

Health and Wellness

Teacher Edition



Oak Meadow

Oak Meadow, Inc.

Post Office Box 615

Putney, Vermont 05346

oakmeadow.com



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Teacher Edition Introduction

This teacher edition is designed to help you guide your student through *Health and Wellness*. It includes the full text of the student coursebook, which contains all the instructions and assignments for this full-year course. There are 36 lessons, and each is designed to take one week to complete. There is also a physical education (PE) element embedded in the course that guides students through developing and maintaining a physical fitness program, for which you may award PE credit.

How to Support Your Student

The course is meant for students in grades 9–12, and there are likely to be vast differences in students' skills. Feel free to reduce the number of required assignments or offer nonwritten ways for students to respond, such as discussions, visual representations of the material, or recordings of their responses in audio or video form.

In this teacher edition, you will find the full text from the student coursebook as well as teacher edition answers, which are shown in **orange**. When a student gets a factual answer wrong, you can share the correct answer and address any underlying misconceptions. Several incorrect answers related to a particular topic point to an area the student will benefit from revisiting.

For obvious reasons, it is best not to share this teacher edition with your student. Each student is expected to produce original work, and any incidence of plagiarism should be taken very seriously. If you notice a student's answers matching those of the teacher edition word for word, a discussion about plagiarism and the importance of doing original work is necessary. While students in high school are expected to be well aware of academic honesty, any discussion about it should be approached as a learning opportunity. Make sure your student is familiar with when and how to properly attribute sources. (Information on this can be found in the appendix.)

About the Content

Learning about health and wellness can be empowering, exciting, and inspiring. However, some of the topics are challenging on a social-emotional level, so we encourage you and your student to explore this course together. Students may need your support as they process and respond to the material.

This course contains sensitive and mature topics related to physical and mental health, including the following:

- Addiction
- Anxiety, depression, and suicide
- Sexuality, gender identity, and sexual orientation, including sexting, pornography, consent, contraception, and resources that have detailed information about sexual health
- Dietary assessment, food analyses, and weight
- Violence, including gun violence, cyberbullying, cyberstalking, domestic abuse, and rape

You are encouraged to review the lesson material in advance so you are prepared to support your student. While most high school students are able to process this material successfully, if you feel your student might find the material too intense, you are encouraged to provide alternate readings and assignments.

We hope you and your student find this work to be engaging and transformative as you explore health and wellness.

A Note About the Workload

Oak Meadow courses are designed to be flexible. Teachers can require all assignments to be completed or designate some assignments as required and others as optional. This lets teachers adapt the course for a wide range of student abilities, goals, and skills.

Students vary greatly in terms of their ability to absorb information and express themselves. Some may find the reading in this course takes longer than expected; others may find the writing assignments take a great deal of time. In general, students can expect to spend about five to seven hours on each weekly lesson. If your student needs more time to complete the work, you can modify lessons to focus on fewer assignments or allow them to complete some of the written assignments orally. Modifications like these can allow students to produce work that is of a higher quality than if they have to rush to get everything done.

Each lesson in this course can be customized to suit your student's needs. Use your judgment in culling, substituting, and adjusting assignments as needed so that your student can meet the course's main objectives while devoting an appropriate amount of time to their studies. Keep an eye on the workload as your student progresses through the course and make adjustments so they have time for meaningful learning experiences.



Coursebook Introduction

Welcome to *Health and Wellness*! In this in-depth exploration of health and wellness, you'll encounter things that are familiar to you as well as entirely new ideas and perspectives. The goal of this course is for you to develop a clear understanding of what health means to you, a desire to make a healthy lifestyle an integral part of your life, and an open mind about health-related topics.

Before you dive in, think about why you are taking this course. Is it just a requirement that you need to complete? Are you interested in health-related topics? Whatever your goals are, you are guaranteed to learn new things and be challenged in new ways. This coursebook could be considered a manual for life.

Medical Disclaimer

The information, instructions, and activities in this course are not intended to take the place of the advice and care of a qualified health care professional. If you have any questions about your health, consult your health care provider.

Notes About This Course

This course is very inclusive. We acknowledge all students for what they bring to it. We embrace the diversity of humans and everyone's right to live a healthy life. You will see the topic of health and health care disparities among different communities come up throughout the course.

You might notice that the course textbook uses the pronouns *he* and *she*, and there is no reference to other genders or pronouns. To the gender-nonconforming or gender fluid students taking this course, we recognize that you are here and are a vital part of our community.

Here are some perspectives to keep in mind as you go through this course.

Question what you are learning. Nowhere is that more personally related to your life than with health-related topics.

Pay attention to the media. Issues related to health are constantly making the news. Learn to listen to the news with a skeptical ear, seek out your own sources, and develop your own conclusions.

Research is continually bringing to light new information. As you open yourself up to new ideas, be sure they are coming from credible sources.

Use your critical thinking skills when you listen to the news and learn of new findings in the field of health (or any field, for that matter). For instance, public radio reported a study that concluded that students who get a good night's sleep before an exam do better than those who stay up most of the night studying for it. The conclusion was that the mind is more awake and aware when well rested. This seems to make perfect sense, right? However, the report didn't include information about whether the two groups of students tested were equally prepared for the exam. What were their study habits in the weeks leading up to the exam? Were the students who pulled an all-nighter procrastinators? How much effort overall did they put into their studies? The difference in the exam scores might be attributed to a number of factors unrelated to sleep. For a study like this to mean anything at all, we need to know that the experiment was *controlled* in some way. You would need to refer to the original study in order to evaluate its credibility. Factors that could bias the results should be clearly stated, as should all the attempts to keep it a controlled study.

As a consumer of health information, it's important to carefully evaluate the source of the information and get all the facts and available evidence before you form an opinion or make a decision.

Important Note About the Course Content

This course contains sensitive and mature topics related to physical and mental health, including the following:

- Addiction
- Anxiety, depression, and suicide
- Sexuality, gender identity, and sexual orientation, including sexting, pornography, consent, contraception, and resources that have detailed information about sexual health
- Dietary assessment, food analyses, and weight
- Violence, including gun violence, cyberbullying, cyberstalking, domestic abuse, and rape

If you are struggling emotionally with any of the material in this course, contact your teacher or another trusted adult.

Course Materials

The following materials are used in this course:

- *Glencoe Health* (Glencoe McGraw-Hill)
- *Human Anatomy Coloring Book* by Margaret Matt

- *Spark: The Revolutionary New Science of Exercise and the Brain* by John J. Ratey
- *In Defense of Food: An Eater's Manifesto* by Michael Pollan

You will also need a set of colored pencils.

You will be choosing a book to read in lesson 6, which you will need to acquire on your own.

This course also uses online resources, which can be easily accessed at oakmeadow.com/curriculum-links. Visit this page to familiarize yourself with how to locate the online resources for this course, and then bookmark the page for future reference.

In addition to the academic portion of the course, you will be actively engaged in a physical fitness program throughout the year. It is suggested, but not required, that you use a heart rate monitor as a tool to improve your aerobic fitness. This tool is not included with the course materials, and the fitness lessons can be done without a heart rate monitor.

We recognize that students have differing physical abilities in terms of a fitness regimen. You will need to customize the program to fit your needs and abilities. If you need guidance on how to make the fitness portion of the course work for you, talk to your teacher and make adaptations as necessary.

How the Course Is Set Up

This course is divided into eight units, and you will notice a lot of crossover between the topics. Each lesson is intended to be done over the course of one week and take approximately five to seven hours to complete.

This course is designed for independent learning, so hopefully you will find it easy to navigate. However, it is assumed you will have an adult (such as a parent, tutor, or school-based teacher) supervising your work and providing support and feedback. We will refer to this person as “your teacher” in this course. If you have a question about your work, ask them for help.

Here are the components you will find in the lessons:

An **Assignment Checklist** is found at the beginning of each lesson. Assignments are fully explained in the lesson.

Learning Objectives outline the main goals of the lesson and give you an idea of what to expect.

Lesson Introductions provide background information as well as important concepts that are not included in the textbook and other reading. This section is required reading.

Stop, Think, and Do sections instruct you to complete an activity in the middle of a reading passage. This is often a quick self-test to check your current understanding of the topic. The answers are found at the end of the lesson.

Reading and Viewing Assignments are the primary sources of information and use a variety of supplemental texts and online resources.

More About . . . offers additional information to augment and add context and perspective to the textbook material. This is an important (and required) part of the lesson reading.

Writing Assignments highlight important concepts and information, develop your analytical skills, and help you gain a deeper understanding of the lesson topics.

Activities provide many ways to explore the lesson topics, and you will often have multiple options to choose from.

Further Study activities are optional for those who want to dive deeper into a topic. Feel free to ask your teacher if you can substitute one of these for another activity in the lesson or in any other lesson.

A **Unit Project** is included in Unit 4. You will be given plenty of time to complete this project toward the end of the unit. There are also assignments that lead up to the project.

A **Book Project** begins in lesson 6 and is completed at your own pace by lesson 23, with reminders throughout the course. Feel free to get the audiobook version if that works better for you.

The **Fitness Program** is an integral part of this course. Taking into account your own physical abilities, you are expected to develop, maintain, and track your own fitness program, using the guidelines given as a starting framework. If you have any questions, discuss them with your teacher. By following the program, you can earn physical education (PE) credit.

Share Your Work provides a reminder for those submitting work to a teacher.

Study Tips

It is extremely important to get into the habit of using your own words when you write your answers. Do not copy from any text without putting the phrase in quotes and citing it properly. Refer to the appendix for writing guidelines and information on citing sources.

One way to avoid plagiarism and learn more at the same time is to read a text one section at a time, stopping to take notes—in your own words—at the end of each section. (You can do this with a video as well by stopping it to take notes as needed.) Write down your understanding of the information presented. After you've done that, return to the text for clarification, and make corrections to your notes if need be.

There are no tests for this course. Instead, you will be using what you've learned to complete tasks, answer questions, support opinions, and express your ideas.

The study tips below can help you be successful in this course.

- Use a planner or other organizer to manage your time and help you complete your lessons on a consistent schedule so you can finish the course within the expected time period.

- Start each lesson by looking through all the tasks, materials, and work you will submit. Make a plan for the week, and reach out to your teacher if you need help or feel you need more time.
- Pay attention to key terms (highlighted in the textbook). If you do not understand a term, look it up. If you are still having trouble understanding the term or its significance, discuss it with your teacher.
- Plan your book project and unit project by creating a schedule for yourself so you can complete what you need to each week and finish the projects in the allotted time.
- Follow the guidelines in the appendix for citing your sources to avoid any issues with plagiarism.
- Check in with your teacher regularly, and let them know if you have questions about your assignments or how to get the most out of this course. Advocate for yourself! Your teacher wants to help you be successful.

Academic Expectations

You are expected to submit original work and cite all sources referenced in your responses. This health course explores important matters related to the human body, and you are expected to use scientific terms in your work. Proofread your written assignments before sharing them with your teacher to best demonstrate your knowledge and skills.

The appendix contains important material that you will need to read and incorporate into your work throughout the year. Take some time to familiarize yourself with the resources in the appendix. You will find information about how to find reputable sources, avoid accidental plagiarism, and cite sources and images.

A Note About the Workload

Students vary greatly in terms of reading speed, reading comprehension, and writing ability. Some may find the reading in this course takes less time than expected; others may find the writing assignments take a great deal of time. In general, you can expect to spend about five to seven hours on each weekly lesson.

Keep an eye on the workload as you progress through the course. If you find you are struggling to complete the work in a reasonable time frame, contact your teacher to discuss your options. Your teacher might modify lessons depending on particular learning goals or challenges you are facing.



UNIT 1: Introduction to Health, Wellness, and Fitness

Welcome to this journey into health and wellness!

Have you ever thought about what health actually means? Throughout the course, we will be exploring many different aspects of health, and you will be forming meaningful connections and opinions in terms of your own well-being.

Positivity Check-In

At the beginning of each unit, you'll find a little reminder to think of the positive things that are going on in your life. This is not a command to "Smile!" or "Be positive!" Rather, it is an invitation to reflect on the past few days or weeks and think of good things that have happened in your life. We tend to give a lot of attention to negative things, and this is not surprising because they seem to demand a lot of attention. So why not devote a little attention to something good in your life?

Your task is simple: bring to mind something you're happy about, something that feels good, or something that lifts your spirits. It can be a small thing, even a single moment of goodness.

This is not an assignment—there is nothing to submit to your teacher. However, you might like to keep track of your positive moments by writing them down (in the space below or in a journal). This can help affirm the good in your life and cultivate a sense of gratitude and well-being.

What made you happy recently?

Lesson

1

Defining and Building Health and Wellness Skills

Learning Objectives

In this lesson, you will:

- Explore how social, emotional, environmental, and other factors affect health and well-being.
- Evaluate the accuracy of claims in a health-related article.
- Apply a decision-making process to a personal issue or problem.

Lesson Introduction

This lesson introduces a lot of information and is set up a little differently than other lessons. You will be stopping at different points in the reading to complete an assignment. Take a quick glance over the entire lesson before you read any further to get a good idea of the lesson's structure and content. This will help you plan your time so you can divide up the work throughout the week.

This is a good habit to get into for each lesson. You can also use the assignment checklist to keep track of your work.

Note: This introduction is your only reading assignment for this lesson, so take your time.

Defining Health

One simple definition of *health* from Oxford Languages is “the state of being free from illness or injury.” Merriam-Webster defines it as “the condition of being sound in body, mind, or spirit.”

Does that mean if you have a cold, you are not healthy? If you have a broken leg, are you healthy? What if you have a physical disability—are you healthy?

According to the World Health Organization, health is “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” This definition adds more nuance, but there could be other facets of health added. What about emotional and spiritual health?

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Reflect on your health-related ideas and goals.
- ☐ Use the wellness wheel to examine aspects of your own health.
- ☐ Evaluate the credibility of a health article.
- ☐ Use and evaluate the decision-making model.
- ☐ Set a goal and create an action plan.

As we start to look closely at the meaning of health, more questions arise. Here are a few:

- Is there such a thing as good health or bad health?
- Is health an either/or situation, or is it a continuum?
- Could you consider yourself healthy in some regards and unhealthy in others?
- What does it mean to be physically fit?
- What are other factors we should consider when defining *health*?

Culture and Health

Anthropologists have found that different cultures view health in vastly different terms. Likewise, healers, doctors, and shamans utilize techniques and approaches to healing that are as diverse as the cultures from which they come. In many cultures, spiritual and physical health are intimately connected. On the other hand, much of modern medicine approaches health from the perspective that the body is a machine made up of parts that function together to keep one healthy. This approach has been coined **allopathic medicine**, and it definitely has its uses—it has contributed to incredible advancements in health care, health technology, and positive health outcomes. However, the rising popularity of **integrative medicine**, **osteopathy**, and **functional medicine**, as well as an interest in alternative health options, shows that both patients and health care workers are open to other approaches.

Terminology

Allopathy, also known as modern medicine or Western medicine, is the system of medical practice that treats disease by using remedies that produce effects different from those produced by the disease.

Culture and language barriers intersect with modern medicine to sometimes produce less-than-perfect outcomes. The need to bridge this gap is extremely important in our increasingly global community. In the United States (and in many countries around the world), there are many different cultures. To develop a more equitable and inclusive health care system, health care professionals and systems have to be responsive to cultural differences.

Consider the following scenario:

Escorted by his teenage granddaughter, an elderly Navajo grandfather was taken to the internal medicine clinic for an infection in his right leg. The granddaughter was fluent in English but had very limited Navajo speaking skills. Speaking in English, the doctor informed the man that the infection in his leg would get worse if he did not take his medication as prescribed. The granddaughter could not translate the scientific concept of infection into Navajo language. The doctor asked one of the nurses for help, and although she tried as much as she could, she also was unsuccessful. The old man, becoming frustrated, just agreed that he understood everything that

he had been told. He told the nurse he wanted to have a traditional ceremony performed for him within a couple of days, and for her to tell the doctor. The nurse translated this to the doctor, who restated the importance of taking the medicines. The grandfather insisted he understood, but in fact because he felt that he did not understand the physician's explanation, he decided to go to a traditional medicine man instead. The medicine man helped him the best he could, but the grandfather's leg had to be amputated, which the doctor ascribed to noncompliance. ("Culture and Society")

This scenario illustrates not only a language and cultural barrier, but also an entirely different way of looking at health than what many of us are familiar with. In the Navajo culture, the concept of infection as defined by allopathic medicine does not exist, making it extremely difficult to explain a treatment that fights against it. In contrast, dreams are an integral part of health and spirituality, and are considered the cause of illness. The language a Western doctor might use to describe a health situation might be so different from a patient's cultural worldview that it is not translatable.

Here is another example:

The Hmong language has no word for cancer, or even the concept of the disease. "We're going to put a fire in you," is how one inexperienced interpreter tried to explain radiation treatment to the patient, who as a result, refused treatment. (Morse)

You can see the problem quite clearly!

Let's get back to what health means to *you*. The things we do, the environment in which we live, and the food we eat all interact in so many ways that virtually everything affects our ability to maintain good health.

Today, one common reason for neglecting the maintenance of the body is lack of knowledge and awareness. Sometimes this lack of knowledge is caused by too much—and often conflicting—information. What happens when we get information overload? If it is too overwhelming, we shut down. We might think, "I feel fine right now, so what does it matter?"

