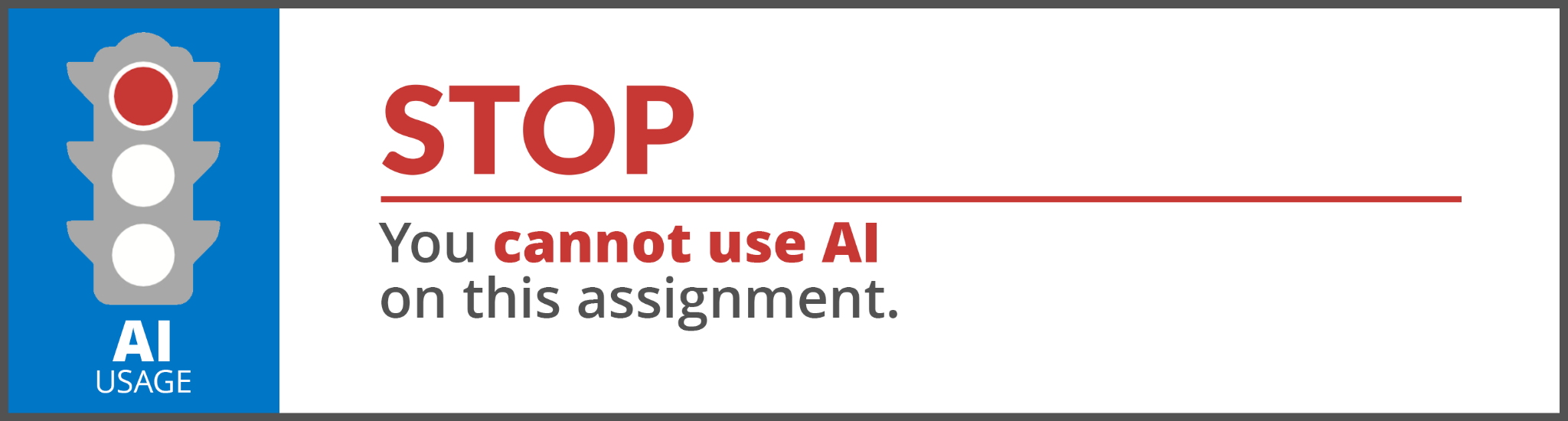
1. **Strength Assessment:** Take the [VIA Character Strengths](http://www.viacharacter.org/www/) assessment. You will have to create a login name and password. All information is kept confidential and is only for research purposes. You willnotbe assessed on the completion of this on your quiz.
2. **Social Experiment**: Watch the ["Social Experiment on Mental Health"](https://youtu.be/VQoiz4wfV_c) video (4:17 minutes) or read the ["A Social Experiment on Mental Health" transcript](https://docs.google.com/document/d/e/2PACX-1vS9SDpIjNgTYaSpPNflKELiZWFfc1ajaMIMAzYCWc9QkeCQzJARFlJDi0f02qvHrL0vG3Rl4protQhk/pub).
3. **Therapy:** Research the [BYUI Therapy Assisted Online](https://www.byui.edu/counseling-center/tao) and look at therapies that may be helpful to you. Log in with your BYUI email address. Select **Add Content** to see all of the self help lessons available to you. You could also research other therapies online such as [Cognitive Behavior Therapy](https://youtu.be/3VIL1L_ypMg) or searching PsychHub to learn more about different therapies.
4. **Emotional Resilience**: Select a meaningful chapter from the [Emotional Resilience course](https://www.churchofjesuschrist.org/self-reliance/course-materials/emotional-resilience-self-reliance-course-video-resources). Complete the chapter and report on what you learned.

### W06 Quiz A: Mental Health

**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W06 Quiz A: Mental Health in Canvas.

### W06 Activity A: Mental Health and Balance



**Overview**

* **Purpose:** Living a balanced life helps to improve our mental health and well-being. Students will learn about the Seven Pillars of Brain Health, depression, and self-help resources available.
* **Task:** Evaluate your strengths and weaknesses. Make a plan to improve your life balance. Learn more about depression. Explore the BYUI mental health self-help resources available at the Counseling Center. Complete the chart below and submit your work in Canvas.
* **Due:** This is due midweek in Canvas.

**Instructions**

1. **Review** the two images below.

**Seven Pillars of Brain Health**

As you learned in the study this week, optimal mental health is achieved when there is a balance among the Seven Pillars of Brain Health.



