

POSITIVE PSYCHOLOGY

A Seven-Lesson Unit Plan for High School Psychology Teachers

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PROCEDURAL OUTLINE

- Lesson 1 The Psychology of Happiness**
Activity 1.1: How to Measure Happiness
Activity 1.2: Happiness Index
Activity 1.3: Exploring the Keys to Well-being
- Lesson 2 Positive Psychology Interventions: Character Strengths**
Activity 2.1: The Science of Character
Critical Thinking Exercise 2.1: "VIA Youth Inventory Personal Assessment"
Critical Thinking Exercise 2.2: Optional Activities on Character Strengths
- Lesson 3 Gratitude**
Activity 3.1: The Gratitude Questionnaire-Six Item Form (GQ-6)
Activity 3.2: Gratitude Letters and Visits
- Lesson 4 Mindfulness and Psychology**
Activity 4.1: How to do Mindfulness
Activity 4.2: Neuroplasticity and Mindfulness
- Lesson 5 Growth Mindset**
Activity 5.1: Identify Your Mindset
Activity 5.2: Neuroplasticity in Action
- Lesson 6 Grit and Resilience**
Activity 6.1: Measuring Optimism
Activity 6.2: Grit Inventory
Critical Thinking Exercise 6.1: Children's Book Analysis
Critical Thinking Exercise 6.2: "Gritty" Case Study
- Lesson 7 Reprogramming Habits**
Activity 7.1: WOOP Scenarios and Group Discussion
Activity 7.2: Habit Formation

Proposed number of days/hours for lesson

Number of total teaching hours: Sixteen hours of instruction is provided in this resource, but teachers should note that many of these lessons and activities can fit into other psychology units (see introduction for more information).

- 21 days in 45-minute classes = 16 hours (one semester class: 10 days = 8 hours)
- 10 days in 90-minute classes = 15 hours (one semester class: 5 days = 7 hours)

Introduction

Positive psychology is the scientific study of human strengths and virtues. It uses psychological theory, scientific research and evidence-based interventions to understand and improve human well-being. This unit examines a variety of psychological concepts that fall under the broad umbrella of positive psychology: positive emotions, personal strengths and virtues, gratitude, mindfulness, growth mindset, and grit. Throughout this unit, students will engage in learning the science of positive psychology and how to increase their own well-being using research-based interventions.

Although positive psychology is an extremely popular, fast growing area of psychology, there have been significant critiques of both the theory and research informing this topic. Most notably, critics argue that theories of Positive Psychology underestimate the role of contextual factors such as systemic racism and poverty on well-being and highlight the methodological weaknesses of the scientific methods used to assess constructs and evaluate outcomes. Teachers are encouraged to review these critiques (e.g., Brown & Rohrer, 2020; Coyne & Tennen, 2010; Van Dam et al., 2017) to be more informed on criticism on Positive Psychology.

Teachers have several options for how to use this unit in class. Teachers may want to teach this content as a separate unit at some point during the year, like after the Advanced Placement exam in the spring. Teachers may also want to embed the content and activities provided in this unit throughout their class. The chart below shows teachers which existing course units the lessons and activities of this unit fit into. Teachers can pick and choose which lessons or activities fit best in their class. The various content outlines and activities were written with the purpose of allowing individual teachers the freedom to select the activities that fit the needs of their classroom and the diverse learners within it.

GUIDE ON INTEGRATING LESSONS INTO CLASS UNITS

LESSON WITHIN THIS RESOURCE	CORRESPONDING CLASS UNIT
Lesson 1: The Psychology of Happiness	
Lesson 1 Content Outline	Perspectives in Psychological Science Research Methods, Measurement, and Statistics Social Motivation Emotion Personality Health
Activity 1.1: How to Measure Happiness	Research Methods Emotion
Activity 1.2: Happiness Index	Research Methods Social Emotion
Activity 1.3: Exploring the Keys to Well-being	Emotion Personality Health
Lesson 2: Positive Psychology Interventions: Character Strengths	
Lesson 2 Content Outline	Personality Health
Activity 2.1: The Science of Character Questions	Personality
Critical Thinking Exercise 2.1: "VIA Youth Inventory Personal Assessment"	Personality
Critical Thinking Exercise 2.2: Optional Activities on Character Strengths	Health
Lesson 3: Gratitude	
Lesson 3 Content Outline	Health
Activity 3.1: The Gratitude Questionnaire-Six Item Form (GQ-6)	Health
Activity 3.2: Gratitude Letters and Visits	Health
Lesson 4: Mindfulness and Psychology	
Lesson 4 Content Outline	Perspectives in Psychological Science Research Methods Biological Bases of Behavior Consciousness Psychological Disorders

Activity 4.1: How to do Mindfulness	Consciousness
Activity 4.2: Neuroplasticity and Mindfulness	Research Methods Biological Bases of Behavior
Lesson 5: Growth Mindset	
Lesson 5 Content Outline	Biological Bases of Behavior Thinking Health
Activity 5.1: Identify Your Mindset	Intelligence
Activity 5.2: Neuroplasticity in Action	Biological Bases of Behavior Health
Lesson 6: Grit and Resilience	
Lesson 6 Content Outline	Personality Health
Activity 6.1: Measuring Optimism	Personality Health
Activity 6.2: Grit Inventory	Personality Health
Critical Thinking 6.1: Children's Book Analysis	Health
Critical Thinking 6.2: "Gritty" Case Study	Health
Lesson 7: Reprogramming Habits	
Lesson 7 Content Outline	Thinking Motivation Emotion Health
Activity 7.1: WOOP Scenarios and Group Discussion	Learning Thinking Health
Activity 7.2: Habit Formation	Consciousness Thinking Health

This unit plan aligns to content standards and learning targets of the *National Standards for High School Psychology Curricula* found under standard areas that correspond to the units listed above.

LESSON 1

The Psychology of Happiness

GENERAL OVERVIEW

From Socrates to Seligman, the journey to discover happiness is rooted in the story of mankind. Aristotle suggested that the happy life would develop out of being intellectually stimulated and curious. However, he also is noted for suggesting that a happy life would not exist without “good birth, goodly children, and beauty” (Aristotle, 1909/n.d.; 350 BCE, book I, chapter 8). In the 1960s, Abraham Maslow suggested in his theory of the hierarchy of needs that happiness comes when basic needs are met and we are able to focus on self-esteem and self-actualization. More recently, Martin Seligman (2011) suggests that a flourishing life leads to the good life. If there are so many ideas about happiness and different definitions, theories, and speculations, is it possible for happiness to be measured, scientifically studied, examined across cultures, and nurtured in an individual? The following activities can help high school psychology students answer these questions and encourage them to embrace a happier life.

DEFINITIONS OF KEY TERMS

- **Eudaimonic happiness:** a positive emotional state achieved through experiences of meaning and purpose (Vinney, 2020).
- **Flourish:** “finding fulfillment in our lives, accomplishing meaning and worthwhile tasks, and connecting with others at a deeper level- in essence, living the ‘good life’” (Seligman, 2011).
- **Happiness:** “the degree to which an individual judges the overall quality of his/her own life-as-a-whole favorably” (Veenhoven, 2020).
- **Hedonic happiness:** a positive emotional state achieved through experiences of pleasure and enjoyment (Vinney, 2020).
- **Subjective well-being (SWB):** “the scientific term for happiness and life satisfaction- thinking and feeling that your life is going well, not badly” (Diener, 2020). This term can be simplified to well-being.

CONTENT OUTLINE

Background Information on positive psychology

- Became the theme of Dr. Martin Seligman’s term as president of the APA in 1998: look for what is right and not what is wrong with a person.
- Major contributors to the field of positive psychology include William James, Abraham Maslow, Martin Seligman, Mihaly Csikszentmihaly, Christopher Peterson, Ed Diener, Carol Dweck, and many others.
- Although positive psychology is an extremely popular, fast growing area of psychology, there have been significant critiques of both the theory and research informing this topic.
 - Some theories underestimate the role of contextual factors such as systemic racism and poverty on well-being
 - Some weaknesses in the research (described in more detail in subsequent lessons)

Themes of Positive Psychology covered by this collection of lessons and research

- Happiness
- Character strengths
- Gratitude
- Mindfulness
- Grit and resilience
- Reprogramming habits

Researchers, such as University of California-Riverside Professor Sonja Lyubomirsky, define happiness with two components- experiencing positive emotions (joy, contentment, affection) and satisfaction with one’s life (Greater Good Science Center, 2010).

What is happiness? Happiness appears to be a subjective term, so how do psychologists define the idea?

- **Subjective versus objective:** “based on or influenced by personal feelings, interpretations, or prejudices” versus “impartial or uninfluenced by personal feelings, interpretations, or prejudices” (APA, n.d.-e; APA, n.d.-c).
- **Operational definitions** aid psychologists in describing something in terms by which it can be measured and observed (APA, n.d.-d).
- Methods to measure happiness
 - » Self-report scales are most commonly used (Diener, 2020), reports by others, facial expressions and emoji usage can also be used (Holder, 2017).
 - » Biological understandings of happiness: increase in grey matter in the precuneus (Kyoto University, 2015), higher activation in the left pre-frontal lobe, increased levels of dopamine, serotonin and endorphin, and changes in hormonal levels (Dfarhud et al., 2014).

[Activity 1.1 How to Measure Happiness](#) can be completed at this point

Types of Happiness

- **Hedonic happiness** is happiness that is often achieved through experiences of pleasure and enjoyment (Vinney, 2020).
 - » This idea has roots in the 4th century BCE with the Greek philosopher Aristippus. He thought that life’s goal should be to maximize pleasure.
- **Eudaimonic happiness** is happiness that is often achieved through experiences of meaning and purpose.
 - » In Aristotle’s work *Nicomachean Ethics* from 340 BCE, the philosopher suggests that “to achieve happiness, one should live their life in accordance with their virtues” (Vinney, 2020).
- Modern research suggests “hedonic behaviors increased positive emotions and life satisfaction and helped regulate emotions, which also reduced negative, stress, and depression. Meanwhile, eudaimonic behavior led to greater meaning in life and more experiences of elevation, or the feeling one experiences when witnessing moral virtue” (Vinney, 2020).
 - » The happiness boosts from hedonic behaviors are not as long lasting as eudaimonic experiences.
 - » Humans continually try to get a boost up from their “happiness baseline.” This cycle is called the **hedonic treadmill**.
- The terms for happiness vary from language to language. Some words focus on hedonistic happiness and others on eudaimonic (Gutoskey, 2019).
 - » *Optional activity idea:* Through lecture, discussion, or individual exploration, students define and contrast hedonic and eudaimonic happiness (Fontane Pennock, 2020). Include a discussion about what type of happiness lasts the longest.
 - » Students review the online [article](#) from Mental Floss by Gutoskey (2019), students will sort the happiness words to the columns on T-chart labeled hedonic v. eudaimonic happiness.
 - » Invite students to consider what type of happiness brings well-being and what is their favorite “happy.”

Happiness Report: Beginning in 2011, the United Nations has recognized happiness as a component of global well-being, publishing the results in the first Happiness Report in 2012 (Helliwell et al., 2020)

- This report’s purpose was to look beyond a nation’s gross domestic product (GDP) as a yardstick of comparison to other countries.
- There are six variables that the UN used to measure happiness for a country.
 - » Income, healthy life expectancy, having someone to count on in times of trouble, generosity, freedom and trust, with the latter measured by the absence of corruption in business and government.
 - » Additional information on alternative measurements can be found in Nikita Andester’s article, “[GDP alternatives: 7 ways to measure a country’s wealth](#)” (Andester, 2019).
 - » The Happy Planet Index is another indicator that can be used to measure happiness. It takes into account well-being, life expectancy, inequality of outcomes, and ecological footprint.