We will be exploring health from varied perspectives throughout the course. By the end of the course, you will be able to define health more clearly, and possibly in a different way than you might expect. We'll start with a general overview of health and your role in maintaining your own health.

Stop here and complete assignment 1 before continuing with the lesson introduction.

Defining Wellness

Wellness is defined by the Global Wellness Institute as "the active pursuit of activities, choices and lifestyles that lead to a state of holistic health."

Notice the subtle differences between this definition and that of *health* discussed previously. Wellness is described as an *active process* rather than a state of being. It implies intention, decisions, goal setting, and action. The word **holistic** encompasses not just physical health but all aspects of the self that a person would like to exist in harmony.

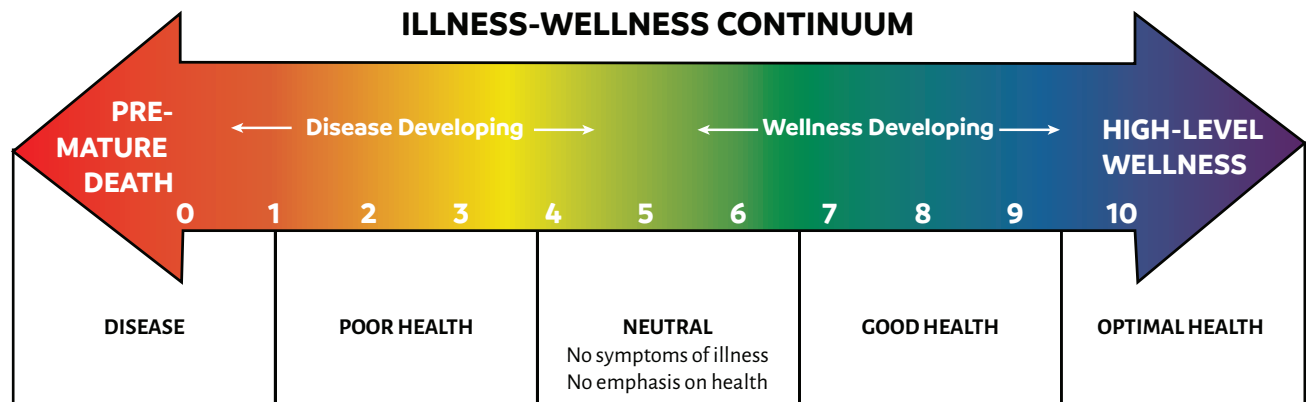
Does that sound attainable? As humans, we are always a work in progress! Consider the road to wellness as being all about the journey, not the destination. Given the proactive and behavior-driven concept of wellness, think of this course as being more about wellness than health. It is a verb—a fluid state.

Take a close look at the following wellness wheel.



If you do an online search for “wellness wheel,” you will find models that illustrate even more dimensions. For instance, “occupational wellness” might be a dimension that becomes more important in the future as you seek meaningful work in your adult life.

Sometimes health and wellness might be described as a continuum, as shown below.



Notice that the left side of the graphic describes a health perspective that focuses on treating the symptoms. On the right side, other aspects of health and wellness come into the picture, and the focus shifts to an active involvement in your own journey toward total wellness.

Where do you fall in this continuum? Many of us will place ourselves somewhere in the middle. What can you do to move toward total wellness?

Practicing with the Wellness Wheel

Consider how the concept of balance relates to the wellness wheel. Which of the seven dimensions have more relevance in your life right now? You might consider emotional, social, and physical wellness to be the main three that apply to you, or perhaps spiritual wellness is the most relevant.

Let's look at an example: Danae is highly driven to be physically fit. She has an incredibly disciplined training regimen and pays close attention to what she eats. She is actively involved in environmental causes, maintains a job to save for college, and is a high-achieving student. However, she finds herself feeling lonely at times and even depressed. What aspects of the wellness wheel are missing from her life? Perhaps she doesn't have a supportive group of friends to hang out with. Perhaps a spiritual aspect is missing, and she needs to take time to find herself, consider her values, or meditate. Maybe she would benefit from skipping a workout to spend time with friends. It's all part of the balance.

Consider another example: Alex is a highly social person who spends all their time with friends or on social media, which has become a huge distraction. As a result, Alex's schoolwork has suffered. They get a little exercise, but it is not high on their priority list. Alex's wheel is also out of balance because they have not put in the energy to focus on who they are, what their priorities are, and how to take care of their body, which affects the rest of the dimensions on the wellness wheel. Some balance is needed.

Stop here and complete assignment 2 before continuing.

Personal Behavior and Responsibility

Being able to make healthy decisions and playing an active role in your own wellness requires focus, attention, and intention. In order to make good choices, it's important to recognize how outside influences affect your health. Here are a few factors—can you think of any others that pertain to your life?

- **Environment:** This includes the physical environment around you—your neighborhood, quality of water and air, safety issues, etc.—as well as the people around you who influence your choices. It might include cultural aspects as well.
- **Heredity:** The genetic traits that you inherit include body type (such as a stocky build or tall and thin) and inherited conditions. It could be something that might compromise or alter your experience with health.
- **Technology:** It surrounds us all every day. How much time you spend on social media and how you are spending that time can have a big impact on your health. For instance, if you spend a lot of time following celebrities (and comparing their lives to your own) or focusing on the bad news that dominates the media, it can negatively affect your emotional health. Conversely, you can use technology in ways that contribute positively to your health.
- **Attitude:** The attitude you choose to have toward life can have a profound effect on your health. You might face life as an optimist or a pessimist. You might be assertive, compassionate, apathetic, impatient, or enthusiastic. How would you describe yourself? Does this attitude support your sense of wellness? If not, how can you work on shifting your attitude to improve your overall health?
- **Behavior.** This is a very broad category and one you have a lot of control over. Think about how the choices you make every day impact the various dimensions of your health and wellness. Are there choices you could make that would contribute to a healthier lifestyle?

If you want more detail on the outside influences that affect health and wellness, see module 1, lesson 2 (8–12) in your textbook.

Some things you can change, and some things you can't. But you can choose how to deal with what happens in your life, and you can make healthy choices when facing challenges.

Health Literacy

The path toward wellness starts with an awareness of where you are right now. From there, you can move forward with adjustments in behavior, attitude, support, and any other things that affect your state of wellness. First, you will need to increase your knowledge about health-related topics so you can make good choices about your health. Where do you turn for that?

The media is riddled with all kinds of health advice: *Eat no fat! Eat lots of fat but no carbs! Try this cure for acne! This one exercise is all you need to do to be fit!* The list goes on and on. How do we know what to trust?



Health literacy includes studying health in a scientific way, but this has inherent challenges. Studies need to be large enough to be scientifically valid, and they also need to be done on humans. Scientists strive to control an experiment by isolating the variable they are studying as much as possible. How is this even achievable in a large group of humans? How do you account for things like racial disparity, income disparity, environmental factors, different lifestyles, different age groups, different eating habits, and inherited health issues that might complicate the results?

In fact, there are many examples of disparity in health studies. Joseph T. Costello, a researcher at the Institute of Health and Biomedical Innovation in Brisbane, Australia, examined data from nearly 1,400 research articles with more than 6 million participants and found that 39 percent of the subjects were female and 61 percent were male. This sex disparity continues today; there has been very little research on the differences between female and male bodies and how these differences pertain to health and medical studies. For instance, despite efforts to increase the number of women doing sports research, it is still a male-dominated field. According to Audrey Bergouignan, a physiology researcher at the University of Colorado at Denver and the French National Center for Scientific Research, “[males] were predominantly the ones conducting the research and in the position to make decisions about policy and research design” (Yu). So, how do we find out what is different about women’s bodies? Where do we turn?

Here’s another example of disparities in health research: it’s known that darker skin contains more melanin, which is a protective factor against melanoma (skin cancer). Almost all the studies involving melanoma have been done on white people, not people of color, and the diagnostic tools were

developed for Caucasian skin. Therefore, melanoma in people of color, though not as common as in white people, tends to be diagnosed at a more advanced stage when it is difficult to treat, resulting in a lower survivor rate. In one study, 1,800 non-Hispanic Black Americans with a very harmful type of melanoma were studied, and the results were compared to non-Hispanic white people with the same type of melanoma. “Five years after their diagnosis of melanoma, about 90 out of every 100 non-Hispanic whites were still alive, compared with about 66 out of every 100 non-Hispanic Blacks” (McDowell). Why is there such a huge disparity in survival rates? In this case, not even doctors have been properly trained to diagnose melanoma on dark skin.

If health studies and medical training don’t take into account simple factors such as gender and race, how can we be expected to know if the health information we are receiving is accurate?

Health information changes all the time with new research. Even a credible scientific study might eventually be considered inaccurate because of future research. This is the way it is supposed to work, and most scientists do their best to highlight the limitations of their studies. Just like with the process of striving for wellness, you can consider science to be a verb because it is an ongoing process. This is why the process of science can be trusted. It includes a system of checks and balances, with ongoing research that validates or finds flaws in previous work.

The two studies described above are examples of scientists checking others’ work and learning new information. The SARS CoV-2 (COVID-19) pandemic is another. In 2020, scientists were scrambling to learn more about the virus and how it was transmitted. The stakes were high, and everyone wanted to know as much as possible immediately. The recommendations for prevention and treatment changed as scientists learned more. That is science at work.

Finding Credible Sources

Here are some simple ways to find and evaluate credible sources:

- Watch out for sensational headlines. You might see a “sudden breakthrough study,” “startling findings,” or claims that “the truth has been found.” Be wary! Headlines such as these are generated by the media; science reports are not written in this way. Instead, credible science reports use phrases like “our findings support the conclusion that . . .” or “evidence suggests . . .”
- Generally, websites with the suffix *.gov* or *.edu* provide credible information. Many sites with *.org* use credible science to back up their articles. For the *.org* sites, make sure the information cites **peer-reviewed studies**.
- Watch for sponsored websites or ads. The sponsoring organizations often want to sell something, so their reporting or wording might be misleading or not tell the whole story. Don’t automatically rule them out, but be wary.
- When you read an article, look for links to the original peer-reviewed studies.
- Look at the details. Were multiple genders represented in the study, or was it mostly men? Is there mention of race or socioeconomic status? Was the age range clearly stated?

- Finally, any credible study should be backed up by further studies. Look for more than one study on the topic.

Terminology

A **peer-reviewed study** is a scientific or academic study that has been evaluated by other experts in the same field before it is published. The process ensures that valid and credible science practices were used.

Today, there is so much health information online that people often do their own research to become an “expert” on their health condition. This has pros and cons. Remember that you are not as well trained as your doctor! However, doctors might not have a lot of time during an appointment to explain all the details to you. And sometimes health professionals are so busy that they are not able to keep up with the latest research. Doing your own research and staying informed can help you develop smart questions to ask, and it might prompt you to seek another medical opinion.

It is also worth noting that there are factual sites about health conditions, and there are also forums where people with the condition discuss living with it. Forums can offer a very different kind of information, often precisely the kind that doctors don’t have time for. Much can be learned from the common experiences of others, even if it is just learning the right questions to ask.

Learning to be your own health advocate is a big responsibility, and it starts with being a responsible health researcher and consumer.

Stop here and complete assignment 3.

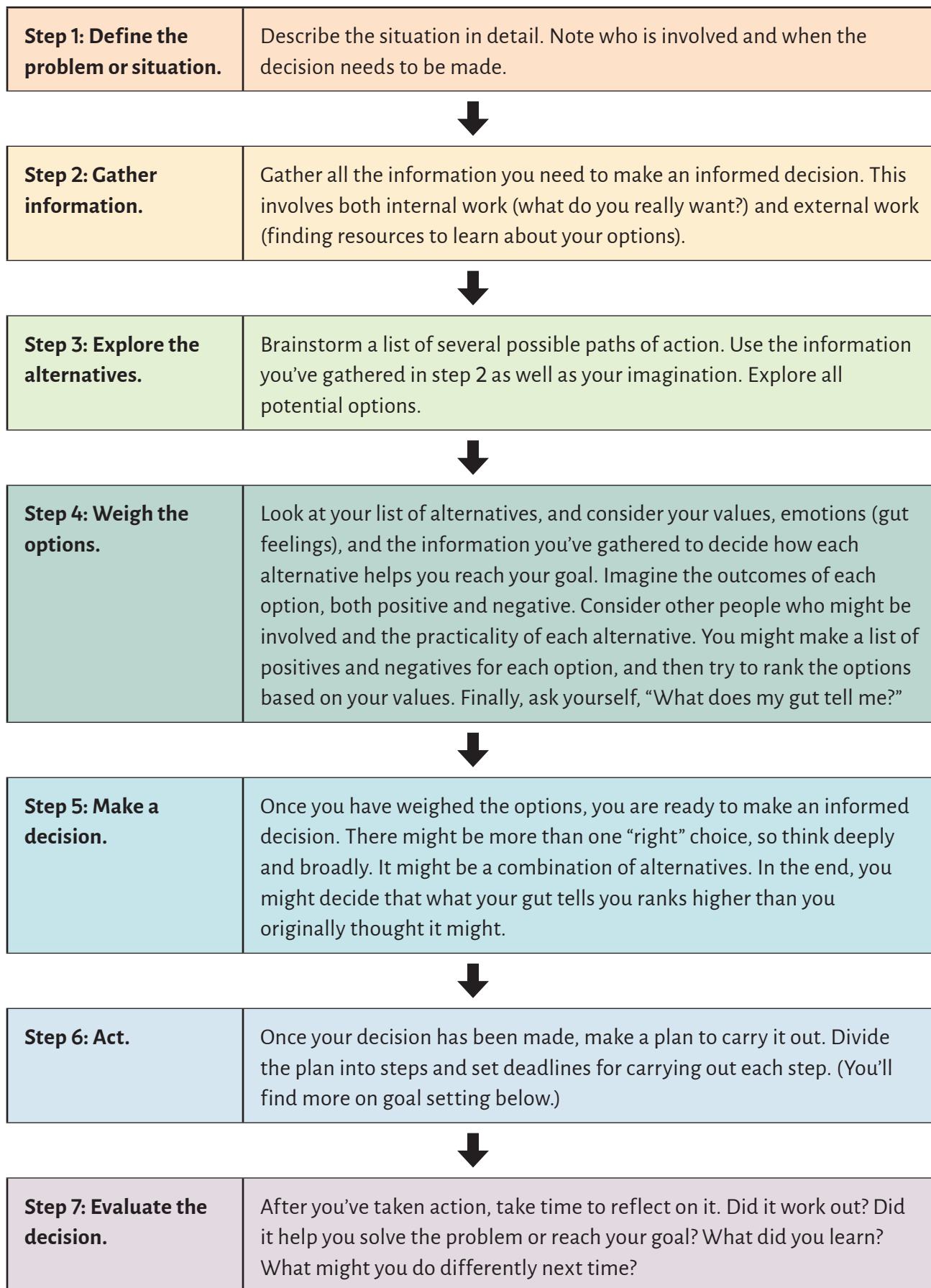
Making Decisions

We’ve touched on the topic of making decisions that will enhance your health and wellness. As you move toward adulthood, decision-making skills become more and more important. Often, when it comes time to make an important decision, we might feel uncertain, powerless, or overwhelmed. Practicing some basic skills can help.

First, let’s discuss the role of **values** in decision-making. Values are the beliefs, principles, ideas, and attitudes that you consider important in your life. Some examples include family, integrity (living by your principles), honesty, fitness, and compassion. A person can have dozens of values that are important to them. These values need to be considered—and sometimes prioritized—when making decisions.

Below you will find a seven-step process that is a useful strategy for decision-making.

7-Step Process for Making Decisions



As an example, let's use the following decision that might be faced by a high school student:

I really want to go out with my friends on Friday night, but I have a lot of schoolwork to do, and not doing my work will put me further behind in my studies.

Let's use the seven-step model to examine this situation. You will see the intersection of several dimensions of the wellness wheel, with social wellness ranking high in importance in this particular situation.

Step 1: Define the problem or situation.	I just found out that my best friends are getting together on Friday night to hang out and listen to music. I really want to go, but I already made a commitment to stay home this weekend and catch up on schoolwork. If I go hang out, I won't have enough time to get my schoolwork done.
Step 2: Gather information.	Find out how late everyone will be staying. How long would I be gone? If I did go, is there another time during the weekend that I could do schoolwork? Find out what my parents think of this choice. Find out if my family has plans that might conflict with any of this. Find out if there is another time soon when my friends and I could all get together.
Step 3: Explore the alternatives.	a. Go out, have fun, and plan on working more efficiently over the weekend. b. Stay home and just get my work done. c. Go out and skip the shopping trip I had planned for Saturday. d. Go out and just stay for two hours so I can get up early Saturday to do schoolwork. e. Talk to my parents to have them help me balance these options. (This list could go on.)
Step 4: Weigh the options.	a. If I go out without a definitive plan for "working more efficiently," it's unlikely I'll be able to get all my schoolwork done this weekend. b. If I stay home and get my work done, I'll feel good about that, but I might be miserable that I missed out on important social time that I really need in my life right now. c. What do I want more, to hang out with friends or go shopping? (I really want both.) Which do I value more? I'm thinking I really need time with friends more than shopping.