*Figure 2 7 Pillars of Mental Health - balanced roles. Image created by BYUI GESCI 110 Faculty*

However, we all know that striking a perfect balance is difficult (if not impossible). Most of the time, our mental health probably looks something like the image below.

A diagram of a building with many books

AI-generated content may be incorrect.

*Figure 3 7 Pillars of Mental Health - not balanced roles. Image created by BYUI.*

1. **Finding Balance**: In the following questions, you will be asked to evaluate the pillars of your own mental health and set goals to find more balance.

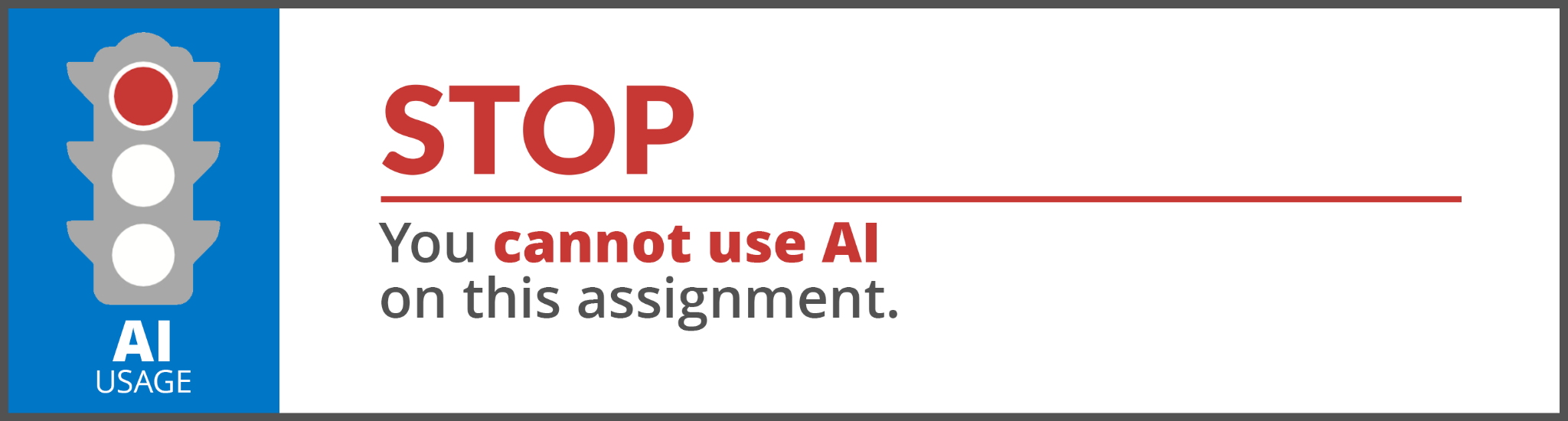
|  |  |
| --- | --- |
| **Questions** | **Ponder and Prove (Your Responses)** |
| **My Strongest Pillar**  Which of the “Seven Pillars of Brain Health” are you doing best at and explain why.  You may ONLY use the pillars as listed on the previous page. |  |
| Rank the “Seven Pillars of Brain Health”in order from your strongest area to your weakest area. | 1:  2:  3:  4:  5:  6:  7: |

1. **Mental Wellness Goals:** Select **two** of the “Seven Pillars of Brain Health” you want to focus on improving.
   * **Goal 1:**
   * **Goal 2:**
2. **Ponder:** What are one or two simple things you can do or simple changes you can make to strengthen yourself in that area?
3. **Write** your goal for each area in the chart below. Strive to work toward your goal this week.

|  |  |  |  |
| --- | --- | --- | --- |
| **MENTAL WELLNESS GOALS** | | | |
|  | **Example** | **1st Goal** | **2nd Goal** |
| **Pillar to strengthen** | *Social* |  |  |
| **Goal for this pillar** | *Schedule more time with friends.* |  |  |
| **Vision for this pillar (Why is this goal important to you?)** | *I have learned that social activities are important for mental health, so I need to incorporate more social events into my busy schedule.* |  |  |
| **Specific action or plan** | *I will contact at least two friends to schedule an activity with them this month and add these events to my calendar by Sunday.* |  |  |