[Activity 1.2 Happiness Index](#) can be completed at this point

Well-being is “a state of happiness and contentment, with low levels of distress, overall good physical and mental health and outlook, or good quality of life” (APA, n.d.-f).

- An individual's well-being is "influenced by both internal factors, such as personality and outlook, and external factors, such as the society in which they live" (Diener, 2020).
- There are keys to well-being that promote a better life (The Greater Good Science Center, n.d.), such as:
 - » Altruism, awe, bridging differences, compassion, diversity, empathy, forgiveness, gratitude, happiness, mindfulness, purpose, and social connection.
 - » These keys can not only improve an individual's well-being, but that of a community as well (The Greater Good Science Center, n.d.).

[Activity 1.3 Exploring the Keys to Well-being](#) can be completed at this point.

LESSON 2

Positive Psychology Interventions: Character Strengths

GENERAL OVERVIEW

Over the past two decades, researchers have found well-being, happiness, and success to be associated with certain behaviors and characteristics. Drawing from that research, psychologists have developed positive psychology interventions aimed at increasing those behaviors and characteristics in the service of improving people's quality of life. For example, as students will learn about in this lesson, there is some evidence that knowing and intentionally working to increase one's character strengths is one way to increase resilience. In later lessons, students will be introduced to other positive interventions, including mindfulness practice, the cultivation of gratitude, positive mindset, and grit, and methods of changing habits.

DEFINITIONS OF KEY TERMS

- **Positive psychology interventions (PPI's):** activities and strategies that are designed to promote and increase well-being.
- **VIA (Values in Action) character strengths:** Unique personality traits that lead to positive outcomes.

CONTENT OUTLINE

Positive Psychology Interventions (Stone & Parks, 2018)

- Definition: Positive Psychology Interventions (PPI's) are activities and strategies that are designed to promote and increase well-being.
- Examples: Exercises in gratitude, savoring, optimism, empathy and kindness.
- Focus: Aimed at increasing positive feelings, thoughts and behaviors. It is a step away from the focus on merely eliminating negative feelings, thoughts and behavior.
 - » Focus on strengths instead of weakness.
 - » Bring awareness to one's own strength.
 - » Encourage use of strengths more often.
- Benefits of Using Positive Psychology Interventions: Increase in happiness and decrease in depressive symptoms. (Seligman et al., 2005)

Character Strengths

- Character strengths are the positive attributes in each person's personalities. Positive psychologists believe it is important to learn more about each person's positive qualities and, in doing so, help them gain tools that will help them put their strengths to work in their life.

Activity 2.1 The Science of Character can be completed at this point

VIA (Values in Action Inventory) Character Strengths (Niemic, 2019)

- Character strengths are unique personality traits associated with positive outcomes.
- Although the measure of character strengths is still evolving, drawing from a review of the literature, researchers proposed that there are 24 identifiable Character Strengths that can be characterized into:
 - » Wisdom: curiosity, love of learning, critical thinking, ingenuity/creativity, social/emotional intelligence and perspective.
 - » Courage: bravery, perseverance and integrity.
 - » Humanity and Love: kindness and loving and allowing yourself to be loved.
 - » Justice: citizenship/teamwork/loyalty, fairness and equity and leadership.
 - » Temperance: self-control, discretion and humility/modesty.
 - » Transcendence: appreciation of beauty and excellence, gratitude, hope and optimism, spirituality/sense of purpose, forgiveness, playfulness/humour and zest/passion/enthusiasm.

- There is research suggesting that at least some of these strengths are cross-cultural. The most common strengths identified using participants from 75 nations were honesty, fairness, judgement, and curiosity.
- Signature Strengths: Strengths that are most defining for an individual.
- Character strengths can help people:
 - » ▪ Increase their happiness at home and work.
 - » ▪ Improve their relationships.
 - » ▪ Discover balance with their health.
 - » ▪ Increase their performance at work and school.
 - » ▪ Achieve their life goals.
- There is research suggesting that people with particular strengths fare better when they are faced with challenges.
- There is also some evidence that interventions aimed at helping individuals identify and more frequently use their “signature strengths” can be beneficial.

[Critical Thinking Exercise 2.1 “VIA Youth Inventory Personal Assessment”](#) can be completed at this point

[Critical Thinking Exercise 2.2 Optional Activities on Character Strengths](#) can be completed at this point

Positive Psychology Intervention: PERMA

- **PERMA** is an acronym, derived by Martin Seligman, to explain a model to help guide people to happiness (Madeson, n.d.; SAHMRI Wellbeing and Resilience Centre, 2015). Students can examine the five components of the PERMA model and discover how these components are currently in their lives and how they can integrate these into daily routines.
- Examples of integrating PERMA
 - » P (positive emotion): acknowledging when one feels happiness or joy
 - » E (engagement): finding tasks that are enjoyable and free from distractions
 - » R (relationships): offering support and listening to friends and family, spending one-on-one time with another person
 - » M (meaning): discover individual beliefs and ideas about the world and engage in activities that promote a greater good
 - » A (accomplishments): challenging self in positive and progressive ways to further develop strengths and skills

Optional activity idea: Invite students to view the 10-minute video, [Mr. Happy](#) by Matt Morris (2010). After watching, ask students if Mr. Barnes leads a good life and, if so, what does he do to make it a good life.

LESSON 3

Gratitude

GENERAL OVERVIEW

Positive psychology interventions can include a wide range of practices such as knowing and intentionally working to increase one's character strengths, mindfulness practice, the cultivation of positive mindset and grit, and methods of changing habits. Recently, psychological scientists have also discovered a link between the tendency to engage in gratitude, or an appreciation for the positive aspects of life, and psychological well-being. Drawing from those findings, researchers have begun to explore whether interventions that aim to cultivate gratitude practice can improve psychological functioning and enhance quality of life. In this lesson, students will explore the link between gratitude and overall well-being and participate in gratitude building interventions.

DEFINITIONS OF KEY TERMS

- **Positive psychology interventions:** Evidence based strategies aimed at increasing well-being.
- **Gratitude:** Appreciation for what an individual receives - either tangible or intangible.

CONTENT OUTLINE

An Introduction to Gratitude

- **Definitions:** There is a lack of consensus regarding the definition of gratitude in the literature.
- Some definitions highlight the actions one might take when engaging in gratitude:
 - » Gratitude is “noticing and appreciating the positive in the world.” (Wood et al., 2010)
 - » Gratitude is “a thankful appreciation for what an individual receives, whether tangible or intangible.” It can be applied to the past, present or future. (In Praise of Gratitude, 2019)
- Whereas others focus on the state of experiencing gratitude:
 - » Gratitude is a “state of thankfulness” (Chowdhury, 2020)
 - » Gratitude is a “positive emotional response that we perceive on giving or receiving a benefit from someone.” (Emmons, 2004)

The Benefits of Practicing Gratitude

- Feeling Good
 - » Improves Health: Reduces stress, improves sleep quality, and builds emotional awareness (Seligman et al., 2005).
 - » Positive Affect: Less likely to experience depressive symptoms and increases resiliency (Salces-Cubero et al., 2019).
 - » Social Well-Being: Increased sense of belonging to social group (Diebel et al., 2016).
 - » Emotional Well-Being: Positive correlation between gratitude and positive emotional states. (Emmons & McCullough, 2003).
- Doing Good
 - » Social Belonging: Improves interpersonal relationships with others.
 - » Prosocial Behavior: Acts as a “moral barometer,” motivates and reinforces prosocial behavior. (McCullough et al, 2001).

[Activity 3.1 The Gratitude Questionnaire-Six Item Form \(GQ-6\)](#) can be completed at this point

Research-Based Interventions

- Positive Psychology Interventions: Activities that have been linked to a positive change in a population by increasing a positive variable (Stone & Parks, 2018).
 - » Target a positive affect
 - » Demonstrable through experimentation
 - » Empirical evidence

Seminal Studies on Interventions Aimed at Boosting Gratitude

- Study #1: Counting Blessings (Emmons & McCullough, 2003)
 - » Participants were assigned to one of three conditions included listing blessings, hassles, or life events:
 - **Gratitude (“blessings”):** “There are many things in our lives, both large and small, that we might be grateful about. Think back over the past week and write down on the lines below up to five things in your life that you are grateful or thankful for” (Emmons & McCullough, 2003, p. 379).
 - **Hassles:** “Hassles are irritants—things that annoy or bother you. They occur in various domains of life, including relationships, work, school, housing, finances, health, and so forth. Think back over today and, on the lines below, list up to five hassles that occurred in your life” (Emmons & McCullough, 2003, p. 379).
 - **Life Events:** “What were some of the events or circumstances that affected you in the past week? Think back over the past week and write down on the lines below the five events that had an impact on you” (Emmons & McCullough, 2003, p. 379).
 - » They were asked to keep daily or weekly journals recording their responses to their assigned condition and ratings of mood, physical symptoms, reactions to social support received, estimated amount of time spent exercising, and two global life appraisal questions (how they felt about the week and their expectations for the next week).
 - » Participants in the “gratitude” condition reported considerably more satisfaction with their lives as a whole, felt more optimism about the upcoming week, experienced fewer physical symptoms and felt more connected with others than did participants in the other conditions.
- Study #2: Three Good Things and Gratitude Visits (Seligman et al., 2005)
 - » Participants were randomly assigned to one of six conditions. Five of the conditions were positive psychology interventions (2 focused on gratitude specifically) and one was a control condition.
 - **Control:** The control group was asked to write about their childhood memories every night for one week.
 - **Three Good Things:** Participants were asked to write three things that went well each day and the cause of each thing every night for one week.
 - **Gratitude Visit:** Participants were given one week to write a letter of gratitude and then deliver it in person to the individual to whom they wrote the letter.
 - » Each participant completed two questionnaires: Center for Epidemiological Studies-Depression Scale (CES-D) and the Steen Happiness Index (SHI).
 - » Participants in both gratitude conditions reported increased happiness and decreased depressive symptoms after the intervention and the effects were maintained at one month follow-up (Seligman et al., 2005).

[Activity 3.2 Gratitude Letters and Visits](#) can be completed at this point

LESSON 4

Mindfulness and Psychology

GENERAL OVERVIEW

Mindfulness and meditation have received a lot of attention in the field of psychology over the past couple of decades. Mindfulness practice has been used in a variety of contexts with the goal of decreasing physical pain, stress, and emotional distress (e.g., anxiety, depression). This is evident by an increase in randomized, controlled trials on mindfulness; from 2004-2007 there were 11 studies conducted and from 2013-2015 there were 216 (Powell, 2018).

Although the research suggests that mindfulness practice can be a helpful coping strategy in some contexts, there are some important critiques that teachers should consider and discuss when teaching about this topic. Notably, several researchers (e.g., Van Dam et al., 2017) argue that methodological weaknesses in the studies evaluating mindfulness interventions underscore the need for more rigorous scientific study. Another criticism of this literature is that much of the research over-samples middle-to-upper class, white women. Additionally, there are concerns that western applications of mindfulness may be a form of cultural appropriation. Finally, some Buddhist scholars argue that mindfulness should not be practiced outside of its spiritual context.