Step 4: Weigh the options. (continued)	<p>d. Do I really have the ability to go out but leave early when everyone is having a great time? I like the option, but I don't know if I'm capable of doing that.</p> <p>e. My parents know me well, and if I talk to them, they might be able to help. But I'm also afraid that I know which one they'll say I should do, and I want to make the choice for myself.</p>
Step 5: Make a decision.	Looking at all the options, I think that option c is the best choice. My friends are more important than shopping, and I'll have a great time. Then I will feel good when I dig into my work on Saturday. There will always be another chance to go shopping.
Step 6: Act.	I will put a plan together for the whole weekend of schoolwork.
Step 7: Evaluate the decision.	This worked well because I got to hang out with friends and was able to finish my schoolwork. But the following week, I didn't have the item I planned to shop for, which caused some problems at band practice. Next time, I'll make a plan that addresses everything that needs to get done.

This example is a relatively small decision. There are also much bigger decisions you'll face, such as the following:

- Where do I want to go to college?
- Should I go to college after I graduate, or delay college so I can work or gain experience first?
- Would it suit my interests better to go to trade school instead of college?
- Should I try to work in a trade and get experience to help me make that decision?

Decisions such as these will likely result in a long list of alternatives, pros and cons, and short- and long-term goals. Every decision is different, but the seven-step process can help you organize your thoughts, and it allows you to take into account your values as well as your gut feelings, which you should not ignore.

Knowing you've done all that you can do to make the right decision for you will build your confidence and self-esteem. Intentional decision-making is a skill that will serve you well throughout your life.

Stop here and complete assignment 4.

Setting Goals

“A goal without a plan is just a wish.”

The Little Prince by Antoine de Saint-Exupéry

When it comes to goal setting, it can be very helpful to have a specific process to follow, like the one we just outlined for decision-making. When you have something you want to achieve, it can be overwhelming to figure out where to start. This is another skill that can be practiced to make your goals more attainable.

An **action plan** is a strategy that can help you reach your goals. One tried-and-true model that can make an action plan workable in both business and personal settings is the **SMART goal model**. The same process can be used to reach both short-term and long-term goals. In fact, you can use short-term goals to help you reach your long-term goals.

SMART Goal Model

S	SPECIFIC	<p>Be specific when setting a goal. What do you want to do? How will you do it?</p> <p>Example:</p> <p>“I want to ski faster and shave three seconds off my time on the giant slalom run by the end of the ski season. To do that, I will work closely with my coach to improve my technique.”</p>
M	MEASURABLE	<p>Create an action plan that is measurable. How will you measure your progress? How will you know you have accomplished your goal?</p> <p>Example:</p> <p>“I will obtain video of my body position and analyze it with my coach. I will also measure my time for a specific run as I practice. I will practice that run at least four days a week.”</p>
A	ATTAINABLE	<p>Develop a plan that is attainable. Is your goal realistic given your available time and resources? Be honest with yourself as you examine this.</p> <p>Example:</p> <p>“I would really like to shave five seconds off my time for this specific run, but since I only have two months, I will focus on the goal of three seconds. I have my coach to help me as well as my teammates, and I can borrow video equipment. Snow conditions will vary, so my results will depend on that as well.”</p>

R	RELEVANT	<p>Create a goal that is relevant to you. Does your goal align with your values and other goals? Will it make a positive difference in your life?</p> <p>Example:</p> <p>“Ski racing is my passion, and I am highly motivated to improve because I would like to race in college. This goal is relevant and aligned with my larger goals.”</p>
T	TIMELY	<p>Develop an action plan that can be done in a reasonable amount of time. Can you complete your action plan in the amount of time that you have? If not, how can your goal or action plan be modified?</p> <p>Example:</p> <p>“If I work hard with my coach four days a week, put in extra time on my own, and follow other techniques such as visualization, I think I can accomplish my goal by the end of the ski season.”</p>

Creating an Action Plan

Once you have a SMART goal, you'll need a plan to make it happen. Using our ski-racing example, here's how this could work.

1. State the goal.

2. Write down the steps you'll need to do.

Write down everything you can think of.

- Talk to my coach and explain to her what I want to achieve.
- Attend every practice, and ski on my own as well.
- Have my coach, teammates, or family record a video of me skiing so I can analyze my body position with my coach.
- Eat well and get a lot of sleep so I can perform at my best.
- Learn about mindfulness and how visualization can help me perform better.
- Write in a journal every day about my progress and how I feel.

3. Identify sources of support.

- Coach
- Team members
- Family
- YouTube videos, etc.

4. Set a time frame, and break down the goal into smaller steps as needed.

- Talk to Coach on Day 1, and start a journal.
- By the end of two weeks, start recording videos and learn what to look for.
- In the third week, work on learning about visualization and how it can help. Start practicing that.
- By the end of the first month, the goal is to ski the run two seconds faster.
- Sleeping and eating well will be ongoing.

5. Decide how you will evaluate your progress.

- Every two weeks, I'll read my journal entries regarding how I feel about my progress, and I'll note if I've seen measurable results.
- Adjust the plan as needed.

6. Reward yourself! Meeting your goal might be rewarding enough, but also consider that creating an action plan and sticking to it is something that is commendable and worthy of a reward even if you don't reach your goal! Make sure your reward aligns with your goals. For instance, you might reward yourself with new ski goggles instead of pizza and ice cream.**7. Evaluate the process.** Was the goal too lofty? What did you learn if you didn't attain your goal? Did you still improve? Should you create smaller, more attainable goals next time?

Goal setting and carrying out an action plan are skills that require practice. The more you try it, the better you will get at executing the process.

Complete assignment 5.

Writing Assignments

1. Take a few minutes to analyze your own health. Think about what health means to you, and how you fit into the criteria you envision. Make some quick notes. Then, consider how you might answer the following questions:

- Is there such a thing as good health or bad health?
- Is health an either/or situation, or is it a continuum?
- Could you consider yourself healthy in some regards and unhealthy in others?
- What does it mean to be physically fit?
- What are other factors we should consider when defining *health*?

Using your notes and any thoughts about health that you have, write a one-page essay. Include your own definition of health and give specific examples that illustrate what health means to you.

For instance, you might note specific physical qualities, behaviors, or environmental elements that affect the quality of your health as you perceive it.

Conclude your essay with what you hope to learn more about in this course.

Students should describe what health means to them and use those criteria to assess their own health. Students might mention aspects of physical, emotional, mental, and spiritual health. They might discuss diet, sleep, family life, social life, stress, etc.

Take particular note of what they'd like to learn more about, and make sure to provide options for this exploration if it is not already included in the course.

2. Referring to the wellness wheel pictured in the introduction, complete the following assignments.
 - a. Choose two aspects of wellness and describe how they overlap in your life. For example, you might describe how your spiritual traditions contribute to your emotional wellness.
 - b. Repeat this two more times with other pairs of dimensions on the wellness wheel. Give details about how each pair overlap. Keep in mind that you can use a category more than once (such as showing connections between the emotional and physical dimensions, and then showing connections between the emotional and spiritual dimensions).

Students should discuss three pairs of dimensions on the wellness wheel and describe how they overlap with each other. Some examples are given below.

Emotional and physical: I'm very into fitness, but I'm going through a lot right now and have had a hard time motivating myself to exercise. I'm not sleeping well, which stresses me out.

Spiritual and emotional: I am very grounded in my spiritual beliefs, and my religion helps sustain me. It gives me the tools I need to handle any rough patches or emotional upheaval. I'm grateful for my religion.

Intellectual and financial: I love my extracurricular activities, but my parents might not be able to afford them any longer. I want to get a job, but I worry that the stress of trying to earn money for my activities could harm my academic progress.

3. Choose a mainstream media platform and search for articles related to health or fitness. Choose one article that interests you. Examine it using the parameters discussed in the "Finding Credible Sources" section of the lesson introduction. Do you trust the information in this article? Why or why not? Elaborate on your answer.

Students should find an article and look to see if it meets the criteria for being a credible source of information. Details should be included. For instance, students might mention the original study was cited, other studies were included that corroborated the information, and the language used was scientific and not sensationalized.

4. Practice the decision-making process. You have until the end of lesson 2 to complete this assignment.
 - a. Review the steps of the decision-making process outlined in the introduction. Choose a decision that you will need to make in the next week or two.

- b. Follow the steps of the decision-making process, and write down notes about how you approached each step.
- c. After you've made your decision and evaluated it, evaluate the process itself. Do you think this exercise is useful? Which step(s) did you find easier to do, and which were more challenging? If you were to change something about the process, what would you change?

Students can present a simple or a complex example for this. They will follow up with the decision in lesson 2.

5. Practice goal setting using the SMART model. Choose a goal related to any aspect of health and wellness that you would like to achieve in the next two to four months. (Refer to the wellness wheel if you need to.) Plan to accomplish your goal by lesson 16 or earlier.
 - a. Review the SMART model in the lesson introduction, and use the guidelines to develop a SMART goal. Share your SMART goal with your teacher this week. You should address each element (specific, measurable, attainable, relevant, and timely).
 - b. Write an action plan, following the steps outlined. Keep in mind that your plan might be very detailed in some of the steps and less so in others. Decide on a time line for your goal (two to four months), and whenever that time is up, remember to reward yourself. Your action plan is due at the end of lesson 3.
 - c. Use a planner or other organizer to write down when different steps will be completed.

Students should practice setting a goal and creating an action plan using the process outlined in the lesson introduction. Check that the student's goal is specific, measurable, attainable, relevant, and timely. See the SMART model in the lesson introduction for more information and examples.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. Your teacher will let you know the best way to submit your work and whether they prefer an alternative submission schedule.

The checklist below lists all the work that may be submitted for this lesson. Consult with your teacher so you know what is required for each lesson.

- Your health-related ideas and goals
- The wellness wheel activity
- The credibility of a health article
- Your experience with using the decision-making model
- Your SMART goal

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.

Lesson

2

Physical Fitness

Learning Objectives

In this lesson, you will:

- Explain the physical, academic, mental, and social benefits of physical activity and the relationship between a sedentary lifestyle and chronic disease.
- Discuss ways to reduce the risk of injuries that can occur during athletic and social activities.
- Practice injury prevention during athletic and social activities.

Lesson Introduction

Humans have never been as sedentary as they are today. Our bodies have evolved to move throughout the day. It is well known that many common health issues (both physical and mental) are directly related to a sedentary lifestyle.

Sedentary living has wreaked havoc on our bodies. If we were humans living in a much earlier time, we would be active throughout the day, just about every day. We would be out hunting or gathering food, building shelters, hauling water, and protecting ourselves from predators. Because most of us do not live that lifestyle, we often have to create opportunities to get the exercise our bodies need.

This might seem like an easy thing to fix. Why don't we just get up and move? Hopefully, you will be inspired to do just that as you read on!

In this lesson, plan to take notes on or highlight useful concepts in the reading. Start thinking about your options for the types of exercise discussed. You will use these ideas to design a physical fitness program, and for the rest of the year, you will practice it, refine it, and track your progress with a fitness journal.

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Read module 12, lessons 1–4 (279–305) and look over the Fitness Handbook (xvi–xxv).
- ☐ In *Spark*, read the introduction and chapter 1 (3–33).
- ☐ Examine the benefits of exercise.
- ☐ List aerobic and anaerobic exercises.
- ☐ Explore safety precautions and injuries related to an activity.
- ☐ Complete your decision-making activity.
- ☐ Describe the effects of exercise on the brain.
- ☐ Activity: To Ice or Not to Ice?

Different Bodies, All Normal

People are about as diverse as snowflakes—no two are alike! There are many aspects of diversity. Human beings are diverse in terms of ethnicity, cultural backgrounds, experiences, and beliefs. They are also diverse in their values, skills, and interests as well as physical and intellectual abilities.

To embrace physical and intellectual diversity, we need to learn to talk about disabilities in a respectful way. It is inappropriate to imply that a person with a disability is not “normal.” There are many forms of normal, as we will discuss throughout this course. We are all normal, or maybe it is more accurate to say there is no “normal.” For someone who currently has no physical (or other) disabilities, we can just say “nondisabled.”

Outdated terms such as *handicapped* or *dumb* (for someone who cannot speak) can make someone feel less valued as a person. Even labeling someone *disabled* suggests that their disability is their primary identity rather than seeing them as an individual who happens to have a disability. Instead of speaking broadly of “disabled people,” we speak of “people with disabilities,” which emphasizes their personhood over their disability. If you have a disability, you will likely understand this distinction. If you are nondisabled, reflect on the subtle change in wording. How does it make you feel? Not only is each person unique, but each disability is unique as well.

Here are some examples of accurate and respectful language to use.

Disability	Respectful wording
Blind	Blind, limited vision, visually impaired
Deaf or hearing impaired	Deaf, partially deaf, hard of hearing
Physical disability	Physically disabled, mobility disabled, wheelchair user, etc.
Health conditions	Living with cancer, a heart condition, asthma, etc.
Intellectual disabilities	Has an intellectual disability, Down syndrome, genetic condition, etc.

Keep in mind that some people prefer certain terminology. One person might prefer to be called “an amputee” rather than “a person with a disability.” Another person might want to be called a “person with a prosthetic leg.” Somebody might be fine with calling themselves disabled. One person might be fine saying they are “gimpy,” whereas another will find that term extremely derogatory. When in doubt, ask the person what they prefer.

For the fitness element of this course, if you are a person with limited mobility, you are encouraged to move in whatever way you can for your exercise activities. Any movement at all is beneficial for your body and brain. Consult with your health care professional about what is appropriate and manageable.

In addition to physical differences, there may be cultural and geographic circumstances that affect how you design your physical fitness routine. The primary goal is to move as much as you can! Adapt the physical exercises in a way that works for you.

The Benefits of Physical Activity

In the book *Spark*, which you will start reading in this lesson, you will learn a lot about the benefits of exercise on the brain. This not only refers to learning and academic achievement, but also mental and emotional benefits, such as relief of stress and anxiety, help with depression, and more.

The physical benefits of exercise extend to all systems of your body, but the most obvious include those listed below.

- **Cardiovascular system.** When the heart muscle is strengthened through physical activity, it pumps blood more efficiently. Blood pressure can be reduced when the capillaries in your muscles increase in number.
- **Respiratory system.** Regular physical activity can help your lungs function more efficiently by improving their capacity and increasing blood flow to the lungs. This means oxygen is delivered to your muscles (and brain) with less effort, and carbon dioxide is expelled more easily.
- **Musculoskeletal system.** Physical activity strengthens your muscles and your bones, making you stronger all around. Having dense bones when you are young can help reduce the chance of osteoporosis (bone loss) later in life. Activity improves your balance and coordination, which helps reduce your risk of injury and benefits brain function. It also makes you feel good!
- **Metabolic benefits.** There is no metabolic system in your body because metabolism involves all the systems, but there are notable effects of exercise on metabolism. Exercise helps your muscles burn fat more efficiently, reduces triglycerides, reduces your risk of developing type 2 diabetes, and much more.
- **Immune system.** The right amount of exercise strengthens your immune system and improves its function, making you less susceptible to infections. It can also reduce your chance of getting cancer.

The list of benefits from exercise goes on and on. It cannot be stressed enough how important it is to move your body. You will feel better about yourself, and because of the mind-body connection, this will make you healthier overall.

How Much Exercise Should I Get?

According to the Centers for Disease Control and Prevention (CDC), teenagers should get at least 60 minutes of moderate- to vigorous-intensity activity every day. Three of those days should include vigorous aerobic activity and activities that strengthen muscles and bones.

You might be thinking, “How can I possibly fit in an hour a day of exercise? I have school, I have activities, I have chores, I have work . . .” Many people have as many time commitments as you do but still carve out time to exercise. Think about where you can find time. Could you spend a little less time scrolling through social media or watching TV? Can you exercise with someone so that some of your socializing is done while exercising? Keep in mind that you don’t need to do the whole hour all at once. For instance, you could do a half-hour brisk walk or jog in the morning, and then later in the day

(maybe when you need a break from schoolwork), you can do another half hour. Keep in mind that many daily activities can be considered moderate exercise. Mowing the lawn, biking to a friend's house, raking leaves, shoveling snow, walking the dog, dancing—it all counts!

The key is to form healthy habits. Try new ways of being active. It will pay off in both physical and mental health.

The Five Elements of Fitness

- **Cardiorespiratory endurance (cardio).** This describes the ability of your heart and lungs to function efficiently and for longer periods of time, giving your muscles and tissues the fuel and oxygen they need to function.
- **Muscular strength.** When you stress your muscles through exercise, they become stronger. Muscle strength allows your muscles to exert more force.
- **Muscular endurance.** This is the ability of your muscles to work for an extended period of time. You need repeated action to develop muscular endurance. Hiking up a mountain, paddling or rowing, and riding a bike are examples of exercises that will increase your muscular endurance.
- **Flexibility.** This describes the ability to bend and stretch your body easily and move your body parts through their entire range of motion. We all know what it's like to feel stiff or need to "get the kinks out"—it's often experienced after sitting for too long. Stretching and coordination exercises can help develop flexibility, which can help prevent injuries.
- **Body composition.** Body composition is the ratio of fat tissue to lean tissue (muscle and bone) in your body. This is not the same as weight. Having either too much or too little fat tissue compared to lean tissue can cause health problems. If you focus on the first four elements of fitness, this one will improve automatically.