1. **Watch** the ["Living with Depression"](https://www.churchofjesuschrist.org/media/video/2016-10-0003-living-with-depression?lang=eng) video (3:13 minutes). Transcript available at link.
2. **Answer** the questions below.
   * What were some of the classic symptoms of depression she was experiencing? Identify at least 3. For ideas, consult the DSM-5 criteria (The criteria is summarized on [www.psychiatry.org](https://www.psychiatry.org/patients-families/depression))
   * How did the Savior help her?
   * How could the effect of stigma and mental health, present in society, be identified in her struggles (list at least 2 examples)?
   * What did she do in response to this stigma?
3. **Review** the "[Mental Health](https://www.byupathway.edu/mental-health)" section of the BYU Pathway Website. Select at least one link and topic to explore.
4. **Summarize** two key points you learned about your selected topic.
   * **First Key Point:**
   * **Second Key Point:**
5. **Copy** the questions 1-9 and completed charts above and paste them in the **W06 Activity A: Mental Health and Balance** assignment in Canvas. (Do not be concerned if the tables do not copy perfectly in Canvas.  The graders know what to look for.)

### W06 Project: Part 3 – Presentation



**Overview**

* **Purpose:** This activity allows the student to combine all of their skills to evaluate research, discuss challenging issues, and to act as a wise steward on a project of their choosing.
* **Task**: This week you will be completing your Sustaining Life Projects, creating slides to share with your WhatsApp team and creating a video talking about your project and progress in your WhatsApp Teams, and submitting a final report and reflection by the end of the week. This preparation assignment will help you prepare your presentation.
* **Due:** This is due midweek in Canvas.

**Instructions**

1. **Create a slideshow** of your Sustaining Life Project in Google Slides, Canva, or Microsoft PowerPoint to share with your WhatsApp Team.
   * **Slide 1: Title of your Sustaining Life Project**, your name, and a picture of yourself.
   * **Slide 2: Evidence of Project Completion.** Share pictures and images of the process and your completed project. You need to be in at least three images (1. one near the beginning, 2. one image near the middle of the project, and 3. the final/completed project image).
     + Images with you in the project (such as a hoe in the garden.) You can use an additional slide, if needed.
     + Provide additional photographic evidence. You need to be recognizable in the photos. Here are some evidence suggestions.
       - Written Government permission *(a photo example could be you holding the permission form).*
       - Images of social media posts need to show multiple dates posting *(a photo example could be a screenshot of your posts and your image would be a small image in the corner).*
       - Workshops Exit Surveys.
       - Recipes and diet plans.
       - Screenshot or link to source you created.
       - Photo of something you physically created.
     + **If you do not submit completion evidence with you in the image, your Final Project will be scored as a 0.**
   * **Slide 3: Briefly describe the issue or problem.** If applicable, include a “before” picture of the problem if you took one or a picture that illustrates the problem you hope to address with your solution. When presenting your slides to your WhatsApp Teams, share why it was important to you to address this problem.
   * **Slides 4-5: Research questions and findings.** Briefly present each of your research questions (one question per slide) and what you found from researching your questions. (Post research question not research statement.)
   * **Slide 6: Gospel connections.** Share how your project connects to the gospel. Include personal insights and quotes from scriptures or prophets.
   * **Slide 7: Project Plan Steps and Resources.** Share the steps of your project plan and indicate whether each step was completed or not completed. If not completed, please provide a brief reason why not. You may add inspirational pictures, resources used or design if applicable. (You can use an additional slide, if needed.)
     + For example:
     + Step 1 Clear a garden spot - completed April 25, 2025
     + Step 2 Setup watering method - completed April 30. 2025
     + Step 3 Plant seeds - completed May 2, 2025
     + Step 4 weed weekly - completed for 2 weeks May 5-16, 2025
     + Step 5 harvest - not completed, things didn't go as fast as I thought
   * **Slide 8: Reflection.** Address each of the following questions:
     + What did you learn completing this project?
     + Did you reach your goals or feel you made an impact or improvement on the original issue?
     + Did you have to make any adjustments to your project?
     + Is there anything you would do differently next time?
   * **Slide 9: Looking Ahead.** Address each of the following questions.
     + What would be the next steps you would want to take on this project?
     + What new questions do you have after completing this project?
     + What future project ideas do you have related to your original issue?
   * **Slide 10: References.** Share the links to your research sources and gospel connections. More than one resource is required.
   * Slides must be in the order presented above.
2. **Ensure** each slide uses Speaker Notes to describe your content. Provide the presentation script for your presentation with each slide. Basically, this is the text you would say in your video but also provides alternative accessibility.
3. **Download/save presentation slides as a PDF file** and submit it to W06 Project: Part 3 - Presentation in Canvas.
   * To get your file into PDF format, do the following:
     + Google Slides - Go to “File” then “Download” then “PDF”.
     + Canva - Go to “Share” then “Download” then “PDF”.
     + PowerPoint - Go to “File” then “Save As” then under “File Format” select “PDF”.
4. **Share the PDF** of your project presentation slides to your WhatsApp team chat.
5. **Post a short video** in WhatsApp for your group talking about your project. Show what you did and share what you learned from it and how it relates to Sustaining Life.
   * Don’t worry if your video or your English is not perfect!  We just want to see you!
6. **Comment** on each other's projects and videos! Be prepared to discuss what you learned from doing your project in the forum discussion this week.