DEFINITIONS OF KEY TERMS

- **Meditation:** is a method through which a person can live a mindful life (Schultz, n.d.). There are a variety of types of meditation, including loving-kindness, body scan, and breathe awareness (Villines, 2017).
- **Mindfulness:** Jon Kabat-Zinn defines mindfulness as “the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally” and the word can be used to describe a particular way of living (Booth, 2017).
- **Mindfulness-based interventions (MBI):** these are usually multi-week programs in which a trained practitioner teaches a patient or client mindfulness techniques. Examples can include mindfulness-based stress reduction (MBSR) or mindfulness-based cognitive therapy (Jiga, 2018). There are also apps for MBIs, which have been shown to have positive results for users (Economides et al., 2018).
- **Neuroplasticity:** (also called neural plasticity) “the ability of the nervous system to change in response to experience or environmental stimulation.” (APA, n.d.-b).

CONTENT OUTLINE

Jon Kabat-Zinn defines mindfulness as “the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally” and the word can be used to describe a particular way of living (Booth, 2017).

Mindfulness as a practice in the West has roots in Buddhist and Hindu traditions, although there are many other religions that also incorporate aspects of mindfulness (Selva, n.d.). Over the last two decades, researchers have started looking at the potential benefits of practicing mindfulness outside of a religious or spiritual context.

- Although mindfulness as a secular practice has become popular in Western cultures, it is important to acknowledge and be respectful of its spiritual roots.
- Ignoring, misrepresenting, or failing to credit the origins of mindfulness can be a form of cultural appropriation, as is using symbols related to Buddhism in commercial ways (e.g., decorating a spa with a statue of Buddha),

Mindfulness Practices

- Practices or activities can take many forms- from yoga, breathing, walking, or eating (Puddicombe, 2012). It is also a way of “training your attention to achieve a mental state of calm concentration and positive emotions” (APA, 2019).
 - » Many practices are outlined through the website [Greater Good in Action](#) (Greater Good Science Center n.d.-a).
 - » Mindfulness practice has become more readily available through the use of mindfulness apps for smart devices (Ackerman, n.d.).
- Mindfulness and meditation are not interchangeable
 - » Mindfulness is awareness of purpose and the present moment without judgement

- » Meditation is a practice that uses techniques to train attention and awareness (Schultz, n.d.).
- Benefits of these practices that are grounded in psychology include reducing stress, anxiety, depression, and chronic pain. Other evidence suggests that it can boost the immune system and help people recover more quickly from a cold or flu (APA, 2019).

Activity 4.1 How to do Mindfulness can be completed at this point.

Research shows that mindfulness can change the brain

- **Neuroplasticity** is “the ability of the nervous system to change in response to experience or environmental stimulation” (APA, 2020b).
 - » Research has shown that mindfulness practices can change brain structures (TEDx Talks, 2012; Schulte, 2015).
 - Increase in regional brain gray matter density (Hölzel, et al., 2011).
 - Decreased activity in the amygdala (Desbordes et al., 2012).

Activity 4.2 Neuroplasticity and Mindfulness can be completed at this point.

Meditation and mindfulness can be beneficial to people with psychological disorders, such as depression, ADHD, and chronic pain, or who are on the autism spectrum (Booth, 2017; Riopel, n.d.; Roberts et al., 2020; Singh et al., 2015).

- Mindfulness was introduced as a stress reduction technique for people with chronic pain by Jon Kabat-Zinn in the 1970s.
 - » Kabat-Zinn established the Center for Mindfulness at the Massachusetts Medical School in Worcester, MA (Booth, 2017).
- Strengths of research on mindfulness and meditation as an intervention:
 - » In meta-analyses (large peer reviewed reviews of multiple studies), mindfulness-based interventions have been shown to improve psychological health and well-being in non-clinical samples (people without a psychological diagnosis; Querstret et al., 2020).
 - » There is also some evidence from meta-analyses that mindfulness interventions have a small, but positive, impact attention, memory, and executive function (Gill et al., 2020).
 - » Mindfulness-based interventions have been shown in meta-analyses to improve a wide range of psychological conditions, with the evidence being strongest for depression, pain, smoking, and addiction (Goldberg et al., 2018).
 - » Mindfulness can be more economically accessible for some patients (Jiga, 2018) and more readily available (Spijkerman et al., 2016).
- Limitations of research on mindfulness and meditation:
 - » Inaccurate generalization that mindfulness and meditation can cure all (Van Dam et al., 2017).
 - » Effects tend to be small and there is little evidence that mindfulness is more effective than other psychological interventions
 - » Rigorous research that focuses on replication has been limited in this young area of psychology (Association for Psychological Science, 2017).
 - » Some research has pointed to negative side effects of mindfulness, including false memories, discarding positive thoughts, fixation on negative thoughts, etc. (Dholakia, 2016).
- Cultural adaptations of mindfulness interventions
 - » There is evidence that adapting mindfulness practices in culturally responsive ways yields stronger outcomes.
 - » Adaptations include addressing concerns about how mindfulness may conflict with religious beliefs, using culturally congruent metaphors in mindfulness practice and including family members in the interventions.

The Replication Crisis

- Replication is an important step in the scientific process that helps to ground the field of psychology.
 - » In the mid-2010s, Brian Nosek and colleagues replicated 100 famous psychology studies. This led to a published report in 2015 that has questioned the validity and reliability of facts that the field has held true for generations (Woodell, 2020).
 - » See Noba’s [The Replication Crisis in Psychology](#) for additional research and information (Diener and Biswas-Diener, 2021).
- Replication’s job is not to disparage, but to better ensure scientific evidence (Association for Psychological Science, 2017). Note: It is suggested that teachers read this [article](#) from the Association for Psychological Science.
 - » *Optional activity idea:* Have students research studies that have failed replication tests within the realm of mindfulness.

LESSON 5

Growth Mindset

GENERAL OVERVIEW

Students often have beliefs that can negatively impact their academic performance. Having a fixed mindset of their abilities is an example of a perspective that has received a significant amount of attention in basic and applied research. Fixed mindset refers to having a set perspective about traits such as personality, intelligence, and creativity; to think that ability is inherent and pre-determined. The alternative to having a fixed mindset is growth mindset, the idea that abilities can be developed and that we can learn from setbacks. Growth mindset allows us to focus on the development of skills and strengths as opposed to a focus on deficits. Growth mindset places an emphasis on effort. This perspective should not be confused with empty platitudes such as telling people that anything can be accomplished or that you deserve success just at face value. Instead, a growth mindset talks about building resilience to work hard and learn to overcome challenges and setbacks.

DEFINITION OF KEY TERMS

- **Self-Perception:** A person's view of his or herself including factors such as mental and physical characteristics. For example, a person who defines herself as a dancer may spend more time practicing dancing moves and may develop advanced abilities. A person who says: "I'm not good at math," may spend less time and effort learning math only to fail and prove they are not doing well.
- **Fixed Mindset:** A self-perception attitude that makes a person believe personal traits are set, that they cannot change. People who use a fixed mindset believe that success depends on talent.
- **Growth Mindset:** A self-perception that makes a person believe personal traits can be developed. People who use a growth mindset believe that success depends on effort.
- **Neuroplasticity:** The ability of the nervous system to change in response to experience or environmental stimulation.
- **Resilience:** The capacity to recover from setbacks, trauma, and failure. This is our ability to adapt, to overcome adversity or significant sources of stress.
- **Mind:** Refers to the covert, hidden, non-visible side of psychology that includes thoughts, emotions, motivation, and perception. The intellectual phenomena of an organism that allows it to operate in their environment through processes such as problem solving, language, learning, and memory.
- **Brain:** An organ of soft nervous tissue contained within the skull of vertebrates. The portion of the Central Nervous System that processes input, organization, and output of information in the form of neural signals.
- **Self-Regulation:** The ability to control one's own thoughts, emotions, and behaviors. It's also known as executive control. This process is often associated with the regulation of our psychology while we pursue the goals that we wish to achieve.
- **Negativity Bias:** Our tendency to notice and remember negative experiences much more easily than positive ones. This results in an asymmetrical dwelling on negative experiences that can impact our perception of reality.

CONTENT OUTLINE

Mindset

- Definition: "The view you adopt for yourself profoundly affects the way you lead your life" (Dweck, 2006, p.6)
- **Carol Dweck** is a Professor of Psychology at Stanford University who is credited for developing the theory of growth mindset. Her research has been dedicated to helping people to thrive in the face of adversity (e.g., Dweck, 2006, 2010; Stanford, 2011; TED, 2014).
- Fixed Mindset: Belief that an individual is born with a certain amount of ability and it cannot be changed.
 - » Tend to value looking smart, avoid challenges, and do not handle setbacks well.
 - » Outcome-focused
- Growth Mindset: Belief that abilities can be developed through "hard work, good strategies, and instruction from others" (Haimovitz & Dweck, 2017)
 - » Look at hard work as an opportunity to grow, relish challenges, and try new problem-solving strategies to overcome challenges.
 - » Process-focused

Activity 5.1 Identify Your Mindset can be completed at this point

Development of Growth Mindset (Blackwell et al., 2007)

- Interventions can be used to teach a growth mindset to children and adolescents by demonstrating how the brain can grow stronger through practice and persistence.
 - » Students were placed into two groups. The control group was taught how the memory works. The experimental group was taught how the brain changes and grows with learning.
 - » Students in the experimental group were three times more likely to demonstrate an increase in effort and motivation as a result of the intervention.

Neuroplasticity and Growth Mindset

- Neuroplasticity is the study of how the brain can change and grow.
- Research on neuroscience can help us understand key connections between growth mindset and intrinsic motivation (Ng, 2018).
- This research indicates that teaching students about growth mindset can help them improve their intrinsic motivation and the neuroscience that supports this concept.
- In particular, the concept of brain plasticity demonstrates how adaptive and dynamic the learning process is.

[Activity 5.2 Neuroplasticity in Action](#) can be completed at this point

Limitations to the Growth Mindset literature

- Attempts to replicate studies showing the benefits of a growth mind set have failed to produce positive outcomes (e.g., Li & Bates, 2020).
- Researchers who have conducted meta-analyses (large reviews of multiple studies) have concluded that growth mindset interventions produce too small of an effect to be worthy of attention (Sisk et al., 2018).
- Studies haven't always taken setting into consideration. For example, it may not be effective for teachers to promote a growth mindset in a setting where there are considerable consequences (e.g., high-stakes grades) for failing (Yeager & Dweck, 2020).

LESSON 6

Grit and Resilience

GENERAL OVERVIEW

Evidence suggests that grit, perseverance, and a growth mindset are attributes that can be purposefully developed in individuals. According to Angela Duckworth, grit is a combination of “passion and persistence for long term goals” (Duckworth & Quinn, 2009, p. 166). Possessing a growth mindset orientation, or a belief that the brain is “capable of change when faced with challenges,” can lead to the development of grit. Resilience and grit seem to be very similar to each other on the surface. Resilience, however, is the optimism needed to bounce back from failure. In this lesson, students will examine the concepts of grit, growth-mindset, and resilience and explore their relationship to each other.