Aerobic vs. Anaerobic Exercise: A Metabolic Primer

The **energy** your cells use comes from glucose, which is blood sugar. Most of the time, glucose is broken down in the presence of oxygen, and the resulting products are carbon dioxide (which is exhaled through the lungs), water, and energy. This whole process within our cells is called **cellular respiration**.

That is why you breathe hard when working out. During exercise, your body uses more oxygen and has more carbon dioxide to get rid of. The brain senses both of these things and triggers the heart rate and breathing rate to increase. This allows more oxygen to reach the muscles where it is needed.

Sometimes, when we exercise harder than our muscles are used to, the muscles are not able to take up the oxygen they need from the blood efficiently. Their capacity to use oxygen is inadequate. When this happens, we have a good backup system in place that allows us to produce **ATP** (the body's source of chemical energy) without oxygen. Through the process of fermentation, our bodies can get energy to our muscles **anaerobically** (without oxygen). When we just can't deliver oxygen to the muscles fast

enough, and/or the muscles aren't trained to efficiently use oxygen, they can still function, albeit in a limited capacity.

Terminology

Cellular respiration is the process by which glucose is broken down into carbon dioxide, water, and energy (also known as ATP).

ATP (adenosine triphosphate) is the body's chemical source of energy.

Anaerobic respiration has its price, however. For one thing, a by-product of anaerobic respiration is **lactic acid**, or lactate. Have you ever felt a burning sensation and soreness during and immediately after vigorous exercise? This is caused when lactic acid is produced faster than it can be metabolized by the body. As soon as you stop for a few minutes, this burning goes away as the lactic acid is metabolized.

The other cost is the amount of energy you get from each type of metabolism. With aerobic metabolism, you get about 36 molecules of ATP for each molecule of glucose metabolized. With fermentation, you get a net gain of 2 molecules of ATP. That's a big difference when you consider that ATP is our cells' sole energy source!

Aerobic exercise is any exercise that brings up your heart and breathing rate for a sustained amount of time. During aerobic exercise, your body demands more oxygen. Over time, your muscles become more efficient at using oxygen, and endurance increases. Running, walking, biking, swimming, cross-country skiing, dancing, and playing soccer, tennis, and basketball are all examples of aerobic exercise.

Often, when somebody decides to "get in shape," the thought is "I'm going to start going to the gym and lifting weights so I can build muscle." This is strength training, not aerobic exercise. Because it doesn't provide the benefits to the cardiovascular system that aerobic exercise does, weight lifting is not part of a cardio workout. Lifting heavy weights is anaerobic (non-oxygen using) because it involves short, intense bursts of exercise where your muscles don't have enough oxygen to provide the energy you need, so your body uses other metabolic pathways. Anaerobic training is unsustainable for long periods of time. Examples of this include high-intensity short sprints and high-intensity interval training (HIIT).

In your fitness program, you will begin by focusing on building the aerobic capacity of your muscles (including the heart muscle) by doing moderate intensity, longer duration workouts. If you are an athlete, you might already be ready to mix in some interval and strength training. Cardio and strength training are important, and both should ultimately be included in your fitness program.

When do you go from an aerobic exercise into the anaerobic zone? This varies according to how fit you are. As you increase your aerobic fitness level, you can work harder and still stay in your aerobic zone.

The **anaerobic threshold (AT)** is usually between 80 and 90 percent of your maximum heart rate. The more fit you are, the higher it is, and the more efficient your body is at using oxygen.

Terminology

The **anaerobic threshold** is the heart rate at which your body shifts into anaerobic metabolism.

Bear in mind that you are always using a combination of aerobic and anaerobic metabolism. What changes is the percentage of energy you get from each. As your heart rate rises toward your AT, you are using a smaller percentage of aerobic (oxygen-consuming) metabolism and more anaerobic (lactate-producing) metabolism. Above the AT, the demand is too great for the body to use oxygen for metabolism. Lactate starts building up and activity at this level can only be sustained for a short period of time. The more exercise you get in the lower aerobic zones, the higher you can raise this threshold because you increase the oxygen-carrying capacity of your muscles and the ability for quick oxygen delivery. Once you build your aerobic base, you will benefit by mixing in some high-intensity intervals, where you go above your AT for short durations.

One final note: the terms *aerobic* and *cardio* have slightly different meanings, but they occur together, so we will use the terms interchangeably.

The Progressive Overload Principle

When starting an exercise program to increase your fitness, you don't want to run 10 miles (16 kilometers) on your first day! That would invite injury and exhaustion, and your plan will backfire. For cardio and strength training, you need to start slow and gradually build the demands on your body systems. Here are the components of the **progressive overload principle**:

- **Frequency:** increase the number of times you do an activity (per week, for example)
- **Intensity:** increase the degree of exertion
- **Time (duration/volume):** increase the length of time spent in each session

Keep this in mind: FIT = frequency, intensity, time.

Here are examples of how to apply the progressive overload principle in both aerobic training and strength training.

	Aerobic Training: Running	Strength Training: Squats
Frequency	Gradually increase the number of days you go running (e.g., go from two days a week to four days a week over the course of a month).	Gradually increase the number of days you do squats.

Intensity	Add and gradually increase short high-intensity intervals (sprints) to some of the runs.	Start gradually adding weights to the squats (e.g., use an exercise band or hold five-pound weights in each hand); gradually increase the weight or resistance over time.
Time	Increase the length of the runs (e.g., add 10 percent more distance or time per week).	Increase the number of squats per session (e.g., go from one set of ten squats to two sets, with a rest in between).

Reading Assignments

1. In your textbook, read the following:

- Module 12: Physical Activity and Fitness (279–305)
 - Lesson 1: Benefits of Physical Activity
 - Lesson 2: Improving Your Fitness
 - Lesson 3: Planning a Personal Activity Program
 - Lesson 4: Fitness Safety and Avoiding Injuries

Pay special attention to lessons 1 and 4. You may skim the rest since much of that is covered above.

2. Browse the “Fitness Handbook” on pages xvi–xxv of your textbook. Keep this section in mind for future reference.
3. In *Spark*, read the introduction and chapter 1 (3–33).

As you have learned, it’s very important in scientific journalism that studies are properly cited. For some reason, John J. Ratey did not include a list of citations in *Spark*. However, on his website (www.johnratey.com/sparkbib.php), you can find the entire bibliography, chapter by chapter.

For this course, you will be required to read through chapter 3 of *Spark*. At that point, you will have the option of continuing with the book or choosing another health-related book for your book project.

Writing Assignments

1. Review page 282 of your textbook, and explore the mental, emotional, and social benefits of exercise in the context of your own life. Write two or three paragraphs, describing experiences you’ve had related to the benefits of exercise. If you don’t exercise much, does knowing the potential benefits make you want to exercise more?

Student discussions will vary, but look for more than a cursory statement, such as “I feel less stress after I exercise.” Students should elaborate and go into more depth. Perhaps

they weren't aware of the many benefits of exercise, but when they think about it, they realize they have experienced these benefits.

2. This assignment has two parts. Complete both parts.

- a. You might already be getting exercise on a regular basis, such as through sports or a dance class. Depending on your activity, the exercise you get might or might not be aerobic activity. For example, dance class or figure skating might involve a lot of stopping and starting as well as strength and flexibility work. This has many benefits, but it does not quite fit into the cardio/aerobic category. Horseback riding is excellent exercise and, like dance or skating, requires some good core strength; however, it doesn't involve a lot of aerobic work (for you, anyway), so you might want to augment it. Maybe you will only need to add a half an hour of some moderate continuous aerobic exercise to round out your fitness program.

Using examples from your own life, describe the difference between aerobic and anaerobic exercise. What aerobic activities do you currently do? What anaerobic activities do you do? Add details.

In aerobic exercise, the muscles require a constant oxygen supply. It is a sustained, lower- to moderate-intensity exercise. Examples include walking, hiking, jogging, cycling, swimming, and cross-country skiing. Anaerobic exercise is an intense exercise where the muscles get fueled without oxygen. It can only be done for a short period of time. High-intensity intervals in running, cross-country skiing, swimming, hill climbs on a bicycle, and strength-building exercise are all examples of anaerobic exercise.

- b. As you think about what types of exercise you need, you may consider going to a gym. Many people decide to use a treadmill or exercise bike to improve their cardio fitness. This can work for some people, but if there's any way for you to safely exercise outdoors at least some of the time, that is recommended. Being outside in the sun, rain, wind, and fresh air (if possible, depending on your location) is incredibly invigorating.

Do some brainstorming to make a list of aerobic exercise options that are available to you where you live. If necessary, specify the season that you can participate in any outdoor activities you choose. If you are already involved in lots of aerobic exercise, what can you do for cross-training (doing a type of exercise that is different from your usual routine) to improve your fitness and keep things interesting?

Students should brainstorm types of aerobic exercise they might try, such as brisk walking, running, biking, rowing, cross-country skiing, and hiking. Based on what they already do, you can suggest alternate activities to provide a cross-training benefit.

3. After completing the textbook reading on safety and injuries, choose one of the following assignments.

- a. Describe an activity that you already do on a regular basis. Explain what you do to enhance your safety (or the safety of others) when you are engaged in that activity. Are there other

safety measures you can take? Describe anything you can think of that could enhance safety and prevent injury.

Answers will vary depending on the activity. For instance, for a wilderness hike, safety measures include preparedness, such as having the right clothing and enough food and water, and notifying someone of your planned route. For cycling, safety precautions include a good helmet, understanding the rules of the road, and keeping your bike in good repair. Starting with a proper warm-up and easing gradually into exercise might also be mentioned.

- b. Choose a sport or activity that you do or are interested in, and research injury statistics for the activity. Also research the suggested precautions for helping to prevent injuries. Present your findings in one or two paragraphs. Be sure to cite your sources properly.

Responses will vary.

4. Complete the decision-making assignment from lesson 1 (assignment 4), if you have not done so yet.

This should be completed and submitted with this lesson. The steps of the decision-making process should be written out.

5. Referring to *Spark* but primarily using your own words, summarize the general effects of exercise on the brain. Write one or two paragraphs.

Information for this question is scattered throughout the book's introduction. The first chapter is full of examples that students may use. Exercise promotes learning in the brain and has a positive impact on mood, anxiety, and attention. It helps prevent stress, reverses some of the effects of aging, and helps normalize hormonal changes in women. It has a huge impact on mental health and cognitive ability because of the way it bolsters the brain. It also produces proteins that promote higher thought in the brain.

Activities

Complete the following activity.

Activity: To Ice or Not to Ice?

Should you ice an injury or not, and if so, how often? Conventional wisdom (and your textbook) suggests applying ice to an injury with inflammation (swelling), and continue to do that off and on. It is known that ice reduces swelling and therefore pain. It is also known that inflammation happens for a reason—it brings white blood cells to the injured area to help with healing. It is commonly believed that ice can speed healing. Is this true?

Do some research to find out what the latest research says on the issue. Present your results in a written report (up to one page) or another format, such as an audio presentation, a poster, or a public service announcement video.

Be sure to cite your sources. If you use secondary sources, remember that the original study should be described or linked to provide credible evidence.

Current research shows that ice reduces inflammation and can therefore relieve pain, but it can actually slow healing because inflammation has a purpose in healing. Students will find details to add to this, such as when or how long to ice.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. You can use the following checklist to organize your work submission.

- The benefits of exercise
- List of aerobic and anaerobic exercises
- Safety precautions and injuries related to an activity
- Decision-making activity
- The effects of exercise on the brain
- Activity: To Ice or Not to Ice?

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.



UNIT 3: A Human Body Primer

In order to better understand your body and your health, it is necessary to learn the basics of **anatomy** and **physiology**. Anatomy is the study of the parts of the body and how they are put together. The word *anatomy* is derived from the Greek words *tomy* (to cut) and *ana* (apart). In the early days of anatomy study, deceased criminals were used as dissection specimens. In the eighteenth and nineteenth centuries, there weren't enough deceased criminals to supply the medical schools. This is when the practice of "body snatching" became common. Some medical schools employed people to dig up graves for medical study. There was a constant need because the bodies had to be fresh. People lived in fear that their deceased loved ones would be dug up, and many went to great lengths to guard their graves. By the twentieth century, as preservation methods improved and medical science became more respected, the practice of body snatching fell into the past.

Today, bodies used for medical training and research come from voluntary donations. (You might have heard of someone being an organ donor upon their death or donating their body to science.) In addition, plastic models, photographs, computer simulations, and other visual aids have reduced the need for human bodies when learning about anatomy.

Physiology is the study of how the body and its parts function. *Physis* means *nature*, and *ology* means *the study of*. To learn about health, we need to learn how the body functions, and to learn how it functions, we need to learn how it's put together. For this reason, anatomy and physiology are interrelated and often studied together.

In this unit, we'll look at the systems of the body. Whenever you learn a new discipline, there is always a particular vocabulary that is used to communicate clearly. For instance, if you go to a doctor's office for a knee injury, you might hear phrases like "injury to the medial collateral ligament" or "tear in the lateral meniscus." You'll learn the language of anatomy as well as the layout and function of the body systems. You'll gain a clearer understanding of the difference between **structure** (anatomy) and **function** (physiology), and how they work together to make us who we are.

Terminology

Anatomy is the study of the parts of the body and its structure.

Physiology is the study of how the body and its parts function.

Positivity Check-In!

It's time to reflect on the past few weeks and check in for positive vibes. What made you feel appreciative? Jot down these positive moments. Again, this is just for you. Reflecting on the good in your life will boost your health.

Lesson

6

The Skeletal and Muscular Systems

Learning Objectives

In this lesson, you will:

- Describe internal and external influences that affect physical health.
- Use accurate anatomical terms to describe the skeletal and muscular systems.
- Identify and correct inaccurate information related to anatomy.

Lesson Introduction

We'll start our exploration of the human body with the skeletal and muscular systems. In *Human Anatomy Coloring Book*, look at the pictures of the human body and skeletal system on pages 1 and 2. Notice the body is in the same position in both images. This is called the **anatomical position**. This is the standard position used when body parts are mentioned in reference to one another, regardless of the position the body happens to be in at the time. Notice particularly the position of the hands, with the palms forward.

The following are directional terms to become familiar with:

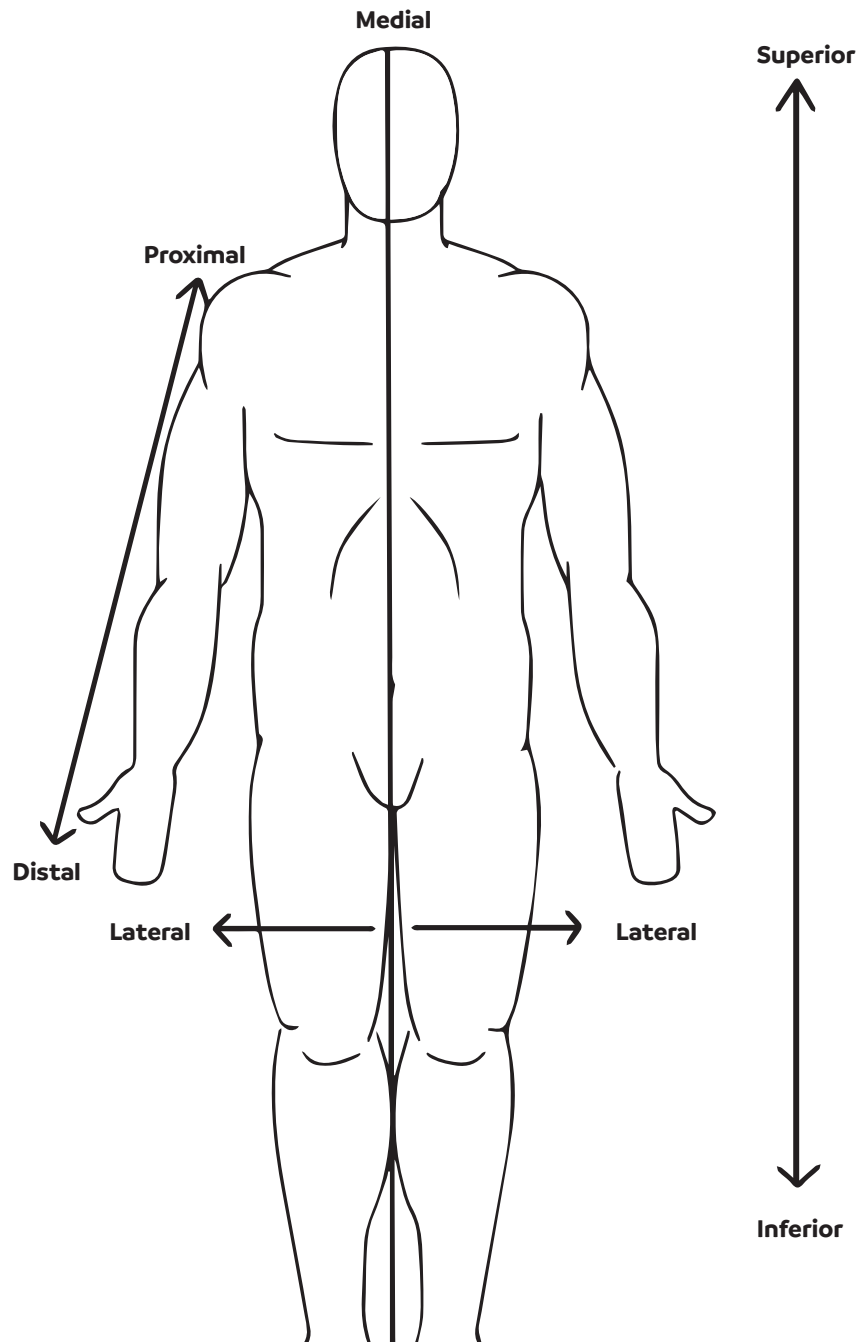
- **Superior (or cephalic):** above, or toward the head
- **Inferior (or caudal):** below, or toward the lower end
- **Anterior (or ventral):** in front of, or toward the front of the body
- **Posterior (or dorsal):** behind, or toward the back of the body
- **Medial:** toward the midline of the body
- **Lateral:** away from the midline of the body
- **Proximal:** closer to the point of attachment to the trunk

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Read module 14, lessons 1 and 2 (334–343).
- ☐ Read pages 1–12 in *HACB*, and color in the diagrams.
- ☐ Read the More About . . . section.
- ☐ Complete assignments related to muscles and bones.
- ☐ Draw a negative feedback loop to show how calcium equilibrium is restored.
- ☐ Provide correct information related to errors in *HACB*.
- ☐ Activity A: Ligaments, Tendons, and Cartilage
- ☐ Activity B: Bones and Muscles
- ☐ Read about and begin planning your book project.
- ☐ Complete the fitness program activities.