### W06 Forum Discussion: Sustaining Life Project – WhatsApp

**Overview**

* **Purpose:** A major purpose of GESCI 110 is to teach students to discuss opinions in a respectful and productive manner. This forum discussion will allow students to be able to share their Sustaining Life Projects with each other.
* **Task:** 
  + Share the PDF to your slide presentation with your WhatsApp team.
  + Create a video post to show and tell about your project.
* **Due:** This is due at the end of the week in WhatsApp Teams and Canvas.

**Instructions**

1. **Share** the link to your Sustaining Life Project Slides with your WhatsApp team.  (Make sure share settings are set to “anyone with the link can view.”)
2. **Make** a video post in WhatsApp to talk about your semester project. If possible, show your progress on your project or materials you used on your project. Share what you learned in completing the Sustaining Life Project this semester. Do not worry if your video or your English is not perfect!  We just want to see you!
   * You can make a video post in three different ways (choose 1):
     + Tap on the microphone icon next to the text box in the chat. Select the camera icon to change it to a video recording. Press and hold the camera icon while recording your video. Push send after you are done recording. See [How to send a video message](https://faq.whatsapp.com/993629751672762/?cms_platform=android) for more help.
     + Record a video using your camera on your phone and then go to the paper clip to attach it and navigate to your video file.
     + You could also save the video to google photos and then create a sharable link to your video. Paste the link in WhatsApp
3. **Review** your team members’ Sustaining Life Projects.
4. **Comment** on each other’s projects and celebrate the progress of each member of your team.
5. **Report** about team discussion this week in the W06 Forum Reflection: Project Presentations and Class Reflection in Canvas.

### W06 Forum Reflection: Project Presentations and Class Reflection

**Overview**

* **Purpose**: Participate in your WhatsApp discussion.
* **Task:** Complete the W06 Forum Reflection: Project Presentations in Canvas.

## W06 Study B: Stigma, Suicide, and Addiction Recovery

At the end of this section, students will be able to:

* **Identify** the four factors that increase the addictiveness of a substance.
* **Describe** how the mind is impacted by pornography.
* **Learn** more about addiction recovery and resources to help those struggling with addiction.
* **Identify** the warning signs that someone is considering suicide.
* **Learn** how to get help for someone who is considering suicide.

**Addiction**

Mental health challenges and substance use disorder often exist together. Mental illness can lead to substance use, and substance use can lead to chemical and hormonal changes in the brain, which lead to increasing challenges with mental health. It is important to reduce the stigma around getting help for substance use disorder and support addiction recovery worldwide. Many programs strive to help individuals build connections, find hope, and provide the mental and medical care people need to break free from their addictions. Whether the substance is alcohol, smoking, illegal or prescription drugs, or other substances we can reach out and support those working through recovery.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook**

1. **Read** [6.4 Addiction](https://books.byui.edu/sustaining_life/632_addiction)

* Define addiction.
* What are the four factors that determine addictiveness?
* What neurotransmitter plays a large role in addiction?
* What are the key changes in the brain that lead to addiction?
* What makes internet pornography so addictive?

1. **Read** [6.4.1 Messages of Support and Hope](https://books.byui.edu/sustaining_life/633_messages_of_support_and_hope)
   * What are the 4 key messages from church leaders regarding mental health?
2. **Read** [6.4.2 Supporting Addiction Recovery](https://books.byui.edu/sustaining_life/634_supporting_addiction_recovery)
   * What are some resources available for those seeking to recover from addiction?
3. **Watch** the ["Types of Mental Illness and Positive Life Changes Reduce Risk"](https://video.byui.edu/media/t/1_d6nunn5v) video (12:00 minutes) or read the ["Types of Mental Illness” transcript](https://docs.google.com/document/d/e/2PACX-1vRGcgIqICM4rFkAp_BkrQqdyAEMnochq9Z3l_7aKENqgufdCZiCE57JNzdqkOZdthZmJU30Mq-pECvD/pub). As needed, you can review this slideshow: [Types of Mental Illness and Positive Life Changes Reduce Risk](https://docs.google.com/presentation/d/1k5ORCTOGXuG0qc_twXKjDYeDDP_MciyW/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true).