DEFINITIONS OF KEY TERMS

- **Growth mindset:** Belief that abilities can be developed through “hard work, good strategies, and instruction from others” (Haimovitz & Dweck, 2017) (also covered in Lesson 5).
- **Fixed mindset:** Belief that an individual is born with a certain amount of ability and it cannot be changed (also covered in Lesson 5).
- **Resilience:** “Psychologists define resilience as the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress” (Building Your Resilience, n.d.).
- **Grit:** “Grit is the tendency to sustain interest in and effort toward very long-term goals” (Duckworth et al., 2007).

CONTENT OUTLINE

Resilience

- Definition: “Psychologists define resilience as the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress.” (Building Your Resilience, n.d.)
- Optimistic explanatory style (Seligman, 2020): View challenges as temporary, changeable and local.
- Norman Garmezy was a pioneer in research on risk and resilience
- Research study (detailed by Konnikova, 2016)
 - » Traveled to schools in economically depressed areas
 - » Asked educators to identify students who were “stressed” but able to overcome their environmental stressors.
 - » Identified protective factors that could enable success: Psychological & Environmental
 - Positive social orientation: Tendency to react positively to life events
 - Internal locus of control: Attributes success to personal factors.
- Development of resilience (Newman, 2005)
 - » Multidimensional: Cluster of traits, behaviors, and actions associated with resilience.
 - » Factors associated with resilience:
 - Good relationships
 - Optimistic worldview
 - Setting realistic goals and take the steps to carry them out
 - Self-confidence
 - Awareness and use of character strengths

[Activity 6.1 Measuring Optimism](#) can be completed at this point

Grit

- Definition: “Grit is the tendency to sustain interest in and effort toward very long-term goals” (Duckworth et al., 2007). Individuals who demonstrate grit often had both passion and perseverance.
- Angela Duckworth is a professor of psychology at the University of Pennsylvania. Her research focuses on competencies like self-control and grit.
 - » Duckworth developed a scale to try and measure grit.
 - Grit Scale: <https://angeladuckworth.com/grit-scale/>
 - » In research conducted by Duckworth and her colleagues, they have found that grit is a strong predictor of success. This includes studies of West Point Military cadets, Spelling Bee champions and first year teachers. (Bashant, 2014). Duckworth also found that grit, perseverance and self-discipline are better predictors of success in school than standardized tests (Duckworth & Seligman, 2005; Duckworth, Peterson, Matthews & Kelly, 2007).
 - » However, there has been criticism of Duckworth’s research.
 - A large meta-analysis (review of multiple studies) found problems with the Grit Scale and showed that interventions designed to increase grit have only weak effects on performance and success (Credé et al., 2017).
 - People have also argued that emphasizing the role of grit in success ignores contextual obstacles such as social, economic, and racial inequities and injustices.

[Activity 6.2 Grit Inventory](#) can be completed at this point

Development of Grit

- Related to both growth mindset and resilience, as mentioned above
- Conscientiousness: Conscientiousness is one of the “Big 5” personality traits. Conscientious individuals are typically responsible, reliable and highly disciplined.
- Self-Discipline: “Capacity to do what you want to do. It’s knowing how to manage your emotions and thoughts and knowing how to plan your behavior in order to reach your goals.” (Bashant, 2014)
- Perseverance: Steadfastness and commitment to achieving a goal.

[Critical Thinking Exercise 6.1 Children’s Book Analysis](#) can be completed at this point

[Critical Thinking Exercise 6.2 “Gritty” Case Study](#) can be completed at this point

LESSON 7

Reprogramming Habits

GENERAL OVERVIEW

Habits are automatic psychological patterns that may contain mental, emotional, and behavioral components. This lesson integrates a process of reprogramming habits using a cognitive strategy called mental contrasting which can simply be defined as using your imagination to compare desired versus undesired outcomes (Oettingen, 2013). A basic example could be thinking about weight gain versus healthy weight before we make the choice to eat more when we are already full. We are all familiar with New Year's resolutions; mental contrasting is a strategy that goes two steps forward. It also requires identifying what are the obstacles preventing a person from achieving the desired goal and identifying a plan to tackle those obstacles. Research shows that Mental Contrasting is an efficient way to enable individuals to have an increased likelihood to achieve their goals.

DEFINITION OF KEY TERMS

- **Mental contrasting:** is a strategy that relies on visualizing both desirable and undesirable outcomes to form a strong commitment to a goal.
- **The WOOP Strategy:** This is a specific strategy to put into place the principles of mental contrasting. The acronym WOOP stands for Wish, Outcome, Obstacle, and Plan (Oettingen, 2014).
- **Habit:** An automatic pattern of behavior that has been wired sub-cortically in a way that activates automatic emotions, memories, and recognition patterns. Habits can be described as bottom-up processes due to their automatic activation within the nervous system (Carden, & Wood, 2018).
- **Self-Regulation:** A deliberate ability to consciously monitor and manage thoughts, emotions, and behaviors. Can be described as top-down processes due to their need to be regulated by the pre-frontal cortex (Vohs & Baumeister, 2011).

CONTENT OUTLINE

[*Activity 7.1 WOOP Scenarios and Group Discussion*](#) can be completed at this point.

Mental Contrasting and The WOOP Strategy

- **Mental contrasting** is a strategy that relies on visualizing both desirable and undesirable outcomes to form a strong commitment to a goal.
 - » For example, if a person has a bad habit of drinking sugary drinks, the person may visualize how drinking a healthier beverage may lead to better health as opposed to maintaining a diet that continues to include drinking sugary drinks.
- **Prospection** (related to mental contrasting) refers to a self-directed type of cognitive ability related to remembering to keep in mind actions to be performed in the future (Oettinger & Reininger, 2016).
 - » We use prospection when learning to think and plan about the future.
 - » We not only remember our goals, but the steps we need to take to accomplish those goals at the appropriate time.
 - » For example, to arrive at the airport on-time a person needs to know when to start packing, request a ride, and head out of the house (Baumeister, Vohs & Oettinger, 2016).
- **The WOOP Strategy:** This is a specific strategy to apply the principles of mental contrasting.
 - » The acronym WOOP stands for Wish, Outcome, Obstacle, and Plan.
 - » Therefore, the WOOP strategy is designed to promote prospection, to help us envision future possibilities that involve the integration of cognitive, emotional, motivational, and behavioral components of goal achievement (Oettinger, 2014).

Habits

- **Habit:** An automatic pattern of behavior that has been wired subcortically in a way that activates automatic emotions, memories, and recognition patterns.
 - » Habits can be described as bottom-up processes due to their automatic activation within the nervous system.
 - » Mental contrasting can give us a boost of energy that can help us change implicit evaluations of the habits that prevent us from achieving goals (Wittleder et al., 2020).
- **Self-Regulation:** A deliberate ability to consciously monitor and manage thoughts, emotions, and behaviors. Can be described as top-down processes due to their need to be regulated by the prefrontal cortex (Baumeister et al., 2016).
- **Wish:** A specific habit one desires to change. This habit change should be identified in concrete and specific ways. The habit is usually challenging but possible to achieve.
- **Outcome:** The visualization of a habit change that would be fulfilling and motivating. This visualization should be clear and specific enough to flesh out the specific aspects of the habit change.
- **Obstacle:** An internal, psychological factor that prevents the person from changing to the desired outcome. Not an external barrier. This obstacle should be analyzed carefully to make sure that it is actually as specific and targeted as possible. Identifying the crucial obstacle or obstacles is critical for the effectiveness of the strategy. Rushing through this part of the process can yield superficial aspects that when addressed may not make much of a difference.
- **Plan:** A clear and brief statement of observable actions needed to implement the change. This statement is made in an “when...” “then...” type of framework.

Activity 7.2: Habit Formation can be completed at this point.

Changing habits is very difficult to accomplish. There isn't a simple, easy formula, to overcome implicit, automatic, bad habits.

- Part of the challenge is that habits are very individualized patterns of behavior that vary from person to person. It's important to avoid talking about habit reprogramming in prescriptive ways.
- In a way, each person needs to figure out how to define the habits they want to change, how they want to change them, what are the most important barriers to address, and what are the most effective strategies.
- Researchers at MIT have proposed a simple neurological loop that every habit seems to involve (Jog et al., 1999).

Habit Formation: The process of creating an automatic behavior that becomes enacted with minimum conscious awareness through repetition.

- For example, you may regularly check your phone for social media or text messages without even thinking about it.
- **Cue:** An internal or external signal, a trigger, that activates an automatic response in an individual.
- **Routine:** An automatic set of mental, emotional, or behavioral actions that has been learned and practiced overtime.
- **Reward:** An internal or external consequence that increases the likelihood of repeating the action that produced this consequence in the future.
- **Monitoring, Tracking, Journaling:** The process of documenting daily activity over a period of time in a format that is easy for you to document.
- **Self-Reflection:** The process of using memory and insight to deliberately learn about one's own thoughts, emotions, decisions, and behaviors. Self-reflection is more likely when we are open, when we take an objective, and when we observe carefully our own patterns.
- **Stress Management:** An approach to becoming aware of and regulating the amount of stress we experience and our reactions to stress during our daily life.

ACTIVITY 1.1

How to Measure Happiness

Concept

Review operational definitions with students by considering different ways to measure a very subjective concept like happiness. Students will look at different terms and sort them into ways of measuring in psychological research. This activity reinforces research methods and tools.

Units it could embed into

Research methods, psychology of emotions

Learning Targets

1. Students will understand the challenges associated with operationally defining psychological constructs.
2. Students will differentiate between subjective and objective measurement.
3. Students will be able to identify biological and behavioral indicators of happiness.

Materials

[Handout 1.1](#)

Time

10-20 minutes

Instructions

- Begin the activity by refreshing students' understanding of subjective and objective measurements. Teachers may also want to have a brief discussion about empirically measurements and operational definitions.
- In groups, or by themselves, have students read through the scenarios in the left-hand boxes on the handout and sort them into the appropriate category-- biological or behavioral variable, reports by others, or self-report. Then students make a checkmark in the boxes that they feel would provide the most accurate assessment of happiness.
- Engage students in a discussion about what makes a measurable variable and why happiness might be an easy or challenging topic to research.

Extension activities

- Have students search for studies in psychology that used tools to measure happiness and report their findings back to the class.
- Have students read through the article, "[How to Measure Happiness with Tests and Surveys](#)," from PositivePsychology.com. Have students create a T-chart to sort qualitative research and quantitative research. As students work through the article, have them list studies that fit into both categories (Sugay, 2020).

HANDOUT 1.1

How to Measure Happiness

Learning Targets

1. Students will understand the challenges associated with operationally defining psychological constructs.
2. Students will differentiate between subjective and objective measurement.
3. Students will be able to identify biological and behavioral indicators of happiness.

Measuring abstract concepts in science can be difficult, and happiness is very abstract. The interest in measuring psychological ideas has increased in the past 30 years. In this exercise, you will sort potential variables into the categories of measurement labeled below by checking a box.

	Biological Variable	Behavioral Variable	Reports By Other People	Self-Report
A person analyzes how they experience positive emotions and engage in daily tasks.				
The peripheral nervous system alters heart and breathing rhythms at the site of a loved one.				
After hearing a joke, a person’s Duchenne smile is measured.				
A teacher completes a worksheet that asks about the mood of his student.				
Corners of the mouth slope upward toward the ears after a song from your past is played.				
A partner completes a true-false series of questions on their significant other				
In anticipation of a fun event, the ventral tegmental area (VTA) releases dopamine.				

Make a checkmark next to the potential variables that you feel would provide the most accurate way(s) of measuring happiness. Explain why you feel that they are accurate.