- **Distal:** farther from the trunk
- **Superficial:** closer to the body surface
- **Deep:** farther from the body surface, more internal

Using these directional terms and the anatomical position, you can see that the head, for example, is superior to the heart in the body, even if the person is doing a handstand or lying on a bed. Learning the basic terms can help you understand the language of medical professionals and can help you be more literate when it comes to your own health care.



Reading Assignments

1. In your textbook, read the following:

- Module 14: Skeletal, Muscular, and Nervous Systems (334–343 only)
 - Lesson 1: The Skeletal System
 - Lesson 2: The Muscular System

You will read lesson 3, which focuses on the nervous system, in the next lesson.

2. In *Human Anatomy Coloring Book (HACB)*, read pages 1–12. There is valuable information about the body systems in *HACB*, so make sure you read each section carefully. You will use this information in the assignments below.

Using colored pencils, color the diagrams related to the skeletal system on pages 3, 5, 6, and 7.

Color the major muscular systems on pages 8–12 of *HACB*.

Sometimes you will be instructed to color certain pages (as above) to help improve your understanding of important elements. However, even when not specifically instructed, you are encouraged to color the diagrams in each section you read. This will help you become more familiar with anatomy and make it easier to visually identify and recall parts of the body.

Note: *HACB* is an old book but a good one for our purposes. In *HACB*, there are some typos, errors, and omissions as well as outdated information, which we will point out.

More About . . .

Homeostasis and Health

The term **homeostasis** comes from two Greek words: *homeo* (similar) and *stasis* (stable). It refers to the maintenance of internal stability in the body, achieved as the body systems adapt to changing conditions.

What does homeostasis have to do with health? Everything! For example, we need a constant body temperature, the right amount of oxygen in our muscles, and a certain level of blood sugar and blood pH for our bodies to function properly. When you exercise and stress your muscles, your body builds new muscle tissue to regain homeostasis and meet the new demands being put on it.

Throughout this course, think about how each topic relates to homeostasis in the body.

Feedback Loops

Feedback loops happen in any system, including those in math, physics, economics, ecology, and biology. We commonly see feedback loops as restoring balance—for the body systems, that means homeostasis.

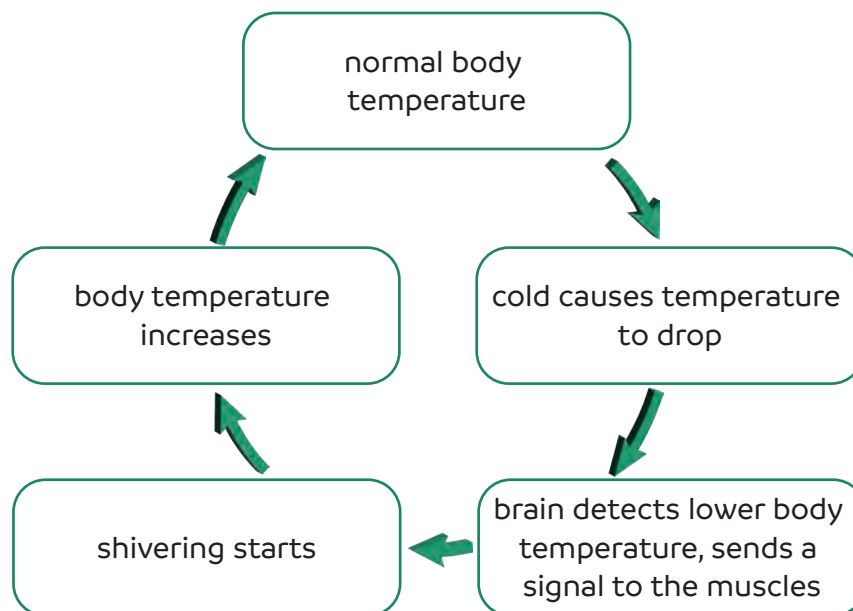
There are two types of feedback loops, as follows:

A **negative feedback loop** is when a change in one direction triggers the system to move back in the other direction, enhancing stability.

A **positive feedback loop** is when a change in one direction causes further change in the same direction.

In natural systems, negative feedback loops are usually healthy (remember, negative is not bad) because they restore balance. Positive feedback loops generally promote extremes, which can cause problems in natural systems.

A common example of a negative feedback loop in the body is body temperature. If your body temperature goes down, your brain triggers your muscles to move, and you shiver, which helps warm you up, restoring the balance of your body temperature. If you are hot, you will sweat, which cools your body, restoring homeostasis.



An example of a positive feedback loop in the body is when you have an infection and your body develops a fever. Signals are sent to the muscles and blood vessels to increase body temperature. The invader (such as a bacterium or virus) does not thrive in the higher body temperature. Once the infection is under control, a negative feedback loop kicks in to restore normal body temperature.

Bones and Homeostasis

If you look at the many functions of the skeletal system, you will see some that are obvious. Bones support the body, allow movement, and provide an attachment site for muscles. One of the most important functions of bones is to store calcium and phosphorus. You might have heard that you need calcium to build strong bones. In fact, 99 percent of the body's calcium is in your bones, and calcium-phosphate complexes make up the bulk of bone structure.

But where is the other 1 percent of calcium in your body? It is one of the electrolytes that allows for nerve transmission and muscle contraction, including heart function. It also helps with blood clotting and helps release important hormones in your body. These are extremely important functions—calcium is essential!

If a person isn't getting enough calcium in their diet, a message is sent to the parathyroid gland, which releases parathyroid hormone (PTH) into the blood and signals the bones to release calcium into the blood to restore the proper blood level of calcium. This keeps those other important functions going—nerve transmissions, heart contractions, etc. When they take in calcium and raise the blood calcium level, a reverse process restores the calcium in the bones, where it's needed for a strong skeletal system. This calcium transfer is a fluid system, like having a built-in backup battery to maintain homeostasis. The key takeaway? Getting enough calcium in your diet is important.

Writing Assignments

1. Use what you have learned about anatomy to complete the following assignments.
 - a. Referring to the anatomical position, use the directional terms to fill in the blanks.
 - i. The elbow is _____ to the hand.
proximal or superior
 - ii. The sternum is _____ to the vertebral column.
anterior
 - iii. The thumb is _____ to the fingers.
lateral (or proximal)
 - iv. The tibia is _____ to the femur.
distal
 - v. The lungs are _____ to the skin.
deep
 - vi. The triceps is _____ to the biceps.
posterior
 - b. Name whether the following bones are within the axial or appendicular skeleton.
 - i. radius
appendicular
 - ii. sacrum
axial
 - iii. sternum

axial

iv. metatarsals

appendicular

- c. Most muscles of the skeletal system have an origin and an insertion point where they connect to bones. Define these terms, and give an example of the location of each for one muscle.

The origin is where the muscle meets the bone that doesn't move.

The insertion is where the muscle meets the bone that does move.

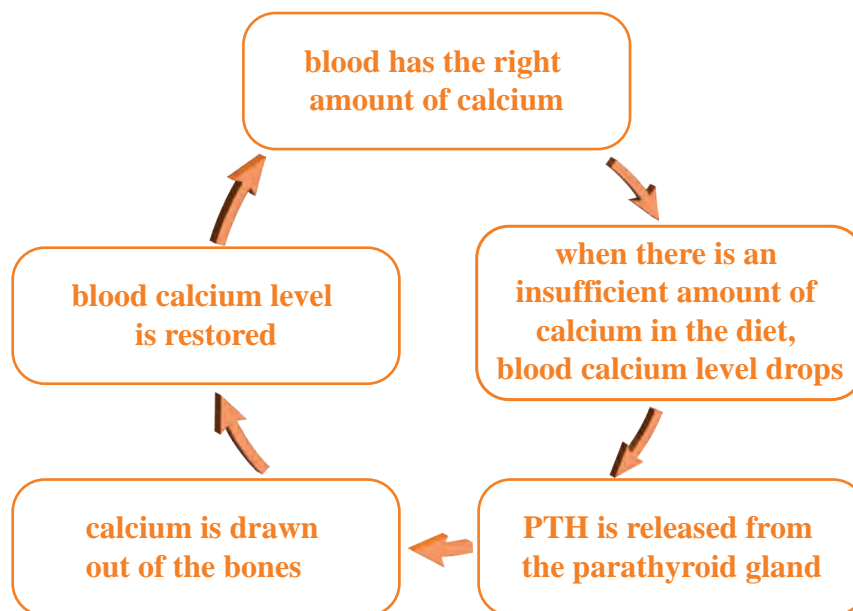
Example: Since the biceps muscle bends the elbow and moves the forearm, the origin of it is at the shoulder (in two places) and the insertion is in the radius of the forearm.

- d. Muscles can only pull on a bone when they contract, not push on it. For this reason, they exist in pairs of flexors and extensors. Are the quadriceps muscles flexors or extensors of the knee joint? How about the hamstrings? Name the joint they bend and straighten when a person walks. Explain the role of the quadriceps and hamstrings in walking. Which of these muscles contract to help you to stand up from a sitting position?

The quadriceps are extensors; they straighten the knee joint to allow the foot to move forward. The hamstrings are flexors, and they bend the knee joint to lift the leg.

When you stand up, the quadriceps are contracting.

2. Draw a negative feedback loop that illustrates what happens when you aren't getting enough calcium in your diet. Your feedback loop should show how equilibrium is restored.



3. Do some detective work! Complete both of the following assignments.
- a. On page 8 of *HACB*, you'll find this sentence: "The ends of the skeletal muscles are attached by ligaments to two different bones, only one of which moves when the muscle contracts." One

word in this sentence is incorrect and needs to be replaced with the proper word. Can you find the error and correct it?

The word ligaments should be tendons. This is correctly explained in the textbook (335).

- b. On page 11, the final sentence describes the “opposable thumb action, which man alone among primates is capable of.” Can you find the error in this?

Humans are not the only primate with an opposable thumb. That characteristic exists in many primates. Students might also point out that it would be more inclusive to say “humans” instead of “man.” Some might think that *opposable* is a misspelling of *opposable*, but it’s actually a synonym, in anatomy terms; it means “capable of being placed opposite to something.”

Activities

Complete the following activities:

- Activity A: Ligaments, Tendons, and Cartilage
- Activity B: Bones and Muscles

Activity A: Ligaments, Tendons, and Cartilage

Some of the most common injuries that occur are those that affect connective tissue: ligaments, tendons, and cartilage. To become familiar with these important structures, choose one of the following options.

Option 1: Do some research and find examples of where ligaments, tendons, and cartilage are found in the body. Illustrate (with colored pencils or digitally) an example of each type of connective tissue. Provide captions that describe the function of each.

Option 2: Use a cooked chicken leg (with the thigh and drumstick connected) to identify ligaments, tendons, and cartilage. Make sketches or take photographs and label the structures. Note that you will want the meat intact on the leg for one type of connective tissue, and you’ll likely need to remove the meat to see the others. Write down the function of each structure.

Students should create images or take photos, labeling the images and describing the function of each type of connective tissue. Tendons connect muscle to bone and are found at the end of all bones in the body that need to be moved by muscles. Ligaments attach bones together at joints. On a chicken leg, it is ligaments that make it difficult to separate the drumstick from the thigh. Cartilage, which acts as a cushion between bones at a joint, is seen as a shiny white coating on the end of the bone.

Activity B: Bones and Muscles

By carefully touching and feeling the muscles and bones beneath your skin, you can develop a better understanding of how you are put together. Do the following assignments to conduct surface anatomy explorations using your own body.

1. Using the text and diagrams in *HACB* and the textbook, explore your bones. Start with your skull and work down. Take your time and try to feel and name as many specific bones as you can. List the bones you could feel, and note which bones you had difficulty locating, and why.
2. Using the text and diagrams in *HACB* and the textbook, explore your surface muscles. Use your hands to feel the major muscles listed. Sometimes it helps to flex the muscles, palpate, or massage them to feel them more easily. List the muscles you could feel, and note which muscles you had difficulty distinguishing, and why.

Students should provide descriptions of both explorations, naming the bones and muscles they could feel or had difficulty feeling. Look for details, such as “I couldn’t feel my femur because it was buried under muscle” and “The quadriceps were easy to feel, but I couldn’t distinguish between them.”

Book Project

At this point in the course, you have a choice of what book to read. You will find the options listed below. This course covers all the topics in these books, but the books go into greater depth. Whatever book you choose, you have until the end of lesson 23 to complete your book and submit your assignments.

Here are some tips to help you with this reading project:

- Choose your book and acquire it by the end of the next lesson.
- Feel free to get the audiobook if that works better for you.
- Read the assignments below for your chosen book. For most books, you don’t have to read the whole thing, but you are always welcome to.
- Create a time line for completing your book project by the end of lesson 23. Come up with a plan to determine how many pages per week you will read.
- Take notes each time you read, and keep your notes all in one place.
- You will be prompted to share your progress with your teacher at regular intervals. This will help ensure that you make steady progress with your reading.
- The final book assignment is due at the end of lesson 23, but you can submit it earlier if it is complete.

Because there is already a lot of writing in this course, your book project will not have a lengthy writing component. The goal is for you to enjoy your book and learn from it. Take notes on what resonates

with you, what surprises you, and what the key takeaways are for you. Your final assignment will be a summary of your own thoughts about the book, so your notes will help you with this.

This assignment is due by the end of lesson 23.

Choose one of the following books.

***(Don't) Call Me Crazy: 33 Voices Start the Conversation About Mental Health*, edited by Kelly Jensen**

Content warning: Contains profanity.

This book focuses on personal experiences with mental health issues and brings this previously taboo subject out into the open.

The concept of identity is explored, along with the stigma associated with certain words. It also discusses how to talk about people with mental health challenges. This book describes experiences in the authors' own voices. There is an excellent list of related books and resources at the end of the book.

If you choose this book, complete the following assignments.

1. Read at least half of the essays in the book, choosing several from each chapter. There are two that are required: "Defying Definition" and "Call Me Crazy."
2. For each entry that you read, write a few sentences about what speaks to you about it. Make sure to include the title of the essay.
3. When you are done, summarize your thoughts on the book as a whole. Would you recommend it to others? Why or why not?

***Gut: The Inside Story of Our Body's Most Underrated Organ* by Giulia Enders**

Scientists are only just beginning to understand the connection between the gut and the brain. What is clear is that gut health is related to overall health and wellness, including mental health.

Plan to read at least three-quarters of this entertaining book. Take your time; you have over four months to read this book. Be sure to read some of the material about the microbiome and the gut-brain connection.

If you choose this book, complete the following assignments.

1. For each chapter you read, write down at least three points that catch your attention.
2. Referring to your chapter notes, write a summary of your experience reading this book. Was it entertaining? Educational? Repulsive? Include the highlights of the book for you.

***Why We Sleep: Unlocking the Power of Sleep and Dreams* by Matthew Walker**

Because sleep is so clearly tied to our well-being, it's worth learning more about this essential element of our health. Scientific studies are revealing more and more about why we sleep and dream and what happens in the body if we don't do it enough. This book takes a deep dive into the effects of sleep on learning, decision-making, emotional regulation, and more.

Before you read, browse the table of contents to see what sparks your interest. Plan to read at least three-quarters of the book. Chapters 1, 6, 7, and 15 are required reading. Choose at least six other chapters to read.

If you choose this book, complete the following assignments.

1. For each chapter you read, take notes on at least three points that catch your attention.
2. Referring to your chapter notes, write a summary of your thoughts on the book. Include the highlights of the book for you. Was a lot of this new to you? Was the information presented in an interesting way? Share your takeaways from the book.

***Breath: The New Science of a Lost Art* by James Nestor**

We all breathe every minute of every day for our entire lives. But do you ever think about how you breathe? What if the way you breathe could impact your physical performance, improve your immunity, rejuvenate your internal organs, and more?

This is a short book, so read the whole thing. It can literally be life-changing. As it says in the book, “You will never breathe the same again.”

If you choose this book, complete the following assignments.