* Why is it important not to self-diagnose?
* What does the DSM-5 manual contain?
* Why is it a good idea to identify and use your strengths?
* How can kindness help with anxiety and depression?
* How effective is nature in reducing ADHD symptoms?
* What is the long-term impact of pornography?

**Suicide Prevention**

1. **Read** the "[Warning Signs of Suicide"](https://www.churchofjesuschrist.org/study/manual/suicide-how-to-help/warning-signs-of-suicide?lang=eng) article.

* List at least 3 warning sides of suicide.

1. **Read** the "[How to Help Someone in Crisis](https://www.churchofjesuschrist.org/study/manual/suicide-how-to-help/how-to-help-someone-in-crisis?lang=eng)" article.

* What does ACT stand for and what does it entail?

1. **Read** about how to create a [Suicide Prevention Safety Plan](https://www.churchofjesuschrist.org/study/liahona/2016/09/choosing-to-live-overcoming-suicidal-thoughts/how-to-create-a-suicide-prevention-safety-plan?lang=eng) for yourself.

* What are the main components of a suicide prevention plan?

1. **Explore** the [Suicide Prevention and Ministering](https://www.churchofjesuschrist.org/get-help/suicide?lang=eng) website for The [How to Create a Suicide-Prevention Safety Plan](https://www.churchofjesuschrist.org/study/liahona/2016/09/choosing-to-live-overcoming-suicidal-thoughts/how-to-create-a-suicide-prevention-safety-plan?lang=eng) Church of Jesus Christ of Latter-day Saints.

* What are 2 things that stuck out to you from the reading?

**Optional Resources**

1. **Learn** more about the [Addiction Recovery Program](https://addictionrecovery.churchofjesuschrist.org/individuals?lang=eng) from The Church of Jesus Christ of Latter-day Saints.

* What are the 12 principles that are focused on? (Click on the Guide and look at the Table of Contents)

1. **Optional Resources for Suicide Hotlines**

* [Befrienders Worldwide](https://www.befrienders.org/)—Volunteer action to prevent suicide.
* [International Association for Suicide Prevention](https://www.iasp.info/)
* [Suicide and Crisis Lifeline](https://988lifeline.org/)
* [Suicide Prevention Playlist](https://www.youtube.com/playlist?list=PLIvnz6vjrZYdxPz2AgcnKoTwgt3eXYwu1) from Psych Hub on YouTube. There are many helpful videos to help prevent suicide.

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the["Addiction: You will be Freed"](https://www.youtube.com/watch?v=ry8-YIwnEcU) video from Elder Ballard.
* **Watch** the ["Message of Hope"](https://www.youtube.com/watch?v=UbsU3b2srQA) video from Elder Uchtdorf.

### W06 Optional Application Challenges: Addiction Recovery and Suicide Prevention

Consider putting one of these ideas into action.

* **Addiction Recovery Program**: Read through the 12 values of the [Addiction Recovery Program](https://www.churchofjesuschrist.org/study/manual/addiction-recovery-program-a-guide-to-addiction-recovery-and-healing?lang=eng). Consider a weakness you may have and how you can use these principles to access the atonement of the Savior more deeply in your life.
* **Support a Friend:** Learn ways you can support a friend (["Support in Recovery"](https://addictionrecovery.churchofjesuschrist.org/support-in-recovery?lang=eng)) going through recovery.
* **ISSUP:** Learn more about one of the global partners in the [International Society of Substance Use Professionals.](https://www.issup.net/about-issup/partners) Research resources available and ways they help those who struggle with addiction.
* **Suicide Prevention Campaigns:** Research some of the different health promotion campaigns to help others considering suicide. An example of one is [#BeHereTomorrow](https://www.kevinhinesstory.com/) by suicide survivor Kevin Hines (["Jumper Changes Mind Mid-Air, Asks God to Save Him"](https://www.96five.com/stories/trending/2016/jumper-changes-mind-mid-air-asks-god-to-save-him/)), or the International Association for Suicide Prevention ([World Suicide Prevention Day](https://www.iasp.info/wspd/)). Ponder what you could do promote suicide prevention.
* **Suicide Prevention.** Consider enrolling in a [QPR training](https://qprinstitute.com/) for suicide prevention.