When a variable is operationally defined, it is described in terms by which it can be observed and measured. Select one of the descriptions of happiness above and operationally define the variable.

ACTIVITY 1.2

Happiness Index

Concept

Beginning in 2011, the United Nations has recognized happiness as a component of global well-being, publishing the results in the first Happiness Report in 2012. Students will investigate the six variables used to measure happiness, determine the strengths and limitations of the World Happiness Index, and consider variables for well-being in their own lives.

Units it could embed into

Social psychology, psychology of emotions, research methods

Learning Targets

1. Examine the six variables used by the United Nations to measure a country's happiness.
2. Analyze the validity and reliability used to measure happiness.
3. Look at international differences in happiness and determine the happiness strengths and limitations in your country.

Materials

[Handout 1.2](#), Internet access for research

Time

20-30 minutes; however, this activity could prompt excellent conversation and may extend beyond that time.

Instructions

- Students may work on this activity independently, but a group effort would offer better conversation and analysis.
- Provide students access to the [Handout 1.2](#). Invite students to consider how to measure the well-being of a nation. It may be beneficial to have a conversation about other factors that are used to rank how well a country is doing in comparison to others- gross national product (GNP), happy planet index (HPI), etc. For more information about these measures, review Andester's [article on "GDP Alternatives: 7 Ways to Measure a Country's Wealth"](#) on Ethical.net (2019).
- Students will review the "[Statistical Appendix for Chapter 2 of the World Happiness Report 2020](#)" (Helliwell et al., 2020). Then they will identify and describe the tools used to measure the six variables used to determine a country's ranking in the Happiness Index.
- Students will analyze the top 20 happiest counties for the year 2020.
- In step 4 on the handout, students will look at the variables for the index and examine the role these variables play in their own lives. After students answer the questions on the handout, encourage a group or class discussion.

Extension activities

- In groups or individually, students research a country on the 20 happiest countries list and report on the norms of the society that lead to a higher happiness score.
- In groups or individually, students analyze Hofstede's [cultural dimensions](#) (2011). Examine the intersection of the cultural dimensions and the variables used for the happiness index. Students can write an essay on the similarities, differences, strengths, and limitations for the descriptors.

References

- Andester, N. (2019, June 10). GDP Alternatives: 7 Ways to Measure a Country's Wealth. *Ethical.net*. <https://ethical.net/politics/gdp-alternatives-7-ways-to-measure-countries-wealth/>
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- Hofstede, G. (2011). *Dimensionalizing Cultures: The Hofstede Model in Context*. *Online Readings in Psychology and Culture, Unit 2*. <http://scholarworks.gvsu.edu/orpc/vol2/iss1/8>

HANDOUT 1.2

The Happiness Index

“The pursuit of happiness” - U.S. Constitution

Learning Targets

1. Examine the six variables used by the United Nations to measure a country’s happiness.
2. Analyze the validity and reliability used to measure happiness.
3. Look at international differences in happiness and determine the happiness strengths and limitations in your country.

Step 1: You might remember from civics classes that countries may use their GNP (gross national product) to determine their total financial value and to measure how well a nation is doing. The United Nations wanted to consider another metric- the well-being of a nation. How would you measure a country’s happiness? Think about what variables you might measure and the methods you would use to gather your data. Record some of your ideas below.

Since 2011, the United Nations has invited countries to participate in gathering data in an effort to measure national happiness. The World Happiness Index measures well-being through six variables: money (spending power), health and life expectancy, social support (having someone to count on), freedom to make life choices, freedom from corruption, and generosity. As students of psychology, let’s analyze these variables, determine if they are good qualifiers for happiness, and consider variables for happiness in your own life.

Step 2: Look over the [“Statistical Appendix for Chapter 2 of the World Happiness Report 2020.”](#) Section 1 of the appendix explains how the six variables of well-being are measured. Identify and describe the tools used to measure the six variables used to determine a country’s ranking in the Happiness Index.

Money & spending power**Health & life expectancy**

Social support

Freedom to make life decisions

Freedom from corruption

Generosity

Step 3: Using the World Happiness [website](#), review the top 20 happiest countries for the year 2020 and answer the following questions.

What is the ranking of the country that you live in?

What are some similarities between countries in the top 10?

What assumptions might you make about the countries on this list? What might be said about the norms in their societies and/or culture?

Step 4: Go back to step 2 and look over the variables used for ranking happiness.

Which variables are most important to you? Explain why you selected these variables.

Which variable is least evident in your life? Does this reflect your social group, school, or the culture of your country?

Would you like to increase the presence of one of these variables in your life? What strategies could you take to do so?

ACTIVITY 1.3

Exploring the Keys to Well-Being

Concept

Explore behaviors that can support individual and community well-being through investigation and reporting. As a culminating activity, students can propose a short checklist for well-being in the class, school, or larger community.

Units it could embed into

This could work as a stand-alone lesson, it could also work with a unit on Stress and Health.

Learning Targets

1. Explore the building blocks of individual and community well-being
2. Evaluate and apply recent research in the field of Positive Psychology

Materials

Students will need access to the Internet and the website greatergood.berkeley.edu/key, digital or print copies of the [Handout 1.3](#), and a means to compile the suggestions of students (e.g., whiteboard, JamBoard, Pear Deck extension for Google Slides).

Time

- This activity should take students about 50 minutes to complete. It can be shortened by having students only doing parts I and II of the worksheet.

Instructions

- Begin the lesson with an inquiry about well-being. Encourage students to develop a working definition for the concept and brainstorm thoughts about what can develop or improve well-being.
- Students will explore the building blocks of individual and community well-being by selecting one of twelve topics from the Greater Good's "Keys to Well-Being" [website](#). After reading through summaries of the keys, students will answer questions to further understanding, and then identify one key that they can implement in their own lives. Answers should be recorded on a digital or print copy of [Handout 1.3](#). This task can be started during in-class instruction (some students may need assistance navigating the webpage). Most likely, students will complete the task for homework.
- Students will also be able to explore additional topics about happiness through the Greater Good's website and identify take-aways to share with the class.

Extension activity

- The next day or after students have completed the task, have students share in small groups what keys to well-being they researched. Each group can record a favorite key that they discussed. Have the whole class (or small groups) make a list that can be posted in the classroom or shared digitally on a class website/LMS with their keys to well-being.

HANDOUT 1.3

Exploring the Keys to Well-Being

Learning Targets

1. Explore the building blocks of individual and community well-being
2. Evaluate and apply recent research in the field of Positive Psychology

Instructions

Access the Greater Good's "[Keys to Well-Being](#)" website. Choose ONE of the twelve topics to explore from the first page. You can access each topic individually underneath the "Keys to Well-Being" header. Complete the following tasks on your chosen topic.

I. Big Questions

Look on the upper right-hand corner.

1. What are the THREE questions that you will be exploring during this exercise? (they should be in grey on the right side of the webpage). Write down these questions below and answer them.

II. Take the Quiz

Take the quiz located beneath the questions and answer the following questions.

2. Based on the types of questions asked in the survey, how would you define this trait?

--

3. Do you agree or disagree with the results of the quiz? Why or why not?

4. After the quiz, there will be a list of suggested exercises designed to help you build this skill. Identify ONE that you could easily implement in your own life - or that you already do!

III. Learn more

There are a number of [Science of Happiness](#) podcast episodes and articles posted on the Greater Good's webpage. Please choose one to listen to or read and answer the questions below.

5. What podcast did you listen to or article did you read?

6. List three key take-aways from the podcast. What did you learn about your skill or well-being?

IV. Share what you have learned about well-being

Be ready to share what you have learned about well-being and happiness with the class.

Grading

Students could receive 10 points for completing the assignment with fidelity.

Resource

The Greater Good Science Center at the University of California, Berkeley. (n.d.) *Keys to well-being*. Retrieved from <https://greatergood.berkeley.edu/key>.

ACTIVITY 2.1

The Science of Character

Concept

In this lesson, the students will be introduced to the concept of character strengths and the different virtues.

Units it could embed into

Personality, or this could be a stand-alone assignment

Learning Targets

1. Students will be able to identify and provide examples of character virtues.
2. Students will be able to explain the relationship between the prefrontal cortex and the development of character strengths.

Materials

[Handout 2.1: The Science of Character Questions](#)

Video Link: youtu.be/U3nT2KDAGOc

Time

20 Minutes

Instructions

1. Provide the students [Handout 2.1: The Science of Character Questions](#)
2. Students complete the following pre-viewing questions before watching the video:
 - » What are your personal strengths? Can you list and describe at least 5?
 - » Identify one person that you admire. What do you admire about them?
3. Students watch the video “The Science of Character” together as a class. The video is 8 minutes long. After watching the video, students should complete the questions below on Handout 2.1.
 - » What is the relationship between the prefrontal cortex and the development of character strengths?
 - » The narrator identifies 7 strengths that she calls “game changers”: optimism, gratitude, social intelligence, curiosity, self-control, enthusiasm, and perseverance. Which of these strengths is most evident in your life? Please justify your choice with a specific example of how you have demonstrated this strength in your own life.
 - » Complete the following sentence based on what you learned in the video, “I want to be...”

HANDOUT 2.1

The Science of Character Questions

Learning Targets

1. Identify and provide examples of character virtues.
2. Explain the relationship between the prefrontal cortex and the development of character strengths and/or personality.

1. Answer the following questions BEFORE viewing the video:

What are your personal strengths? Can you list and describe at least 5?

Identify one person that you admire. What do you admire about them?

2. Processing Questions: Complete the following questions after watching the video.

What is the relationship between the prefrontal cortex and the development of character strengths?

The narrator identifies 7 strengths that she calls “game changers”: optimism, gratitude, social intelligence, curiosity, self-control, enthusiasm, and perseverance. Which of these strengths is most evident in your life? Please justify your choice with a specific example of how you have demonstrated this strength in your own life.

Complete the following sentence based on what you learned in the video, "I want to be..."

CRITICAL THINKING EXERCISE 2.1

VIA Youth Inventory Personal Assessment

Concept

The students will take the VIA Youth Inventory in order to identify their strengths and connect their strengths to examples in their own lives.

Units it could embed into

Personality, or this could be a stand-alone assignment

Learning Targets

1. Students will identify their personal character strengths through their participation in a psychometrically-validated personality assessment.
2. Students will be able to apply what they have learned about their own character strengths to an analysis of their personal well-being.

Materials

VIA Strengths Youth Inventory found at: <https://www.viacharacter.org/survey/account/register#youth>.

Handout CTE 2.1: "VIA Youth Inventory Personal Assessment"

Computer and Internet access

Time

45 Minutes

Instructions

1. Background: The VIA Strengths Inventory was developed by Christopher Peterson and Martin Seligman. It is the only free "psychometrically validated personality test that measures an individual's character strengths" (viacharacter.org/about).
2. Share the purpose of this inventory with the students: The purpose of taking this assessment is to identify your strengths and explore how you can use them to tackle life's challenges and increase your sense of well-being.
3. Students take the online inventory and complete [Handout CTE 2.1 "VIA Youth Inventory Personal Assessment."](#)

See also [Lesson Plan: VIA Character Strengths](#) for a different variation of this activity.

HANDOUT CRITICAL THINKING EXERCISE 2.1

VIA Youth Inventory Personal Assessment

Learning Targets

1. Identify personal character strengths using a psychometrically-validated personal inventory.
2. Explain how your own strengths have contributed to your well-being.