1. As you read, practice the breathing techniques suggested.
2. Continue using the breathing techniques as you exercise and go about your day.
3. Keep track of the highlights of this book for you. Jot down some notes from each chapter.
4. Write a summary of your experience. What did you learn? Will you “never breathe the same again”?

***Ultra-Processed People: The Science Behind the Food That Isn’t Food* by Chris van Tulleken**

Modern living often means eating processed foods. Even if you grow a vegetable garden and eat your own produce, chances are you also eat some form of processed food. (Take a look in your kitchen cupboards or freezer—you might be surprised.)

This book looks at how our bodies react to processed foods and why processed foods are such a big business, despite being less nutritious than more natural alternatives.

If you choose this book, try to read the whole thing. If you need to skip a section, skip part 4, but be sure to read part 5, as that contains ideas on how to move forward. You might want to read this book with a parent or other adult so you can discuss the concepts.

If you choose this book, complete the following assignments.

1. As you read each chapter, write down three points that you found interesting or alarming.
2. When you finish, write a summary of your experience with the book. Has it changed the way you look at food? Do you think others should be aware of this information? If so, what are the key takeaways that you think others should know?

Hooked: Food, Free Will, and How the Food Giants Exploit Our Addictions by Michael Moss

This book explores current research on addiction and applies it to the decisions we make every day around food choices. It reveals common practices in the food-processing industry aimed at increasing our desire to eat their foods. Through the use of food additives, deceptive marketing, and other practices, we are urged to choose these processed foods over healthier options.

Read the whole book; it's not too long. It brings up some intense topics about food and addiction, so you might want to read it with an adult so you can discuss the concepts.

If you choose this book, complete the following assignments.

1. As you read each chapter, write down three points that you found interesting or alarming.
2. When you finish, write a summary of your experience with the book. Has it changed the way you look at food? Do you think others should be aware of this information? If so, what are the key takeaways that you think others should know?

Spark by John J. Ratey

If you choose to continue reading *Spark*, read chapters 4, 5, 6, 7, and 9. Of course, you have the option of reading the entire book.

If you choose this book, complete the following assignments.

1. After reading chapter 4, describe two concepts or case studies that you found particularly interesting.
2. Summarize the benefits of exercise on anxiety.
3. After reading chapter 5, describe the effect of exercise on the three neurotransmitters that are targeted by antidepressants.
4. In one or two sentences, summarize the most important takeaway from the chapter on depression.
5. ADHD is extremely common. It's likely that either you have experienced it or you know someone who has. After reading chapter 6, complete the following assignments.
 - a. Experiences with ADHD can vary widely. Does this chapter resonate with your experience with ADHD? Do you see yourself or someone you know (or a character in a book or film) in any of the people described in the chapter?
 - b. Which neurotransmitters involved with the attention system does exercise target?
 - c. Describe one or two concepts or case studies that you found interesting in this chapter.
6. After reading chapter 7, write down one to three things that you found particularly interesting.
7. After reading chapter 9, write down one to three things that you found particularly interesting.
8. When you are done reading *Spark*, write a summary of what you thought of the book. Did you find it inspiring? Too technical? Would you recommend it to others?

Fitness Program

Now that you've learned more about the muscular and skeletal system, you will have a better understanding of the videos you watched last week. Go back and watch them again if you need to. Watch them as many times as you need.

Continue developing your fitness routine, setting goals, making a weekly plan, and getting as many days of aerobic activity that you can each week. If you are feeling lazy, try to overcome the inertia and get active because it will boost your energy level. Writing everything down can help motivate you and keep you accountable to yourself.

If you are feeling run-down or sick, rest is important. However, even if you have a mild cold, mild to moderate exercise, such as a walk outdoors, can often make you feel better. If your symptoms are above the neck (for example, if you have nasal congestion), exercise can help clear your breathing, at least temporarily. However, if you have a fever, cough, or chest congestion, it's best to rest. Listen to your body.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. You can use the following checklist to organize your work submission.

- Assignments related to muscles and bones
- Negative feedback loop showing calcium imbalance and equilibrium
- Corrected information related to errors in *HACB*
- Activity A: Ligaments, Tendons, and Cartilage
- Activity B: Bones and Muscles

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.

Lesson

17

Food Ethics and Politics

Learning Objectives

In this lesson, you will:

- Explain how public health policies and government regulations influence health promotion and disease prevention.
- Evaluate internal and external influences that affect food choices.

Lesson Introduction

“The soil is the only thread upon which civilization can exist, and it’s such a narrow strip around the globe if a person could ever realize that our existence depends on literally inches of active aerobic microbial life on terra firma, we might begin to appreciate the ecological umbilical to which we are all still attached.”

Joel Salatin

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Read pages 182–201 in *In Defense of Food*.
- ☐ Activity: Review of *Food, Inc.*
- ☐ Complete the fitness program activities.

Agribusiness, the food industry, and politicians have literally changed the nature of food and our connection to it, and in the process, we have lost touch with the very soil that sustains us. It’s difficult to see how to regain that connection. But there is a way, and it happens one person at a time. You are already taking the first step by getting educated about food and nutrition. The next step is to use this new awareness and take charge of your health, body, and food.

This unit has been packed with information, so there are only two assignments for this lesson. One will be to finish Pollan’s book, and the other will be to watch a revealing—and ultimately empowering—documentary.

Remember to continue to make progress on your unit project, which you will wrap up in the next lesson.

Reading Assignments

1. In *In Defense of Food*, read pages 182–201.

Activities

Complete the following activity.

Activity: Review of *Food, Inc.*

1. View the 2008 documentary *Food, Inc.* You can find it online. This film reveals shocking truths about what we eat, how it's produced, and who we have become (in the United States) as a nation of consumers. The documentary is old, but little has changed in our food system and food equity since it was created.

Gather your family and/or some friends and watch it together or encourage others to watch it on their own. Take it slow; if you need to discuss something, pause the video so you don't miss any of it.

2. The following review of the film has some excellent points for discussion you might want to use after watching the film:

“Ethics on Film: Discussion of ‘Food, Inc.’”

3. Write a summary about your experience watching this documentary and discussing it afterward. Address the following prompts in your summary.
 - How did this information make you feel? Describe your experience, using examples.
 - Were you previously familiar with the issues explored in the film?

You may want to discuss why this documentary could be controversial. There are many farmers who work hard to feed the world and have spoken out against the film. Here is an example of the criticism against *Food, Inc.*:

“What *Food Inc.* Does Not Say”

Students should view *Food, Inc.* and submit a summary of the effects the movie had on them. This is a powerful film that is likely to have lasting effects on the viewer.

4. Optional extension: *Kiss the Ground* is a hope-infused documentary about regenerative agriculture and the healing effects it can have on our food supply and our planet.

You can watch the trailer at their website: kissthegroundmovie.com.

You might want to view this documentary as well and compare it to *Food, Inc.*

Fitness Program

Continue with your aerobic exercise activities, planks, and fitness journal.

Practice visualization as a relaxation technique. You might want to explore some guided imagery apps that are widely available. They can be very effective at reducing stress and promoting relaxation.

Add notes to your fitness journal about what you've done.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. You can use the following checklist to organize your work submission.

- Activity: Review of *Food, Inc.*

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.

Lesson

23

Coping with Crisis, Loss, and Grief

Learning Objectives

In this lesson, you will:

- Identify loss and grief and recognize their connection to a healthy life.
- Describe healthy ways to express caring, friendship, affection, and love.
- Discuss healthy ways to respond when you or someone you know is grieving.

Lesson Introduction

Note: The introduction is the only required reading for this lesson, so take your time.

We commonly think of grief as what we go through when we lose a loved one or maybe a special pet. But it's important to acknowledge that anytime there is loss of any kind, there can be grief. Leaving a close-knit circle of friends when your family moves to a new location, losing the use of your legs as a result of an accident, experiencing the divorce of parents or the breakup of a relationship, watching a family member succumb to addiction, experiencing the loss of physical independence due to aging, and even losing the innocence and carefree spirit of childhood as you grow up—all of these losses can cause us to go through a grieving process.

What exactly is the process of grief? Many people have spent years trying to figure out the answer to this question.

In the past and today, many people rely on religious faith to help them get through the process of death and loss. For example, in the Jewish tradition, there is a very specific ritual when someone dies. The body is carefully washed in a certain way and quickly buried. After the burial, the family sits shiva (in

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Complete the Stop, Think, and Do activity.
- ☐ Reflect on why dealing with loss and grief are part of self-care.
- ☐ Describe your own experiences with grief.
- ☐ Describe scenarios using the ring theory.
- ☐ Reflect on what you've learned.
- ☐ Summarize your experiences with conflict resolution.
- ☐ Complete your book project.
- ☐ Complete the fitness program activities.

mourning) for up to a week. A prayer called the Mourner's Kaddish is said and often repeated throughout the weeks and months following a death, with mourners reciting the prayer together as a family.

What is the value of religious rituals such as this? They provide something familiar at a time when people are feeling lost. Prayers have a rhythmic cadence that brings comfort, as does knowing there are traditions in place to help one get through a difficult time. Mourning traditions allow the griever to acknowledge and honor the person they have lost, thereby outwardly keeping the deceased in their lives while letting their loved ones go at the same time.

A rising number of Americans (30 percent in 2020) are unaffiliated with any religion, which means they may not follow established traditions that guide them through the process of loss. Whether religious or not, many people create their own personal rituals to help them through the grieving process. This can include visiting the grave of the loved one or going to the site where their ashes were scattered. Other possible rituals are cooking a favorite recipe that was handed down, creating a home altar for them, writing letters to them, playing a particular song, and visiting a favorite place. A ritual can include carrying on a routine established by the lost loved one, such as a wife washing her husband's car every week, just as he did. The choice of how to honor someone who has died is personal—there is no “right” way to do it. When grieving other types of losses, such as the breakup of a relationship, people might do things like gather photos and burn them as a way of letting go, or return to the site of the breakup to reflect on the loss. Many people find meaning and healing through artwork, writing, or other creative means.

These personal rituals can be profoundly helpful in coping with loss. Researchers Michael I. Norton and Francesca Gino of the Harvard Business School published a study on how people cope with extreme loss. They found that the mourners who show more resilience and recover from grief more quickly have something in common: they used personal rituals to help them cope.

Personal rituals are effective because they help counteract the chaos that often follows loss. Rituals are controlled actions. While a loss can make people feel as if their lives are turned upside down, rituals can help them feel more in control of their lives. Rituals help people who may feel helpless or powerless, and they help people continue with their lives after a loss.

The Emotions of Grief

Communication skills take practice and an ability to handle discomfort when talking about hard things. Loss of any kind is a hard thing, and being able to talk about it is one way of sharing emotions, which can help ease the pain or at least help one feel less lonely.

In 1969, Dr. Elisabeth Kübler-Ross described the following five stages of grief in her book *On Death and Dying*. (These are also found in your textbook on page 88.)

Denial: avoidance, shock, fear (“This can’t really be happening.”)

Anger: including frustration or anxiety (“It’s just not fair!”)

Bargaining: trying to figure it out and find meaning (“If I do _____, maybe I can change the outcome. How can I bring back what was lost?”)

Depression, sorrow, and guilt: including helplessness

Acceptance: making new plans, moving on

For decades, these were the stages that everybody accepted as part of the grieving process. However, they don't all happen to everyone, and they don't always happen in that order.

More recently, people have begun to realize that this list of the five stages of grief is limiting—it just doesn't accurately or adequately describe what grieving people go through. This is especially true when it comes to the last one: acceptance. Notice the phrase “moving on.” How do you ever move on from a loss so large that it changes you and becomes part of who you are? Do we have to move on? The words don't seem to fit the reality of the experience. “Moving on” seems to suggest that the death can be put in the past and forgotten. In the textbook, the word *closure* is used. Is there ever really closure? Do we need that?

Let's think about grief in a new way.

Stop, Think, and Do

Before you go on, listen to the following short interview with Rachael Cusick on her experience with grief and the five stages:

“The Ubiquitous, Confounding, Misunderstood 5 Stages of Grief”

The Emotions of Grief (continued)

Cusick explains that Kübler-Ross creates the stages of grief not as a way to deal with the loss of a loved one but rather as a tool for a dying person to handle their own upcoming death. She did, however, expose a long-neglected need to talk about death—she brought death into the conversation of life. No longer was the topic hushed. She created a structure that let people explore and discuss the taboo subject of death. This was a revelation.

But grief itself is complicated. There is no way you can trim the complex emotions of grief into a short checklist that, once completed, shows when grieving ends.

In *The AfterGrief: Finding Your Way Along the Long Arc of Loss*, Hope Edelman shares this perspective:

Thirty-nine years and you're not over it yet? Anyone who has experienced a major loss in their past knows this question. We've spent years fielding versions of it, both explicit and implied, from family, colleagues, acquaintances, and friends. We recognize the subtle cues—the slight eyebrow lift, the soft, startled, “Oh! That long ago?”—from those who wonder how an event so far in the past can still occupy so much precious mental and emotional real estate . . .

The death of a loved one isn't something most of us get over, get past, put down, or move beyond. Grief is not an emotion to pass through on the way to “feeling better.” Instead, grief is in constant motion; it is tidal, easily and often reactivated by memories and sensory events, and is retriggered as we experience life transitions, anniversaries, and other losses. Whether

we want it or not, grief gets folded into our developing identities, where it informs our thoughts, hopes, expectations, behaviors, and fears, and we inevitably carry it forward into everything that follows.

You might have experienced this yourself if you have been through a significant loss. The notion that there is no one “right” way to grieve can be extremely comforting. As one person who lost a sibling told a close friend who was also grieving the loss of a sibling, “I’ve learned to carry my grief around like my iPhone or anything else. It’s just something that’s with me, and I don’t fight it.” The sense of loss might never go away, just as we never stop loving our loved ones who are gone. It becomes part of who we are.

From this perspective, words like *healing* and *closure* may not be the right words to use. They both imply that you will get over it or go back to the person you were before. Why is this necessary? Life does go on, and the passage of time eases the acute and intense pain of a recent loss. It’s OK to *not* return to who you were before. All our experiences shape us. Who are you now? What will you take forward with you as you continue with your life?

Helping Those Who Are Experiencing Grief

There are tools available for helping others deal with crisis or grief of any sort. If you have a friend who is grieving, the best thing you can do is just be present and available for your friend. Allow them to talk when they want to and be silent when they want to. Let them cry, be angry, or be confused. Don’t try to stop their feelings or make them feel better. Be silent, listen, and nod. Put your hand on your friend’s arm or give a shoulder rub if they want that. Touch can be very comforting.

Understand that there is not much you can do to make the grieving process go faster. There is no return to normal because what is normal has now changed. When speaking of a person or pet who has died, use their name. Perhaps share a memory of them. Suggest going for a walk with your friend or offer to pick up something from the store. Don’t just say, “Let me know if you need anything,” or “How can I help you?” Your friend might not even know what they need. Be specific when offering help, such as asking, “What can I get you at the grocery store?” or “Can I make you a grilled cheese sandwich for lunch?”

If you are uncomfortable or not sure how to support your friend, find someone to talk to about how to do this. Those who support others need support too, and learning a new skill can be challenging, especially when it concerns emotional support for the people we love. Try to find someone who has helped others experiencing grief and can provide guidance.

One important thing is to avoid giving advice to someone who has experienced a recent loss. Your role is to support them. Giving advice can seem like you are trying to fix them. Here are some examples of what *not* to say:

- You should get a new puppy to take your mind off what happened.
- I know what you’re feeling; this pain will pass in time.

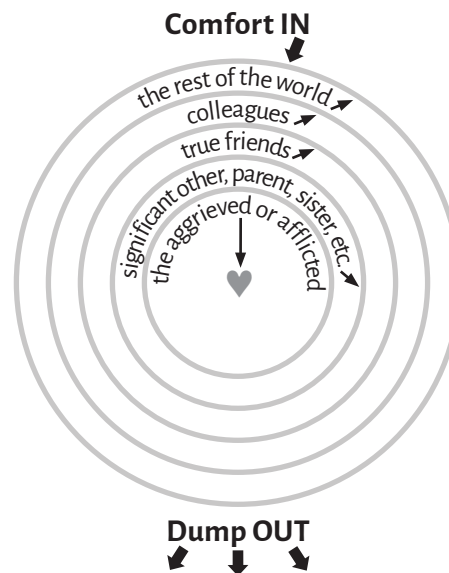
- The only way to put it behind you is to keep busy.
- You will find someone else.
- You'll get over it.

While you might have good intentions, the person you are consoling probably will not be helped by this kind of advice. They might feel like they aren't allowed to experience and process their loss fully, but instead have to hide it from you.

Keep in mind that every person and every relationship is unique. Just because you experienced something similar does not mean you know what they are experiencing. Rather than assuming you know what is best, respect each person's grieving process. Just do your best to be there for the people you love.

Comfort In, Dump Out: The Ring Theory

The ring theory is one tool that can help you understand how to best support someone who is experiencing grief. It was developed by Susan Silk, who had breast cancer and surgery. Many people offered her well-meaning support, some of which backfired completely, leaving her feeling worse. One colleague wanted to visit Susan after surgery, but she wasn't feeling up to having visitors. The person said, "This isn't just about you," but for Susan, that was the wrong thing to say. Although her colleague thought that her presence would help, Susan didn't feel able to receive people. Her needs came first.