# Week 07: How We Can Prevent the Spread of Infectious Diseases

For our final topic, we will be learning about infectious diseases. We will be exploring the factors influencing the spread of disease. We will also be exploring the questions you have about vaccines and where you can find reliable information on vaccines.

**Week 07 Due Dates**

**Due by midweek**

* W07 Study A: Infectious Disease
* Complete the following items in your workbook and submit in Canvas:
  + Take the W07 Study A Quiz: Infectious Disease
  + Activity A: Vaccines

## W07 Study: Infectious Disease

**At the end of this section, students will be able to:**

* **Define** infectious diseases.
* **Describe** the impact of infectious diseases on society.
* **Analyze** Robert Koch’s postulates.
* **Classify** infectious diseases by their causative agent and their route of transmission.
* **Describe** the control of infectious diseases in developed nations.
* **Define** an outbreak, endemic, epidemic, and pandemic.
* **Describe** how epidemics are classified.

The goal this week is to be able to describe the different types of infectious agents, explain how infectious diseases spread, and understand how infectious diseases are controlled in developed nations.

**Use the questions below to guide your reading. You may use the links to access your online textbook or read the sections in your downloaded course textbook.**

1. Read [7.1 Understanding Infectious Diseases](https://books.byui.edu/sustaining_life/71_understanding_infectious_diseases)
   1. What challenges do infectious diseases prevent in terms of sustaining human life?
2. Read [7.1.1 Exploring the Work of Robert Koch](https://books.byui.edu/sustaining_life/711_exploring_the_work_of_robert_koch)
   1. What are the four postulates Koch established?
3. Read [7.1.2 Categorizing Causative Agents and Routes of Transmission](https://books.byui.edu/sustaining_life/712_categorizing_causative_agents_and_routes_of_transmission)
   1. What are the six broad categories of causative agents and what is an example from each group?
   2. What are the six categories of classification of disease by mode of transmission?
4. Read [7.1.3 Examining Disease Control Measures](https://books.byui.edu/sustaining_life/713_examining_disease_control_measures)
   1. What is the ICD-10?
   2. What led to a decrease in incidences of cholera and typhoid fever?
   3. What does it mean when we say a disease has been eradicated?
   4. What led to the decrease in incidences of diseases like polio, smallpox, measles and mumps?
   5. Define the following (be aware of the differences between each term): outbreak, endemic, epidemic, and pandemic.
5. Read [7.1.4 Identifying Contributing Factors to Disease Incidence](https://books.byui.edu/sustaining_life/714_identifying_contributing_factors_to_disease_incidence)
   1. What are the four factors linked to foodborne and waterborne illnesses?
   2. How has modern technology created new ways for the spread of disease?
6. Read [7.2 Lessons from History: The 1918 Flu Pandemic](https://books.byui.edu/sustaining_life/72_lessons_from_history_the_1918_flu_pandemic)
   1. What factors contributed to the severity of the H1N1 outbreak?
   2. What were some of the measures taken to try to reduce the spread of H1N1?
7. Read [7.2.1 Understanding Pandemics: Insights from Epidemiology](https://books.byui.edu/sustaining_life/721_understanding_pandemics_insights_from_epidemiology)
   1. Why is it that people and the diseases they carry can quickly be spread to any city on the planet?
   2. What happened 10,000 years ago that facilitated the spread of bacteria and viruses?
8. Read [7.2.1.1. The Black Plague](https://books.byui.edu/sustaining_life/7211_the_black_plague)
   1. How many people had died as a result of the Black Plague?
9. Read [7.2.1.2 Antigenic shift](https://books.byui.edu/sustaining_life/7212_antigenic_shift_)
   1. What is antigenic shift?
10. Read [7.3 Exploring the Impact of Pandemics](https://books.byui.edu/sustaining_life/7212_antigenic_shift_)
    1. Describe the negative impacts of pandemics.
    2. What are some tools that can be used against pandemics?
11. Read [7.3.1 Confronting the Challenges: Strategies for Managing Infectious Diseases](https://books.byui.edu/sustaining_life/731_confronting_the_challenges_strategies_for_managing_infectious_diseases)
12. Read [7.3.2 Opportunities and Challenges Ahead](https://books.byui.edu/sustaining_life/732_opportunities_and_challenges_ahead)
    1. What are some of the opportunities ahead for infectious diseases?
    2. What are some of the challenges still ahead for infectious diseases?
13. Optional Resources
    1. **Watch** the TED Talk ["How Pandemics Spread"](https://www.youtube.com/watch?v=UG8YbNbdaco) video (8:00 minutes) or read the ["How Pandemics Spread."](https://docs.google.com/document/d/e/2PACX-1vQlco0962GTsq5LZRcAuD16PZJGVJNNiv6OWOXNFwdQKSjQxdOeY0PJTuA2bLTdec1rJKIVJUNSrNON/pub)
    2. **Watch** the [Foodborne Outbreaks](https://www.youtube.com/watch?v=iIaKWNZhz74) video on food-borne illness.