Directions

Access the VIA Youth Inventory to learn more about your personal character strengths.

- Access the following website: <https://www.viacharacter.org/survey/account/register#youth>
- Choose the **VIA Youth Survey for Ages 10-17**.
- Complete the registration information beneath the blue tab.
- Begin the survey. It will take between 15-20 minutes to complete.
- When your survey is complete, you will access the FREE Character Strengths Profile.

Student Analysis

Complete the following tasks for each of your signature strengths; identify and define each strength and describe a specific situation in which each strength has helped you in the past. Please use a different situation for each strength.

Name of Strength	Definition: Define each strength in your own words.	Application: Describe a situation in which your strength helped you.

Individual Reflection

Now that you have determined how your strengths have helped you, it is time to explore the effect that your strengths have on other people. Choose one of your strengths and explain the effect your strength has had on someone else.

CRITICAL THINKING EXERCISE 2.2

Optional Activities on Character Strengths

Concept

These activities can help students further explore and understand character strengths.

Units it could embed into

Health

Learning Target

1. Students will evaluate human behavior through the lens of character strengths and virtues.

Materials

None needed.

Time

1-2 class periods per activity.

Instructions

Teachers can use any of the following activities in class:

1. **Character Analysis:** Ask the students to identify the character strengths of their favorite characters in a book or movie. This is also an excellent opportunity for cross-curricular collaboration. Consider pairing up with an English teacher and use the strengths as a lens through which to view characters in literature.
2. **Build a Strength Wall:** Encourage students to post examples of strength that they observe from others in the building (faculty, students, etc). Each post should include the name of the strength, the person who demonstrated the strength, and how the strength was seen in the individual's actions or behavior.
3. **Reflection Paper:** Ask the students to write a reflection explaining how their signature traits helped them cope with the challenges of 2020 (or other adversity) and how they will help them thrive in the future.

ACTIVITY 3.1

The Gratitude Questionnaire-Six Item Form (GQ-6)

Concept

In this lesson, students will complete a short inventory designed to assess their current levels of gratitude among three dimensions.

Units it could embed into

Stress and Health, or this could be a stand-alone assignment

Learning Target

1. Students measure their own levels of gratitude using a gratitude assessment.

Materials

[Handout 3.1: The Gratitude Questionnaire-Six Item Form \(GQ-6\)](#)

Time

10 Minutes

Instructions

1. The GQ-6 is one of the most frequently used assessments in gratitude. It measures three dimensions of gratitude, including the tendency to recognize, respond to, and experience gratitude.
2. Students complete [Handout 3.1 The Gratitude Questionnaire-Six Item Form \(GQ-6\)](#).
3. Provide the students with the following scoring instructions:
 - » Add up your scores for items 1, 2, 4, and 5.
 - » Reverse your scores for items 3 and 6. That is, if you scored a "7," give yourself a "1," if you scored a "6," give yourself a "2," etc.
 - » Add the reversed scores for items 3 and 6 to the total from Step 1.
 - » This is your total GQ-6 score. This number should be between 6 and 42.
4. Scoring Analysis: Although higher scores on the GQ-6 are positively correlated with a range of positive outcomes, when having students fill out this measure the emphasis should be on self-awareness (i.e., learning about where there may be room to grow) and not on overall score. Teachers can make the point that gratitude is like a muscle. The more you practice it, the stronger it becomes. However, teachers should also have resources available for any student who finds completion of the measure distressing (e.g., if a student is going through a particularly challenging time, and it feels impossible to find any positive aspects to their lives).

HANDOUT 3.1**The Gratitude Questionnaire-Six Item Form (GQ-6)****Learning Target**

1. Utilize the GQ-6 to measure your current level of gratitude.

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it. 1 = strongly disagree 2 = disagree 3 = slightly disagree 4 = neutral 5 = slightly agree 6 = agree 7 = strongly agree

_____ 1. I have so much in life to be thankful for.

_____ 2. If I had to list everything that I felt grateful for, it would be a very long list.

_____ 3. When I look at the world, I don't see much to be grateful for.

_____ 4. I am grateful to a wide variety of people.

_____ 5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

_____ 6. Long amounts of time can go by before I feel grateful to something or someone.

Reference

McCullough, M. E., Emmons, R. A., & Tsang, J.A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82(1), 112-127. Copyright © 2002 by the American Psychological Association. Reproduced with permission.

ACTIVITY 3.2

Gratitude Letters and Visits

Concept

Students will learn about the benefits of practicing gratitude.

Units it could embed into

Stress and Health, or this could be a stand-alone assignment

Learning Targets

1. Students will participate in an evidence-based intervention designed to improve gratitude.
2. Students will understand gratitude as an intentional act.
3. Students will understand the importance of being specific when grateful.

Materials

- [Handout 3.2: Gratitude Letter](#)
- Video: “The Science of Gratitude” youtu.be/JMd1CcGZYwU (Tremendousness, 2016)

Time

45-60 Minutes

Instructions

1. We will be exploring the benefits of practicing gratitude and different research-based gratitude interventions shown to improve well-being.
2. Watch the video “The Science of Gratitude” video at youtu.be/JMd1CcGZYwU and ask the students to list the benefits of practicing gratitude on a separate piece of paper. If you prefer, you can skip the video and provide the students with the benefits of gratitude from the content outline:
 - » Increase your happiness at home and work.
 - » Improve your relationships.
 - » Discover balance with your health.
 - » Increase your performance at work and school.
 - » Achieve your life goals.
3. Provide the students with [Handout 3.2: Gratitude Letter](#) and read the directions together.
4. Extension: Encourage your students to read their letters aloud to the person they wrote about. This has been proven to increase your happiness for a full month!

Reference

Tremendousness. (2016, October 6). *The Science of Gratitude*. YouTube. <https://youtu.be/JMd1CcGZYwU>

HANDOUT 3.2**Gratitude Letter****Learning Target**

1. Participate in the “Gratitude Letter,” an evidence-based intervention designed to improve gratitude.

Directions

Write a letter of gratitude to a person who has made a positive difference in your life. In your letter, share the impact that he or she has had on your life. Some questions to consider while writing your letter:

- How did their actions or behaviors help you?
- What was the cost of those actions to the person who helped you?
- Why do you believe the person helped you?
- What might have happened if the person hadn't offered to help?

After you write your letter, consider reading it aloud to the individual that you wrote about. This will not only likely increase their happiness, but yours too!

Reference

Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60(5), 410-421. <https://doi.org/10.1037/0003-066X.60.5.410>

ACTIVITY 4.1

How to do Mindfulness

Concept

As students are learning about mindfulness, provide them with opportunities to see how mindfulness can be incorporated into daily life and learn about the benefits that mindfulness can have on well-being. Teachers may want to mention some applications for devices that use mindfulness-based interventions, such as HeadSpace, Insight Timer, or Calm. PositivePsychology.com has reviewed several apps for meditation and highly rated Mindfulness Daily and HeadSpace (Ackerman, n.d.). Depending upon the school's community, teachers may want to address the mindfulness and religion debates (Helderman, 2019).

Units it could embed into

Cognition, Consciousness, Stress & Health

Learning Targets

1. Learn about some benefits of mindfulness-based activities.
2. Experience an approachable mindfulness-based activity that can be replicated.
3. Determine if you want to introduce mindfulness into your weekly routine and what could be achievable.

Materials

Materials will vary based on the mindfulness activities selected, [Positive Psychology Handout 4.1](#).

Time

10-30 minutes; however, this activity could prompt excellent conversation and may extend beyond that time. You may also want to pick and choose which activities that you incorporate.

Instructions

- Have students watch "[All it Takes is 10 Mindful Minutes](#)" (Puddicombe, 2012). Students can record their take away from the 9-minute clip on the mindfulness-based activities [Handout 4.1](#) and consider some activities that could be mindful. As a whole class or in small groups, generate a list of activities that could engage mindfulness. Examples may include, but as not limited to meditation, yoga, running, eating, brushing teeth, praying.
- Select a mindful activity that your students can engage with in their learning space. You can use some of the examples from [MentalUp](#) (Cole, 2020). Mindful walking, mindful bubbles, and mindful coloring can be easy activities that take little preparation. If you have not participated in mindfulness-based activities, The Greater Good Science Center at the University of California, Berkeley has many helpful resources, such as a [walking meditation](#) and a [mindful breathing](#) "how to do it" (Greater Good Science Center n.d.-a).
- Have students complete the rest of the mindfulness-based activities handout 4.1.
- Engage students in a discussion about the activity and their feelings.

Extension activities

- Have students research mindfulness-based interventions and their effectiveness. Determine if there are MBIs that are proven to be most effective or work best for specific disorders.
- Invite students to keep a mindfulness journal for a week. Students could design their own journal and set some of their own goals or use a premade journal, such as this [one](#) from Calm.

References

- Cole, L. (2020, Sept. 3). *10 mindfulness activities for teens*. MentalUp. <https://www.mentalup.co/blog/mindfulness-activities-for-teens>.
- Puddicombe, A. (2012). *All it takes is 10 mindful minutes*. TEDTalks. Retrieved from https://www.ted.com/talks/andy_puddicombe_all_it_takes_is_10_mindful_minutes?language=en#t-541964/

HANDOUT 4.1

How to Practice Mindfulness

Mindfulness is the state of mind that allows you to be present.

Learning Targets

1. Learn about some benefits of mindfulness-based activities.
2. Experience an approachable mindfulness-based activity that can be replicated.
3. Determine if you want to introduce mindfulness into your weekly routine and what could be achievable.

Step 1: Learn from a monk.

Watch Andy Puddicombe's [TEDTalk](#) from 2012 (9:09 minutes). In a sentence, write your take away from the Talk.

Provide your own definition for mindfulness.

List some activities that could be categorized as mindfulness-based.

Step 2: Practicing mindfulness. Complete your mindfulness activity with your class or on your own. Then, answer the following questions.

What did you notice **during** the mindfulness activity? Consider the environment, your thoughts, your physical body, heart and breathing rates, or challenges.

What do you notice **after** the mindfulness activity? Consider the environment, your thoughts, your physical body, heart and breathing rates, or challenges.

Step 3: Now what?

How would you feel about integrating mindfulness into your weekly routine? Explain your thoughts.

What might be some challenges to a successful mindfulness routine and what could be some of the solutions to those challenges?

What would be some of the benefits to adding mindfulness to your life?

ACTIVITY 4.2

Neuroplasticity and Mindfulness

Concept

Research has shown that mindfulness activities, such as meditation and rhythmic exercise that encourages a flow of repetitive motion (Urich, n.d.), can lead to an alteration in the brain's structure. Students will look at research that supports that mindfulness can impact neuroplasticity.

Units it could embed into

Biological Bases of Behavior, Consciousness, Abnormal Psychology & Therapeutic Methods.

Learning Targets

1. Determine the extent that mindfulness can physically alter the brain.
2. Analyze psychological research and apply the scientific method.

Materials

[Positive Psychology Handout 4.2](#), [EdPuzzle link](#), and internet connectivity

Time

20-30 minutes with review. This could be completed as a homework assignment.