The image above shows how the ring theory works. Imagine Susan is in the center of the ring. She is allowed to complain, vent, and express her full range of emotions to anyone else. That is the "dump out" rule. You can dump on anyone outside of your own ring but not to anyone on an inner ring. If you are a colleague, your job is not to express your own emotions to any circles inside of your own. Saying "This isn't just about you" is expressing your own neediness; it is not at all helpful to the person you are

trying to support or anyone close to that person (those in the inner rings). The idea is to express only comfort to those in the inner rings from your perspective.

Here's another example: Imagine your friend's older sister lost her baby at birth. Your friend's grief was powerful. When you went to the funeral and saw your friend and her sister crying, you started breaking up and said to the friend, "I don't think I can handle this." According to the ring diagram, you are in the third ring (true friends). However, you've just "dumped in" on your friend, who is in the second ring (and has her own responsibility not to "dump in" on her sister). What can you do in such a situation? You can express your support by crying and hugging your friend (comfort in). Let your friend do the talking (dumping out). When you go back home, you can "dump out" to your own siblings or parents because now you are in the center ring of your own circle.

Providing comfort means no complaining, no telling your own stories about your life (unless asked for it), and no giving advice. You can simply say, "I'm sorry," or "This must be really hard for you." It's also OK to be silent. Let the person on the inner ring express their grief to you without you looking to them for support with your own complex emotions. Their needs come first in the moment. You can get the support you need elsewhere or at another time.

The ring theory tool can help guide you through any loss, trauma, or crisis. Everyone will experience being in the center ring when they are in need of support. You can draw a new diagram for each situation if you want to figure out where you stand in the situation. Some people even draw the template and put it on their refrigerator because there is always someone around who needs comforting.

You might be thinking, "What if I'm trying to comfort my friend, and I mess it all up and start blabbing about things that might not help? The silence can be uncomfortable!" Be gentle on yourself. Nobody knows how to handle these uncomfortable situations perfectly. Every situation is different, and nobody is perfect. Your friend might just want to hear your voice. They might not (in their grief) hear what you're saying, and that's OK. If you accidentally "dump in" on your friend, you might notice if it is upsetting or if they just don't even absorb it. When you become aware of what you are doing, you can switch gears and go into listening and support mode. If you go home and in hindsight realize you said the wrong things, you can discuss it with your friend another time.

This tool is primarily for immediate grief. After some time goes by, in a healthy, reciprocal relationship, you and your friend will hopefully be able to talk about your losses together, without worrying about who is comforting in and who is dumping out. It might even strengthen your relationship to discuss what you were experiencing at the time of your friend's loss. That's what friends are for.

The Wider Perspective

Around the world, we are all experiencing an increase in natural disasters. We recently went through a global pandemic. How can we use the ring theory when everybody is in the center of the ring?

Imagine a hurricane flooded your entire town, and every home was lost. We've all heard of people banding together during a disaster like this and showing their collective strength. How do we all stay strong in order to help our neighbors when we have lost everything? Blogger GERALYN BRODER MURRAY

had an idea: Take turns! Neighbors can take turns and decide which household is in the center each day, allowing them to express whatever they need to (dump out all their emotions) and receive comfort in return. This allows neighbors to help neighbors, and each family will get their turn in the center to be on the receiving end of all the love and support.

You can do this with friends if you are all going through a shared trauma. This strategy could help stave off the emotional exhaustion that comes with a major crisis, such as a natural disaster, pandemic, or mass shooting. You can also do this on a more personal level within your own family. Each night at dinner, somebody will be in the center of the ring and can say whatever they need. Everyone else will provide comfort, support, and a listening ear.

This approach can also help us organize our thoughts in discussing other complex and difficult topics that affect people in different ways, such as privilege or discrimination. Like all tools, sometimes it is the right one for the job, and sometimes it isn't (depending on the intricacies of the job). But if you find yourself struggling in a conversation about issues of identity, power, or hard history where people bring a lot of hurt or other big feelings, stop and ask yourself, "What are the rings here? Who is in need of the most support right now? Can I use this approach to make this conversation more helpful?" Sometimes it will be your role to offer comfort first (and find an outer ring person to process with later), and other times you will receive comfort when you most need it. By introducing the ring theory to your friends and family, everyone in the group can become more supportive and be supported.

Writing Assignments

1. Why do you think we have chosen to include the topic of loss and grief in the unit on self-care? Write a few sentences or a paragraph sharing your thoughts on this.

Answers will vary, but students will likely mention that having tools to help go through grief can be very useful. It is easy to flounder in grief or crisis and get stuck in the depression stage. Having strategies for climbing out of the hole can be extremely helpful, allowing a person to take control of one small thing at a time. It also helps to know that grieving is OK and that it's perfectly normal to break down and cry, feel angry, etc. Processing emotions is part of self-care.

2. What are your own experiences with grief? This could be grief following the death of a loved one or a pet, or any loss that you have experienced, such as divorce, moving away, ending a relationship, etc.

Write an essay describing your own experiences with grief. Alternatively, create a poem, song, painting, etc., that describes your experiences. (If you choose the creative option, add an artist's statement that describes your work.) If you cannot think of an example from your own life, talk to someone who has experienced loss.

Incorporate your responses to some or all of the following prompts into your essay, weaving them into your narrative or creative expression.

- Relate your experience to Elizabeth Kübler Ross's five stages of grief. Did you experience any of them?
- Did you have any religious or community rituals to help you?
- Do you have any personal rituals that you used?
- Have you gotten to a "new normal" now?
- Are there times when the memories come flooding back and you feel like you are going through the grieving process all over again? (This is perfectly normal.)

This exercise offers you the opportunity to express yourself freely, candidly, and confidentially.

Some students might find this to be a therapeutic or cathartic exercise and will share openly, and others might not be willing to share details. Accept all descriptions. The goal of this exercise is for the student to understand the process of grieving and to reflect on what they have gone through.

3. Practice using the ring theory. Using two scenarios (real-life or fictional), draw the ring diagram and explain the situation. Describe one example of "comforting in" and one example of "dumping out" for each scenario.

Students' responses should be similar to what is explained in the reading, with examples of comforting in and dumping out for two different scenarios. Check to make sure the student understands the concept of the ring theory.

4. Reflect on what you've learned in this lesson and share your thoughts. Is the information, especially the ring theory, helpful to you? Are there feelings that you experience that don't seem like they fit into what has been described here at all? Do you have other tools that help you cope with grief or loss or that help you comfort others who are in crisis?

Students' responses should demonstrate thoughtful reflection. Some students might share other coping mechanisms that have worked for them, such as spending time in nature, journaling, or joining a support group.

5. For the past two weeks, you have been practicing your conflict resolution skills. Summarize your experiences with two conflicts. Address the following points:

- Were you one of the people within the conflict, or were you a witness or mediator?
- How was the conflict resolved?
- Did anyone use "I" messages?
- Which conflict resolution tools did you find most helpful?

Students might have used compromise, negotiation, or some other tool, depending on how challenging the conflicts were.

Book Project

Complete and submit your book project. Refer to lesson 6 for the requirements for each book selection.

Refer to lesson 6 for the project parameters for each book. Only *Spark* has any specific questions about the content (see below). For the others, students should share what they find interesting or resonate with. Encourage full expression and detail. Also, if students need more time to complete their book, you can make adjustments as needed.

For students who choose to continue reading *Spark*:

1. Students should describe two concepts or case studies that they found particularly interesting.
2. Exercise provides many benefits that help with addressing anxiety. Exercise provides distraction, reduces muscle tension, builds brain resources, allows you to develop a different outcome to the physical symptoms of anxiety, improves resilience, etc.
3. Exercise elevates levels of norepinephrine in the brain, waking it up and improving self-esteem. It also boosts dopamine, which improves motivation and attention and feeds the reward center of the brain. Exercise also increases serotonin, which helps mood, impulse control, and self-esteem. Serotonin counteracts cortisol, and therefore helps reduce stress, and boosts neural connections in the brain that are important for learning.
4. Students should summarize the most important point(s) they found in the chapter on depression. Answers will vary.
5.
 - a. Students should relate their experiences with ADHD. Answers will vary. It's possible the student doesn't know anybody with ADHD. If so, they might share other thoughts.
 - b. Dopamine and norepinephrine are neurotransmitters involved with the attention system that exercise targets.
 - c. Students should describe one or two concepts or case studies that they found interesting in this chapter.
6. After reading chapter 7, students should write down one to three things they found particularly interesting.
7. After reading chapter 9, students should write down one to three things they found particularly interesting.
8. Students should write a summary about what they thought of the book.

Fitness Program

Continue with your fitness routine. How many days a week are you exercising? Check in with your body. How do you feel?

Squats

This week, add squats to your routine, which are another wonderful strength-building exercise. Squats are good for exercising your glutes, quads (quadriceps), hamstrings, and calves as well as your core muscles. (You'll find you need to engage your core for proper technique with any strength-building exercise. This includes many yoga poses as well.) Find these muscles in the muscle diagrams in *HACB* or online.

How low you go when doing squats is highly individual; it depends on bone length, overall strength, and body proportions. As always, listen to your body. If you feel unnecessary strain on your knees, back off a bit. You will still be getting a good workout.

Good technique is crucial to effective and safe squats. As with your core exercise sessions, practice these in sets of 10–20 repetitions, 1–3 sets per session, and 2–3 days a week with rest days in between.

- Stand with your arms straight out in front of you and your feet a shoulder width apart.
- Slowly bend your knees and lower your hips toward the floor, as though you are sitting in a chair.
- Keep your back straight and engaged (it won't remain vertical), and make sure your knees do not extend over your toes. Center your weight in your heels.
- Move slowly in both directions (going down and coming up). It's extremely important to not allow any twisting of the knees while doing squats.
- How deep you go will vary, but it is not recommended to let your thighs go farther than parallel to the floor (a 90-degree bend in your knees).

There are good videos online that demonstrate proper technique, such as the one below:

“Bowflex How-To—Squats for Beginners”

Some people add weights to help them build more strength, but at this point in your life, this is not recommended because teen bones and joints are still developing. If you'd like an added challenge, try some squats while wearing a backpack containing a few light items, which will mimic what you need if you're skiing or hiking. If you want more weight, it's strongly recommended that you work with a trainer at a gym to ensure you do it safely. To ease the stress on the joints, sometimes a trainer will put the weight in front, not behind your head on the shoulders.

Try the wall sit for a static version that works some of the same muscles:

- Stand in front of a wall with your feet away from the wall.
- While leaning on the wall with your back, sit down so your hips and knees are both at a 90-degree angle. Adjust your feet position to form these angles.
- Hold for 30–60 seconds. Feel the muscles activate!

- Rise up, rest for a few seconds, and repeat.
- Try it while squeezing a ball between your knees for more intensity.

Be sure to write about your experiences in your fitness journal.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. You can use the following checklist to organize your work submission.

- Reflection on how dealing with loss and grief is self-care
- Personal experiences with grief
- Scenarios using the ring theory
- Reflection on what you've learned
- Summary of your experiences with conflict resolution
- Your book project

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.

Lesson

29

Sexuality, Relationships, and Sex

Learning Objectives

In this lesson, you will:

- Practice respect for individual differences and object appropriately to teasing or disrespect that is based on perceived personal characteristics and sexual orientation.
- Discuss the characteristics of healthy relationships, dating, committed relationships, and marriage.
- Explain laws related to sexual behavior and the involvement of minors.
- Practice making healthy decisions about relationships and sexual health.

Lesson Introduction

Sexuality is a natural and important part of the human experience. It affects all facets of life. Adolescence is a time when you will start to feel your own sexuality. This lesson, which is about sexual orientation, intimate/dating relationships, sexuality, and sex, can help you navigate those feelings.

Note: There is a substantial amount of material in this lesson, so scan it to get a sense of what you'll be doing. This will help you organize your time. Remember to talk to your teacher if you're feeling overwhelmed by the amount of material or the content.

What Is Sexual Orientation?

Sexual orientation refers to the gender(s) of the person that one is attracted to, physically and romantically. Some examples are below.

ASSIGNMENT CHECKLIST

- ☐ Read the lesson introduction.
- ☐ Complete the Stop, Think, and Do activity.
- ☐ Read module 8, lesson 3 (180–187).
- ☐ Define and reflect on the LGBTQIA acronym.
- ☐ Explain how to be an LGBTQIA+ ally.
- ☐ Explain the importance of consent in sexual relationships.
- ☐ Analyze laws relating to sexual exploitation.
- ☐ Activity A: Relationship Questions
- ☐ Activity B: What Relationships Mean to You
- ☐ Complete the fitness program activities.

Heterosexual (or straight) describes feeling attracted to a person of the opposite sex or gender (male or female).

Lesbian or **gay** refers to women or men who are attracted to people of the same sex or gender. (Note: The term *homosexual* is considered outdated.)

Bisexual (bi) refers to being sexually attracted to both people of the same and opposite sex or gender (though not necessarily simultaneously).

Asexual describes not being sexually attracted to others. A person who is asexual might still experience romantic attraction.

Pansexual describes a person who is attracted to any gender (though not necessarily simultaneously).

Questioning describes people who are exploring their sexual orientation or gender identity.

These identities, plus transgender and intersex people, make up the letters in the acronym LGBTQIA, though variations on this acronym are often used.

Sexual orientation (who you are attracted to) is different than gender identity (how you identify yourself). It's very important to understand that an individual's sexual orientation is independent of their gender identity. For example, the term *cis/het* means cisgender and heterosexual. An example of cis/het is someone who was born as a girl (assigned female at birth, or afab) and identifies as female (cisgender) who is attracted to males (heterosexual).

It's important to keep in mind that no matter who you are and who you are attracted to, if you become sexually active with another person, you have the responsibility to both yourself and your partner to practice safer sex so you both stay healthy.

Stop, Think, and Do

Myth or fact? Before you move on, take the following quiz to test your understanding of gender and sexual orientation. Decide whether each of the following is a myth or fact.

1. Most people know what their sexual orientation is by the time they are 13 years old.
2. The way parents raise their children determines the child's sexual orientation.
3. If you try really hard, you can change your sexual orientation.
4. In a same-sex relationship, the couple will take on gender-specific roles in terms of cooking, cleaning, home repairs, childcare, etc., with one person assuming a "male" role, and the other assuming a "female" role.
5. You can determine someone's sexual orientation by the way they look or act.
6. The majority of people in the world who have HIV or AIDS are gay men.

7. With the 2015 U.S. Supreme Court Decision on marriage equality, lesbian, gay, and bisexual people now have all the same rights as heterosexual people.

Turn to the end of this lesson to check your answers.

If you have any further questions about any of this, write them down, and if you don't get answers in this lesson, ask your teacher or any trusted adult.

Reading Assignments

1. In your textbook, read the following:
 - Module 8: Peer Relationships (180–187 only)
 - Lesson 3: Abstinence
2. You might want to review modules 6 and 8 as well as the coursebook introduction to lesson 10, where masturbation is discussed.

It is essential that students are provided with credible sources of information regarding sex. If not given credible sources, they are likely to find disreputable sources and inaccurate information that is potentially harmful.

There are many reliable websites that you can direct your student to for sensible answers related to sexuality, such as 3rs.org, amaze.org, plannedparenthood.org, sexetc.org, and scarleteen.com. Since the sites present information about sex in a factual and frank manner, parent permission is required before sharing them with students.

More About . . .

Respect and Communication in Dating Relationships

You have learned about effective communication, respect, and trust in relationships in this course. These skills are just as important in dating and romantic relationships. Attraction to and romantic feelings for another person is part of teen life. Learning how to navigate these complex feelings and relationships, and building a solid understanding of what you are getting into, is important to your physical and mental health as well as your safety.

Everything you have already learned about relationships applies to dating relationships. Other factors come into play too.

Infatuation vs. Love

What is the difference between love and infatuation?

Infatuation, according to the Oxford Dictionary, is “an intense but short-lived passion or admiration for someone or something.” In relationships, infatuation is often experienced as an all-consuming desire for a person. This usually happens at the beginning of a relationship, when the feelings of

attraction are new. Some relationships that begin as infatuation later develop into love. But if a relationship is based solely on infatuation, it is unlikely to last long.

Love (sometimes referred to as mature love) is a much deeper experience. In a love relationship, you know your partner well, and the relationship is based on affection, trust, respect, and communication. You feel fully bonded. You are not just focused on how the relationship makes you feel. It takes some time to develop and often (but not always) starts as infatuation.

Check out the comparison chart below.

Infatuation and Mature Love Relationships

Infatuation	Mature Love
Usually develops at the beginning	Develops gradually
Sexual attraction is central	Friendship and affection are central
Constantly thinking about (obsessed with) the other	The other is an important part of a rich life
All-consuming, often exhausting	Energizing in a healthy way
Based on fantasy	Based on reality
Driven by the excitement of being with a person who is not fully known	Driven by deep attachment and extensive knowledge of a person's positive and negative qualities
Each needs the other to feel complete	Partners feel complete without the relationship, but the relationship enhances the self
Discomfort with individual differences	Acceptance of each as individuals
One is threatened by the other's individual growth	Each partner encourages the other's growth
Characterized by urgency, sexual desire, intensity, and anxiety	Characterized by calmness, empathy, support, tolerance, and a sense of security
Relationship is not enduring because it is not based on a firm foundation	Relationship is based on a strong foundation of friendship and is sustainable

A healthy love relationship will grow in stages.