## A white shirt with a purple background AI-generated content may be incorrect.Gospel Connections: Immunization Awareness A blue square with white text and numbers on it AI-generated content may be incorrect.

* **Watch** the ["Immunization Awareness"](https://video.byui.edu/media/t/1_i63qol7k) video (3:49 minutes) or read the ["Immunization Awareness" transcript](https://docs.google.com/document/d/e/2PACX-1vR7YHD9TEd2EFP8PdYaWfGamW-XowzWdFk5oTgFAEmV6ubj2HifpD_pmlPBnrvTkCUuCOZ8IvgmXZFz/pub).

### W07 Optional Application Challenges: Infectious Disease

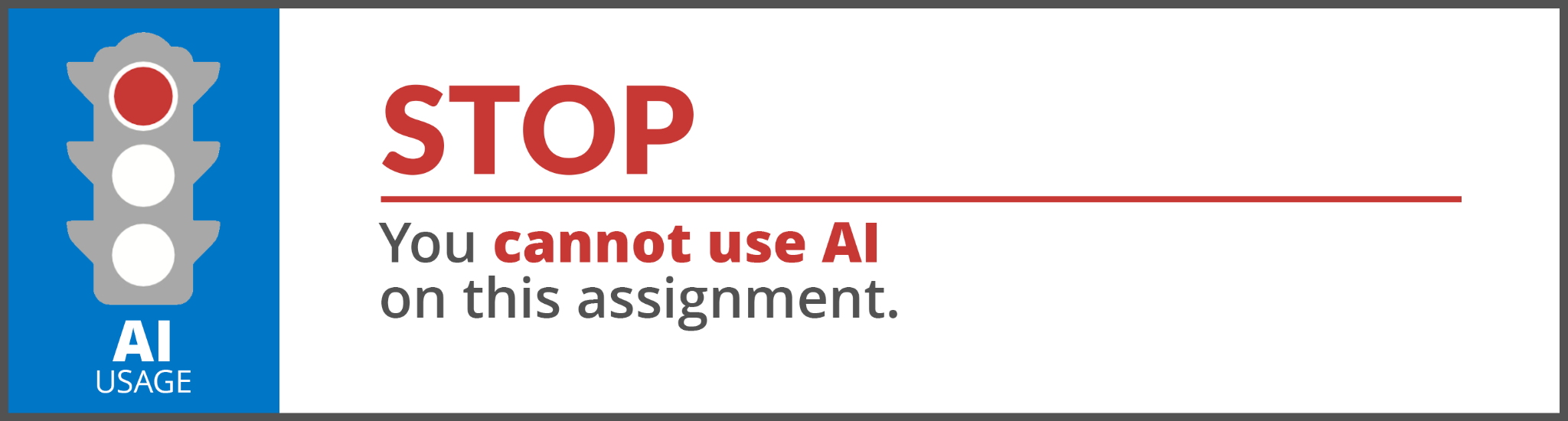
* **Reduce the spread of disease in homes, schools or communities.** Why is infectious disease more controlled in developed nations as compared to developing nations? What could be done in your country to improve the control of infectious disease spread**?**
* **Research more about a common infectious disease in your country.** Learn if there is a vaccine for it and how effective it is. What are ways this disease can be treated and prevented?
* **Learn more about different vaccines that are produced and their effectiveness at preventing illness.** Research the benefits and any potential side effects.

### W07 Quiz: Infectious Disease

**Overview**

* **Purpose**: To demonstrate mastery of this week's material and to show preparedness for future course activities.
* **Task:** Complete the W07 Quiz: Infectious Disease in Canvas.

### W07 Activity: Vaccinations



**Overview**

* **Purpose:** Vaccinations help to prevent infectious diseases and death. This activity addressed how and why vaccines are made, their history, and the benefits and risks of vaccines.
* **Task:** Learn more about vaccinations and answer the questions below. Submit your work in Canvas.
* **Due:** This is due midweek in Canvas.