Instructions

- Review with students the concept of neuroplasticity and how the brain can reorganize and change through experience or in spite of trauma.
- Students receive the neuroplasticity & mindfulness handout 4.2 and then watch the [EdPuzzle](#) for the Draganski study (Draganski et al, 2004). *Note:* teachers will need to subscribe to EdPuzzle to share this link. If you choose not to subscribe, you can search for the BBC Two docuseries, *Alternative Therapies*, and use episode one, "The Power of Meditation" (Barrett & Walker, 2007). The clip from the EdPuzzle is around minute 52:00.
- Students will then read an interview with Dr. Sara Lazar regarding the neuroscience of mindfulness and meditation.
- Encourage students to share further questions that they have regarding this topic.

Extension activities

- Invite students to find additional studies that show how mindfulness and meditation impact the brain. Students can share this research in class through a verbal presentation, poster, or summarize the article on an online class post (Google Classroom stream) and have other students respond with their thoughts or ideas.

Alternative uses for the lesson

- This lesson could be used in a scientific methods lesson. Have students watch the EdPuzzle and read the article and examine the use of scientific inquiry.

Reference

Draganski, B., Gaser, C., Busch, V., Schuierer, G., Bogdahn, U., & May, A. (2004). Neuroplasticity: changes in grey matter induced by training. *Nature*. 427, 311-2.
https://www.researchgate.net/publication/305381230_Neuroplasticity_changes_in_grey_matter_induced_by_training

HANDOUT 4.2**Neuroplasticity & Mindfulness****Learning Targets**

1. Determine the extent that mindfulness can physically alter the brain.
2. Analyze psychological research and apply the scientific method.

Step 1

1. Provide a definition of **neuroplasticity**, in your own words.

2. Hypothesize how learning a new skill that involves hand-eye coordination involves neuroplasticity.

3. Watch the [linked clip](#) on EdPuzzle and answer the three included questions.

- a. Why is looking at the adaptable change important to science?

- b. According to the Draganski study, how long did it take for the visual processing centers to change?

- c. When does your brain stop changing due to experiences?

Step 2

1. Read an [article](#) from *The Washington Post* about the changes that can occur in your brain with meditation practice. Summarize some of the scientifically proven impacts of meditation on the human brain.

2. Examine how Dr. Lazar's inquiry demonstrates the scientific method.

3. Write down a few questions that you have and would like to find answers to regarding this topic. Be ready to discuss them in small groups.

ACTIVITY 5.1**Identify Your Mindset****Concept**

In this lesson, students will identify where they currently fall on the fixed to growth mindset continuum.

Units it could embed into

Biological Bases of Behavior (especially neuroplasticity/central nervous system), Intelligence, or this could be a stand-alone assignment

Learning Targets

1. Students will differentiate between a growth mindset and a fixed mindset.
2. Students will reflect on the validity of a research assessment.
3. Students will classify examples of fixed and growth mindsets.

Materials

- [Handout 5.1: Identify Your Mindset](#)
- Computer and Internet access
- Online Assessment: blog.mindsetworks.com/what-s-my-mindset.
- Paper Assessment: achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/173/MindsetAssessmentProfile.pdf

Time

15 minutes

Instructions

1. Provide the students with [Handout 5.1: Identify Your Mindset](#). There are two options for the students to take the assessment; online or on paper. *If your students choose to take the assessment online, they will be required to enter an email address in order to receive their results. If you would like to administer a paper exam, you can access on at <https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/173/MindsetAssessmentProfile.pdf>*
2. The assessment will take about 10 minutes to complete. After completing the assessment, they should answer the reflection questions and formative assessment questions on [Handout 5.1](#).
3. Answer Key for Formative Assessment:

Question	Fixed	Growth
1. No matter how much intelligence you have, you can always change it a good deal.		X
2. You can learn new things, but you cannot really change your basic level of intelligence.	X	
3. I like my work best when it makes me think hard.		X
4. I like my work best when I can do it really well without too much trouble.	X	
5. I like work that I'll learn from even if I make a lot of mistakes.		X

6. I like my work best when I can do it perfectly without any mistakes.	X	
7. When something is hard, it just makes me want to work more on it, not less.		X
8. To tell the truth, when I work hard, it makes me feel as though I'm not very smart.	X	

HANDOUT 5.1

Identify Your Mindset

Learning Targets

1. Differentiate between a growth mindset and a fixed mindset.
2. Reflect on the validity of a research assessment.
3. Classify examples of fixed and growth mindsets.

Directions

This inventory is designed to measure if you have more of a growth or fixed mindset. Begin by accessing the following website: blog.mindsetworks.com/what-s-my-mindset. There is no right or wrong answer to the questions. Just answer as honestly as possible.

1. What was your score? How accurate do you feel your score was and why?

2. Based on what you know about mindsets, do you think this assessment is a VALID measure of growth and fixed mindset? Support your answer by using specific examples from the inventory.

3. Identify each of the following questions from the inventory as representing a fixed or growth mindset by placing a check mark in the box that best describes the question.

Question	Fixed	Growth
1. No matter how much intelligence you have, you can always change it a good deal.		
2. You can learn new things, but you cannot really change your basic level of intelligence.		
3. I like my work best when it makes me think hard.		
4. I like my work best when I can do it really well without too much trouble.		
5. I like work that I'll learn from even if I make a lot of mistakes.		
6. I like my work best when I can do it perfectly without any mistakes.		
7. When something is hard, it just makes me want to work more on it, not less.		
8. To tell the truth, when I work hard, it makes me feel as though I'm not very smart.		

Source: <https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/173/MindsetAssessmentProfile.pdf>

ACTIVITY 5.2

Neuroplasticity in Action

Concept

Students will participate in an activity designed to demonstrate neuroplasticity.

Units it could embed into

This lesson could be integrated into lessons regarding factors that directly impact academic performance such as procrastination, as well as general fitness, wellness, and nutrition.

Learning Targets

1. Students will complete exercises that will allow them to document in concrete ways how the brain rapidly adapts by learning new motor skills.
2. Students will accurately apply the concept of neuroplasticity to describe how movement coordination increases even in a short period of 20 minutes of focused practice.

Directions

For this assignment, you will be writing and drawing with both your dominant hand and nondominant hands. Some of the key questions to consider are:

1. How is it possible for the brain to quickly adapt?
2. Why is it important to be reminded of the flexible and adaptive nature of the human brain across multiple domains of our lives?

You will try drawing and writing with both of your hands and you will observe the challenges and strategies you are able to use to adapt to a challenging situation.

Materials

[Handout 5.2: Neuroplasticity in Action](#)

Time

20 minutes

Instructions

1. Provide the students with [Handout 5.2: Neuroplasticity in Action](#)
2. Challenge the students to complete the following tasks:
 - » Write a question with their dominant hand and answer the question with their non-dominant hand.
 - » Draw a circle on the left side of a paper and simultaneously draw a square on the right side of the paper.
3. Debrief with students about the level of difficulty of these exercises. Point out that with practice we can learn to coordinate movements more effectively such as when we learn juggling. Review the concept of brain plasticity.

4. Extension: Explain that in the past, people have had the tendency to misinterpret these patterns to make fixed mindset statements such as: "I'm a left hemisphere type of person, that is why I'm not good with art or creativity," or "I'm a right hemisphere type of person, that is why I'm not good with logic or science."

can you still read this?
according to research at Cambridge University,
it doesn't matter in what order the letters in a word are,
the only important thing is that the first and last letter be at the right place

The example above shows that the right hemisphere, the holistic part of our brain, helps with reading as well, that reading involves both functions of the left and right hemispheres.

HANDOUT 5.2

Neuroplasticity in Action

Challenge #1

Write a question using your dominant hand & answer it using your non-dominant hand.

Trial	Dominant Hand	Non-Dominant Hand
1		
2		
3		

Challenge #2

Draw a circle on the left side of a paper and simultaneously draw a square on the right side of the paper.

Trial	Circle	Square
1		
2		
3		

Processing Questions

1. Did you see any improvement in your work as the trials progressed?

2. What is happening within the brain when you master new skills?

3. Reflect on a time when practice and effort have resulted in changes in their mind, emotions, behaviors, or even physical traits.

Extension Activities

- Invite students to improve a small and targeted skill. For example, you can challenge students to learn how to say one or a few tongue twisters without making errors. Students can work in small groups tracking the number of errors they make until they can read the tongue twister without making mistakes.
- **Wordy Woodchuck:** How much wood would a woodchuck chuck if a woodchuck could chuck wood? He would chuck, he would, as much as he could, and chuck as much wood as a woodchuck would if a woodchuck could chuck wood.
- **Bear-ly Babbling:** Fuzzy Wuzzy was a bear. Fuzzy Wuzzy had no hair. Fuzzy Wuzzy wasn't very fuzzy, was he?
- **Pete's Pick:** Peter Piper picked a peck of pickled peppers. Did Peter Piper pick a peck of pickled peppers? If Peter Piper picked a peck of pickled peppers, where's the peck of pickled peppers Peter Piper picked?
- **Baker Blurb:** Betty Botter had some butter, "But," she said, "this butter's bitter. If I bake this bitter butter, it would make my batter bitter. But a bit of better butter - that would make my batter better." So she bought a bit of butter, better than her bitter butter, and she baked it in her batter, and the batter was not bitter. So 'twas better Betty Botter bought a bit of better butter.
- **Sea Speak:** She sells seashells by the seashore.
- **Medical Mayhem:** When a doctor doctors a doctor, does the doctor doing the doctoring doctor as the doctor being doctored wants to be doctored or does the doctor doing the doctoring doctor as he wants to doctor?

ACTIVITY 6.1

Measuring Optimism

Martin E. P. Seligman, University of Pennsylvania

Concept

The level of optimism people possess is a predictor of depression both currently and in the future. This test of optimism will help your students see their overall levels of optimism and in which area—permanence, pervasiveness, or personal—they have more pessimistic thoughts.

Units it could embed into

Health

Learning Targets

1. Students will participate in a sample psychological assessment and accurately interpret the results.
2. Students will demonstrate a clear understanding of how to measure their current level of optimism.

Materials

Sufficient copies of the Optimism Questionnaire ([Handout 6.1A](#)) and the Scoring the Optimism Questionnaire handout ([Handout Master 6.1B](#)) so that each student will have one.

Time

On average, the test takes about 15 minutes to complete, so this might serve as a good homework assignment instead of a class assignment.

Instructions

Instruct the students to take as much time as they need to answer each of the questions. There are no right or wrong answers.

Discussion

Hand out the sheet “Scoring the Optimism Questionnaire.” Give the students time to total their scores, and then discuss their feelings about their scores. Did they score as high or as low as they anticipated? Why or why not? In answering the questions, did they see any trends in their answers? In which areas did they score the best or worst? What can the students do with the information they learned from this exercise?

HANDOUT 6.1A**Measuring Optimism Questionnaire Learning Targets**

1. Students will participate in a sample psychological assessment.
2. Students will measure their current level of optimism.

Directions

For each question, pick the choice that best describes how you would explain the given situation. Although you may not have experienced the situation before, put yourself in that situation to determine how you would respond.