Attraction: You notice a person, they notice you, and the attraction starts.

Friendship: You hang out together, getting to know each other as friends. You enjoy spending time together in a platonic way. No commitments yet.

Close friendship: You learn more about each other's feelings and values, and you might learn some things about the other's vulnerabilities. At this point, you might want to move the

relationship forward, or you might realize something doesn't quite feel right and you can safely retreat.

Intimate friendship: This stage implies that a level of acceptance has been reached, and you can each reveal more of your characteristics and faults, resulting in a deeper level of understanding of each other. Communication is solid and mutual. A deeper commitment might be made to each other, and physical involvement might intensify at this stage. Or the partners might go back to being close friends, with no harm done.

Mature love: Partners are very close, and they also develop (both together and separately) socially, intellectually, emotionally, and spiritually. Conflicts will arise, as is common in any relationship, but they are worked through in a constructive and respectful way.

You might wonder what you should look for in a potential partner. This is something you might want to think about before getting involved with anyone. Perhaps make a list for yourself. For instance, your list might include someone who lives a healthy lifestyle (no chemical addictions), respects others, and shares a common interest with you. Your prospective partner should be compatible with you in terms of basic social values.

When considering a potential partner, here are some questions to ask yourself:

- Does the person have one or more close friends? This might indicate that the person has skills that they can apply to an intimate relationship and won't be relying on you to fulfill all their needs.
- If a romantic relationship doesn't work out, would you still want that person as a friend? The foundation of any lasting relationship is friendship.
- How does the person treat others? Are you OK with that? Would you want to be treated in that way? A partner might treat you well at the beginning of the relationship, but if they don't treat others well, it is likely you will also experience this characteristic of the person eventually.

Especially in the rush of exciting infatuation, it's important to be clearheaded about moving forward with any dating or intimate relationship.

Online Dating

There are many online dating apps, and teens use them all the time. Sometimes it feels safe to be protected behind the screen, where you don't even have to actually speak with the person. In fact, it can be very dangerous. In person, you can be with friends as you get to know someone. Online, you are alone, and there are many predators out there.

View the following short video:

"Dangers of Online Dating Sites"

When using an online dating site, everyone should use caution because nobody is exempt from exploitation and potential harm.

Are you familiar with Shakespeare's *Romeo and Juliet*? It's a great example of a relationship based on infatuation! The following video shows what might have happened if that relationship existed in the cell phone era:

"Romeo and Juliet: The World Changes. Children Don't."

We're not going to discuss online relationships too much, but you are strongly encouraged to talk to trusted adults about the risks, and do your own research about it. Aside from the risks, it can be unhealthy to devote much of your attention to online relationships, when at this point in life it's important to be with your peers, in person, developing strong interpersonal skills and enjoying friendships.

Consent, Choice, and Sexual Activity

Let's say you are at a place in your relationship with another person where you are considering becoming sexually active with them. **Consent** is an essential element. Giving consent means you are giving permission, saying it's OK for the other person to touch your body in specific ways.

There are laws that define the "age of consent," meaning someone under that age cannot legally give consent to engage in sexual activity. In the United States, the age of consent varies by state, but it is always between 16 and 18. This means that if anyone is below that age, sexual activity is a criminal act. You might think that a lot of kids start having sex earlier than that, but this is not true. Despite the talk, not as many high school students have sex as you might think.

Here are some important things to know about consent:

- Any kind of touch, including kissing, should be based on consent.
- Consent needs to be given verbally and clearly expressed by both partners.
- A nonanswer (silence) does not imply consent.
- Answers of "maybe," "I'm not sure," "I don't know," and "I'm scared" are not consent.
- If a person gives "consent" while they are incapacitated (for example, while intoxicated), that is not valid consent.
- If someone uses coercion or intimidation to get "consent," that is not valid consent.
- Consent is given freely and actively, and it is clearly understood by both people.
- Consent rules apply to sexting and any taking, sending, or sharing of nude photos.
- Sexting is illegal in the United States for anyone under 18 and can be considered child pornography.
- Past consent does not imply present or future consent.
- Consent can be withdrawn at any time.

What's the best way to handle consent in an intimate relationship? Talk about it with your partner! Communication is essential. It might feel really awkward at first, but just a few words like "I'm not ready" or "I'm not feeling comfortable" can open up a conversation that can go a long way toward deepening and strengthening your relationship.

View the following videos (they are all short):

"The Basics of Sexual Consent"

"Rise Above Let's Talk Consent in Relationships"

"Sexual Assault, Consent and Sexual Harassment: What's the Difference?"

Sexting and Consent

Let's talk about sexting. Some teenagers engage in sexting, although in most places, it is illegal for those under 18. Sexting by those who are under the age of consent is considered child pornography. Can you think of a time you might have watched and laughed at a nude or sexually explicit video or other picture that you or a friend found online? If so, have you ever wondered if the person in the video or picture agreed to have it put online or shared with others?

It's important to think about consent and sexting the same way we think about consent with other things.

Sometimes sexting takes the form of "revenge porn." This is when a sexually explicit video or photo of someone is shared without their permission, with the intent to harass, threaten, or intimidate them. This type of sexting can happen when somebody is angry with another person and wants to cause them emotional harm. How would you react if you saw such an image and suspected the person did not want the image made public?

In many U.S. states, it is a crime to receive and keep a sexually explicit photo or video. If you receive one, you can permanently delete it from your phone. You can tell the sender to stop and block them, if necessary, to avoid receiving more sexual content. You can also report what happened to your parents, a school counselor, or to the police, who can help. Sexting without your consent is wrong. Even with consent, if the parties are underage, it is illegal and can lead to serious, life-altering consequences.

Educating yourself is important so you can make informed decisions about your body and your life.

Resources

If you've experienced someone posting a sexually explicit image without your consent, you can get help:

Cyber Civil Rights Initiative

Crisis hotline: 1-844-878-CCRI (US)

Pornography

Most kids have seen some type of pornography by the time they are 13 years old. In a 2022 survey, 73 percent of respondents aged 13–17 reported watching porn, and many reported watching it regularly.

Porn is not reality and can present a distorted view of sexual relationships, especially when you're just figuring out what might be involved in a healthy consensual relationship. There are dangers to using porn as your sex education. Aside from getting the wrong idea of what a sexual relationship is all about, many teens feel shame or other negative feelings after watching porn. "Research has suggested that exposure to pornography at a young age may be related to poor mental health, sexism and objectification, increased sexual aggression, interpersonal relationship problems, and other negative outcomes" (Mann).

View the following quick (and humorous but serious) video about porn:

"Porn Stars' Deployed in New Zealand Government's Online Safety Campaign"

As the actors in the video explain, pornography doesn't represent real people or experiences. The films are created for adult entertainment, and they don't include anything about consent, communication, or any of the things that are so important to a healthy sexual relationship. Seeing sex in this way takes away the special significance and intimacy that sexual activity can bring between two partners.

We bring this up because it's important in your health education that you know what is out there and understand the negative effects that some of these activities can have on you and others. Just as being able to tell the difference between reliable and unreliable sources is key to other aspects of your education, it is also essential in sex education because unreliable sources lead to misleading information and negative outcomes.

Healthy relationships revolve around consent. And if you're not ready or you have religious beliefs or values about engaging in sex, you are free to choose abstinence. You should never feel pressured to engage in any sexual activity. There is value in waiting in terms of your mental and emotional health and well-being. Abstinence can help you become more confident in your ability to be assertive, build your communication skills, and deepen your relationship, while avoiding sexually transmitted infections and unwanted pregnancy.

The Pain of a Breakup

Experiencing the breakup of a relationship can be a devastating experience, one that consumes every part of you. There is nothing fun about feeling like you have a broken heart. If you happen to have a breakup where you are able to remain friends, that is the best-case scenario. If it isn't working out for you to remain friends or it hurts too much, you might need to distance yourself from the person, at least until you have had time to heal and can resume a friendship.

In the lesson on loss and grief, you learned that a breakup of a relationship can be a big loss, and you might need to grieve that loss. Even though you might always miss what you might have had with that person, eventually you will be able to forge ahead with your life and new relationships. But don't just

jump into a new relationship in order to fill the hole in your life. That often ends badly. Give yourself time to process what happened and heal. Surround yourself with supportive friends. Focus on your physical, mental, and emotional health, and practice self-care to help strengthen your sense of self.

The video below gives some advice you might find useful:

“How to Handle Getting Dumped”

You might want to check out other videos from Shallon Lester’s Teen Dating Tips series, which focus on topics related to relationships, communication, sexuality, and more.

Writing Assignments

1. Respond to the following prompts.

- a. Unpack the terms that make up the acronym LGBTQIA. Next to each letter, list what it stands for and describe if it is a gender identity, sexual orientation, or something else.

L = lesbian: sexual orientation

G = gay: sexual orientation

B = bisexual: sexual orientation

T = transgender: gender identity

Q = queer and/or questioning: broad term that can apply to identity or orientation

I = intersex: biological sex category

A = asexual: sexual orientation

- b. Why do you think these different terms are all lumped together?

Answers will vary. The terms are all related, and they are all different from the binary social norm. It is one broad community that has shared persecution by other groups. It also can be a supportive, inclusive community.

2. Full legal protections do not always exist for LGBTQIA+ people, and interpersonal discrimination, sometimes to the point of physical violence, is still present in our society. As with all underserved groups, having allies can make a very big difference in the lives of LGBTQIA+ people facing discrimination. The skills for being an ally can be very useful in all sorts of situations, both within and outside the LGBTQIA+ community.

Find out what it means to be an LGBTQIA+ ally. You can start with the following video:

“How to Be a LGBTQIA+ Ally”

Write one paragraph describing how somebody can be an LGBTQIA+ ally.

Being an ally includes being kind and willing to listen. It also means maintaining confidentiality regarding sensitive or private information that is shared with you. An ally might also be willing to organize to support and help protect the rights of

their LGBTQIA+ friends. Also, because sometimes being alone presents greater risk of harassment, an ally can offer to accompany them to places where they might face discrimination, such as the bathroom, school hallways, medical facilities, and certain events or places. An ally might be able to object to teasing or disrespect aimed at their friends.

3. Why is consent as important when it comes to sexting as it is for any other sexual activity?

Sexting activity reveals a lot of vulnerability, just like physical sexual activity. It's extremely important that mutual consent is given with no coercion. The need for people to be in control of their bodies to be safe and healthy extends to images as well.

4. Read the following scenario.

Two 16-year-old teens who were dating shared nude images of themselves with each other. At the time, they thought it was no big deal. When a crime happened in their community, they offered their cell phones to be searched by police, not realizing that the images they had of each other on their cell phones could be illegal. The police discovered the sexts while searching their phones and arrested and charged each teen with a felony charge of distributing child pornography. According to the local laws, a person has to be 18 to send and receive sexually explicit material, so because each teen was only 16, they were both the perpetrator and victim of the crime.

One of the teens was dropped from playing on the football team, and faces up to ten years in jail if convicted, and the other teen opted for a plea deal of one year of probation. Some people thought the two teens were being treated too harshly; other people didn't. In their state, every instance of sending and receiving pictures of a minor is considered sexual exploitation of minors.

- a. What crimes were committed? (Hint: there are two crimes.)

The crimes were distribution and possession of child pornography. Even though sending naked pictures was consensual between the teens, merely sending and having photos of someone under the age of 18 is considered child pornography in this state.

- b. Is it a crime if you've received a nude photo of someone, but didn't send one yourself?

Even if you've received a nude photo without asking, it may still be considered possession of child pornography. If a person shares a nude photo, it may be considered distribution of child pornography.

- c. How do you feel about this story? Do you think the teens were treated fairly?

Answers will vary. In reality, sexting is extremely common, and most teens are unlikely to get into trouble. Educating students about these laws is important so they can make informed decisions.

- d. Why do you think these laws exist? Maybe someone will never have trouble if they're sexting with someone they are in a relationship with. But what could go wrong? Describe at least two things aside from what is mentioned in this story.

The images could get posted publicly on the internet, and sexual predators could get hold of them. If the relationship ends badly, an image might be used as revenge porn. One person might show other people an image of their partner without their consent.

- e. Bonus (optional): Find out the specific sexting laws where you live. You can use the following website:

“Sex in the States”

(Note that the website might not be up to date on some of the topics since laws are changing rapidly.)

What are the consequences if an underage person is caught and charged?

Answers will vary, ranging from a felony charge for child pornography to a misdemeanor to requiring an eight-hour course in order for the charges to be dropped, depending on the location.

Activities

Complete the following activities:

- Activity A: Relationship Questions
- Activity B: What Relationships Mean to You

Activity A: Relationship Questions

Choose one of the following options.

Option 1: In the More About . . . section, there are some questions to ask yourself about a potential partner:

- Does the person have one or more close friends?
- If a romantic relationship doesn't work out, would you still want that person as a friend?
- How does the person treat others? Would you want to be treated in that way?

Give these questions some thought in the context of your vision of an ideal relationship. Would these questions be helpful when considering a potential partner? What other questions would you add to this list?

Option 2: Consider the idea of a couple “sealing their love” with marriage. Is this a healthy perspective on marriage? Does marriage make a relationship secure? If not, what does? Discuss this in the context of the difference between infatuation and mature love. From your current perspective, what does marriage mean?

Option 3: Interview two happily married couples, one couple that has been married at least 30 years and another couple that has been married for fewer than 5 years. Ask them what the keys are to their

successful marriages. Try to interview both members of each couple (either singly or together). Are their lists similar? What conclusions can you draw about happy marriages?

Activity B: What Relationships Mean to You

Using your own words and ideas, describe what a healthy intimate relationship with another person means to you, and reflect on how you can contribute if you find yourself in one. A healthy intimate relationship might or might not involve sex. Choose a form that works for you:

- Write an essay.
- Create a short story that expresses your ideas.
- Create an art piece and a detailed artist's statement explaining the ideas it expresses.

Fitness Program

Yoga

Yoga has been around for thousands of years as a spiritual practice rooted in the Hindu tradition. With its introduction to the West, yoga has largely become separated from its religious connections, but for many people, it is a daily practice.

Yoga is a great way to reduce stress, increase flexibility, improve balance and range of motion, and feel good in general. Yoga involves stretching (often active stretching), strengthening, and breathing exercises practiced in an intentional manner. It involves a combination of physical and mental discipline. There are many different forms of yoga and varying degrees of difficulty or intensity within each form.

This week, try some yoga. There are many excellent videos available for free online. If possible, you might want to go to a live yoga class because a teacher can provide guidance on the proper form. One of the most popular yoga warm-ups is called the sun salutation. It is a simple pattern of dynamic stretching. You can find instructions online. Try some videos as well. Look for a video that 20–30 minutes long.

Record your experiences in your fitness journal in addition to your regular routine.

Answers to Stop, Think, and Do

Each statement is a myth and either untrue or highly misleading!

1. Gender is often known from a young age, but sexual orientation is not. Somebody might feel like they are different from others of their sex in that they aren't attracted to the opposite sex, but they don't know how to articulate those feelings. Some might think they have one particular sexual orientation and then realize later they feel differently. Some people "always" know, but conceal it.
2. A parent or caregiver does not determine a child's orientation by the way they raise their child or how they behave with their child. The majority of people, no matter what their sexual orientation is, were raised by heterosexual parents or caregivers. Likewise, there are lesbian and gay parents and caregivers who raise heterosexual children.
3. You don't have control over how you feel or your orientation, no matter how hard you try. You can change your outward behaviors, but that doesn't change who you are attracted to. Occasionally, one might discover a change of attraction to others, but that is not the same as trying to change who you are or receiving therapy or ideological or religious guidance that attempts to change your sexual orientation or gender identity. This is called conversion or reparative therapy, and it can result in emotional and psychological harm. It is now illegal in most states in the United States.
4. Sometimes same-sex couples will take on traditional gender roles, but not always. We tend to be in a binary culture that expects male/female gender roles in a partnership, but it doesn't always work that way, not even in heterosexual couples. Circumstances that determine the roles of each partner are more likely to be influenced by finances, work, preferences, skills, and other factors.
5. You might sometimes be able to guess a person's sexual orientation by how they act, but it's always best to avoid assumptions. People behave, dress, and speak in different ways, regardless of their sexual orientation. Instead of guessing or making assumptions, wait for them to share with you who they are, or you might be able to respectfully ask. Everyone has the right to decide what personal information they want to share with others.
6. About half of the 38 million people around the world who are living with HIV or AIDS are women and children, and the rest are men, many of whom are heterosexual or bisexual. Many people living with HIV are women who got it from a male partner.
7. Marriage equality addresses marriage only. Lesbian, gay, and bisexual people are often discriminated against in many other ways, including the workplace and medical settings. Legal protections against discrimination do not always include sexual orientation.

SHARE YOUR WORK

When you have completed this lesson, share your work with your teacher for feedback. You can use the following checklist to organize your work submission.

- Information on the LGBTQIA acronym
- How to be an LGBTQIA+ ally
- Importance of consent in sexual relationships
- Laws relating to sexual exploitation
- Activity A: Relationship Questions
- Activity B: What Relationships Mean to You

If you have any questions about the lesson content, which assignments to complete, or how to share your work, contact your teacher.



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