**Instructions**

1. **Watch** the following video on vaccinations: ["TED Talk: How do vaccines work?"](https://www.youtube.com/watch?v=rb7TVW77ZCs) (4:35 minutes) or read ["How do vaccines work?" transcript.](https://docs.google.com/document/d/e/2PACX-1vQsowUmMH9DMbt98HHWupF00NV7OBzJFhiXb5i7OqqAkopcvt-mTlxUXHybbuUv2cLhfwnVqzpi0ss-/pub)
2. Knowing where to get reliable information related to vaccines is important. Exploreeach of the three following websites.
   1. [Vaccine Education Center](https://www.chop.edu/centers-programs/vaccine-education-center)
   2. [Vaccines 101](https://historyofvaccines.org/vaccines-101)
   3. [CDC Vaccines and Immunizations](https://www.cdc.gov/vaccines/index.html)
3. **Write** three questions you have about specific vaccines. Researchthe answer to your three questions.

|  |  |
| --- | --- |
| **My vaccine-related questions** | **What I learned in my research** |
| 1. |  |
| 2. |  |
| 3. |  |

1. **Research** three of the greatest benefits and three of the greatest challenges or concerns you found with vaccination. Describe them below. Consider both the needs of the individual and the community.  Include sources (such as links to websites).

|  |  |
| --- | --- |
| **Benefits of Vaccination** | **Challenges or Concerns of Vaccination** |
| Benefit 1:    Benefit 2:    Benefit 3: | Challenge 1:    Challenge 2:    Challenge 3: |

1. **Read** the following counsel from the First Presidency of The Church of Jesus Christ of Latter-day Saints on vaccines and record your insights.

* [1957 First Presidency Letter on Polio Vaccination](https://newsroom.churchofjesuschrist.org/article/first-presidency-polio-statement-1957)
* [First Presidency Letter from August 2021 on COVID-19 Vaccination](https://newsroom.churchofjesuschrist.org/article/first-presidency-message-covid-19-august-2021)
* [Church Handbook on policy and guidelines regarding vaccinations (38.7.13)](https://www.churchofjesuschrist.org/study/manual/general-handbook/38-church-policies-and-guidelines?lang=eng#title_number238)

**Insights:**

1. **Position** Summary: In a short paragraph, answer the question,
   1. Should we be concerned about vaccinations? Answer Yes or No.
   2. Share your reasoning.
2. **Copy** the completed questions and answers above for this activity. Paste your answers in the W07 Activity A: Vaccinationassignment in Canvas.

**Optional Additional Resources**

* [Should we be concerned about vaccinations?](https://docs.google.com/presentation/d/1PPwshn_2UUPUzROQd8BHkxiNkHtLgT1-/edit?usp=sharing&ouid=111621096177507775047&rtpof=true&sd=true) (Forum slides from the 14-week version of this course)
* ["Why it actually took 50 years to make the COVID mRNA Vaccine"](https://youtu.be/XPeeCyJReZw) (a video about the development of the COVID mRNA vaccine)

### W07 Surveys

**Overview**

* **Purpose:** Collect data.
* **Tasks:** Take 2 surveys.

**Instructions**

1. **Take** the 5 question W07 Survey: Project in Canvas.
2. **Take** the 3 question W07 End Of Course Evaluation in Canvas.

# Final Thoughts

Congratulations, you have completed the GESCI 110: Sustaining Life course! Thank you for your diligence and effort at completing the activities of this course.

If you like, reach out to your instructor and WhatsApp Team members and give your final thoughts, feedback, and farewells.

We hope the topics and lessons we have learned during this course will bless you to be a wise steward in your families, communities, and the world. Through our course, you have learned more about the strengths and limits of science and how to evaluate sources that are presented to you for reliable information and credibility, and we know this skill will serve you well in the future.

We hope you have enjoyed the opportunity to discuss differing viewpoints and learn from the experiences of others in our WhatsApp Teams. We hope you have come to appreciate the many professions and careers related to sustaining life.

Overall, we hope the topics we have discussed through our course have blessed you and helped you improve your discipleship in Jesus Christ.

May God bless each of you as you continue in your education and improve your life and the lives of those around you!

# Copyright

The *GESCI 110 Sustaining Life Course Packet* was created at BYU-Idaho under the direction of the College of Agriculture and Life Sciences among a collaboration of departments. It incorporates the best information known to science with principles taught in The Church of Jesus Christ of Latter-day Saints. Efforts have been made to integrate the gospel and science to help students make optimal resource management.

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