- | | |
|--|------------|
| 1. The project you are in charge of is a great success. | PsG |
| a. I kept a close watch over everyone's work. | 1 |
| b. Everyone devoted a lot of time and energy to it. | 0 |
| 2. You and your boyfriend/girlfriend make up after a fight. | PmG |
| a. I forgave him/her. | 0 |
| b. I'm usually forgiving. | 1 |
| 3. You get lost driving to a friend's house. | PsB |
| a. I missed a turn. | 1 |
| b. My friend gave me bad directions. | 0 |
| 4. Your boyfriend/girlfriend surprises you with a gift. | PsG |
| a. He/she just got a raise at work. | 0 |
| b. I took him/her out to a special dinner the night before. | 1 |
| 5. You forget your boyfriend's/girlfriend's birthday. | PmB |
| a. I'm not good at remembering birthdays. | 1 |
| b. I was preoccupied with other things. | 0 |
| 6. You get a flower from a secret admirer. | PvG |
| a. I am attractive to him/her. | 0 |
| b. I am a popular person. | 1 |
| 7. You run for a community office position and you win. | PvG |
| a. I devote a lot of time and energy to campaigning. | 0 |
| b. I work very hard at everything I do. | 1 |
| 8. You miss an important engagement. | PvB |
| a. Sometimes my memory fails me. | 1 |
| b. I sometimes forget to check my appointment book. | 0 |
| 9. You run for a community office position, and you lose. | PvB |
| a. I didn't campaign hard enough. | 1 |
| b. The person who won knew more people. | 0 |

10. You host a successful dinner.	PmG
a. I was particularly charming that night.	0
b. I am a good host.	1
11. You stop a crime by calling the police.	PsG
a. A strange noise caught my attention.	0
b. I was alert that day.	1
12. You were extremely healthy all year.	PsG
a. Few people around me were sick, so I wasn't exposed.	0
b. I made sure I ate well and got enough rest.	1
13. You owe the library \$10 for an overdue book.	PmB
a. When I am really involved in what I am reading, I often forget when it's due.	1
b. I was so involved in writing the report I forgot to return the book.	0
14. Your stocks make you a lot of money.	PmG
a. My broker decided to take on something new.	0
b. My broker is a top-notch investor.	1
15. You win an athletic contest.	PmG
a. I was feeling unbeatable.	0
b. I train hard.	1
16. You fail an important examination.	PvB
a. I wasn't as smart as the other people taking the exam.	1
b. I didn't prepare for it well.	0
17. You prepared a special meal for a friend, and he/she barely touched the food.	PvB
a. I wasn't a good cook.	1
b. I made the meal in a rush.	0
18. You lose a sporting event for which you have been training for a long time.	PvB
a. I'm not very athletic.	1
b. I'm not very good at that sport.	0
19. Your car runs out of gas on a dark street late at night.	PsB
a. I didn't check to see how much gas was in the tank.	1
b. The gas gauge was broken.	0
20. You lose your temper with a friend.	PmB
a. He/she is always nagging me.	1
b. He/she was in a hostile mood.	0
21. You are penalized for not returning your income-tax forms on time.	PmB
a. I always put off doing my taxes.	1
b. I was lazy about getting my taxes done this year.	0

22. You ask a person out on a date, and he/she says no.	PvB
a. I was a wreck that day.	1
b. I got tongue-tied when I asked him/her on the date.	0
23. A game-show host picks you out of the audience to participate in the show.	PsG
a. I was sitting in the right seat.	0
b. I looked the most enthusiastic.	1
24. You are frequently asked to dance at a party.	PmG
a. I am outgoing at parties.	1
b. I was in perfect form that night.	0
25. You buy your boyfriend/girlfriend a gift, and he/she doesn't like it.	PsB
a. I don't put enough thought into things like that.	1
b. He/she has very picky tastes.	0
26. You do exceptionally well in a job interview.	PmG
a. I felt extremely confident during the interview.	0
b. I interview well.	1
27. You tell a joke, and everyone laughs.	PsG
a. The joke was funny.	0
b. My timing was perfect.	1
28. Your boss gives you too little time in which to finish a project, but you get it finished anyway.	PvG
a. I am good at my job.	0
b. I am an efficient person.	1
29. You've been feeling run-down lately.	PmB
a. I never get a chance to relax.	1
b. I was exceptionally busy this week.	0
30. You ask someone to dance and he/she says no.	PsB
a. I am not a good enough dancer.	1
b. He/she doesn't like to dance.	0
31. You save a person from choking to death.	PvG
a. I know a technique to stop someone from choking.	0
b. I know what to do in a crisis situation.	1
32. Your romantic partner wants to cool things off for a while.	PvB
a. I'm too self-centered.	1
b. I don't spend enough time with him/her.	0
33. A friend says something that hurts your feelings.	PmB
a. She always blurts things out without thinking of others.	1
b. My friend was in a bad mood and took it out on me.	0

34. Your employer comes to you for advice.	PvG
a. I am an expert in the area about which I was asked.	0
b. I am good at giving useful advice.	1
35. A friend thanks you for helping him/her get through a bad time.	PvG
a. I enjoy helping him/her through tough times.	0
b. I care about people.	1
36. You have a wonderful time at a party.	PsG
a. Everyone was friendly.	0
b. I was friendly.	1
37. Your doctor tells you that you are in good physical shape.	PvG
a. I make sure I exercise frequently.	0
b. I am very health-conscious.	1
38. Your boyfriend/girlfriend takes you away for a romantic weekend.	PmG
a. He/she needed to get away for a few days.	0
b. He/she likes to explore new areas.	1
39. 39. Your doctor tells you that you eat too much sugar.	PsB
a. I don't pay much attention to my diet.	1
b. You can't avoid sugar: It's in everything.	0
40. You are asked to head an important project.	PmG
a. I just successfully completed a similar project.	0
b. I am a good supervisor.	1
41. You and your boyfriend/girlfriend have been fighting a great deal.	PsB
a. I have been feeling cranky and pressured lately.	1
b. He/she has been hostile lately.	0
42. You fall down a great deal while skiing.	PmB
a. Skiing is difficult.	1
b. The trails were icy.	0
43. You win a prestigious award.	PvG
a. I solved an important problem.	0
b. I was the best employee.	1
44. Your stocks are at an all-time low.	PvB
a. I didn't know much about the business climate at the time.	1
b. I made a poor choice of stocks.	0
45. You win the lottery.	PsG
a. It was pure chance.	0
b. I picked the right numbers.	1

- | | |
|---|------------|
| 46. You gain weight over the holidays and you can't lose it. | PmB |
| a. Diets don't work in the long run. | 1 |
| b. The diet I tried didn't work. | 0 |
| 47. You are in the hospital, and few people come to visit. | PsB |
| a. I'm irritable when I'm sick. | 1 |
| b. My friends are negligent about things like that. | 0 |
| 48. They won't honor your credit card at a store. | PvB |
| a. I sometimes overestimate how much money I have. | 1 |
| b. I sometimes forget to pay my credit-card bill. | 0 |

Scoring Key

PmB	_____	PmG	_____
PvB	_____	PvG	_____
HoB	_____		
PsB	_____	PsG	_____
Total B	_____	Total G	_____
G - B	_____		

HANDOUT 6.1B**Scoring the Optimism Questionnaire**

Seven categories are measured on the Optimism Questionnaire and one overall combined score reflects your level of optimism. Score each category separately first and then determine the final composite score.

Permanent Bad (PmB): Believing the causes of bad events are permanent. Total the numbers in the right-hand margin from items 5, 13, 20, 21, 29, 22, 33, 42, and 46. Record this total in the PmB line on the scoring key. If you totaled 0 or 1, you are very optimistic on this dimension. 2 or 3 is a moderately optimistic score; 4 is average; 5 or 6 is quite pessimistic; and 7 or 8 is very pessimistic.

Permanent Good (PmG): Believing the causes of good events are permanent. Total the numbers in the right-hand margin from items 2, 10, 14, 15, 24, 26, 38, and 40. Record this total in the PmG line on the scoring key. If you totaled 7 or 8, you are very optimistic. 6 is a moderately optimistic score; 4 or 5 is average; 3 is a moderately pessimistic score; and 0, 1, or 2 is very pessimistic.

Pervasiveness Bad (PvB): Believing failures are universal and extend beyond the situation. Total the numbers in the right-hand margin from items 8, 16, 17, 18, 22, 32, 44, and 48. Record this total in the PvB line on the scoring key. If you totaled 0 or 1, you are very optimistic on this dimension. 2 or 3 is a moderately optimistic score; 4 is average; 5 or 6 is quite pessimistic; and 7 or 8 is very pessimistic.

Pervasiveness Good (PvG): Believing good events are universal and extend beyond the situation. Total the numbers in the right-hand margin from items 6, 7, 28, 31, 34, 35, 37, and 43. Record this total in the PvG line on the scoring key. If you totaled 7 or 8, you are very optimistic. 6 is a moderately optimistic score; 4 or 5 is average; 3 is a moderately pessimistic score; and 0, 1, or 2 is very pessimistic.

Hope Score (HoB): A combination of pervasive and permanent beliefs about bad events. Take your PvB total and add it to your PmB total. This will yield your hope score for bad events. If it is a 0, 1, or 2, you are extraordinarily hopeful. 3, 4, 5, or 6 is a moderately hopeful score; 7 or 8 is average; 9, 10, or 11 is moderately hopeless; and 12, 13, 14, 15, or 16 is severely hopeless.

Personalization Bad (PsB): Believing faults are personal and internal and, therefore, difficult to change. Total the numbers in the right-hand margin from items 3, 9, 19, 25, 30, 39, 41, and 47. Record this total in the PsB line on the scoring key. If you totaled 0 or 1, you have very high self-esteem. 2 or 3 is a moderate self-esteem; 4 is average; 5 or 6 indicates low self-esteem; and 7 or 8 indicates very low self-esteem.

Personalization Good (PsG): Believing faults are external and not personal. Total the numbers in the right-hand margin from items 1, 4, 11, 12, 23, 27, 36, and 45. Record this total in the PsG line on the scoring key. If you totaled 7 or 8, you are very optimistic. 6 is a moderately optimistic score; 4 or 5 is average; 3 is a moderately pessimistic score; and 0, 1, or 2 is very pessimistic.

Computing the Overall Score

First, add the three B scores (PmB + PvB + PsB). This is your Total B (bad events) score. Next, add your three G scores (PmG + PvG + PsG). This is your Total G (good events) score. Subtract B from G. This is your overall score (G-B).

Interpreting the Overall Totals

If your B score is from 3 to 6, you are marvelously optimistic. If it is in the 6 to 9 range, you are moderately optimistic; 10 or 11 is about average; 12 to 14 is moderately pessimistic; and anything above 14 cries out for change. If your G score is 19 or above, you think about good events very optimistically. If it is from 17 to 19, your thinking is moderately optimistic; 14 to 16 is about average; 11 to 13 indicates that you think quite pessimistically; and a score of 10 or less indicates great pessimism. Finally, if your G-B score is above 8, you are very optimistic across the board. If it is from 6 to 8, you are moderately optimistic; 3 to 5 is average; 1 or 2 is a moderately pessimistic score; and 0 or below is very pessimistic.

Reference

Seligman, M. E. P. (1998). *Learned optimism: How to change your mind and your life* (2nd ed.). New York: Pocket Books.

ACTIVITY 6.2

Grit Inventory

Concept

Students will participate in an inventory measuring their “grittiness.” They will create a connection between the theory of grit and their own lives.

Learning Targets

1. Students will participate in an assessment measuring their current level of grit.
2. Students will identify cognitive and or behavioral characteristics of grit.

Materials

1. Computer and Internet access
2. [Handout 6.2: Grit Inventory](#)

Time

15 Minutes

Instructions

1. Provide the students with [Handout 6.2: Grit Inventory](#). Preview the questions with the students before beginning the activity.
2. Ask for volunteers to share as a class or share reactions in small groups.

HANDOUT 6.2**Grit Inventory****Learning Targets**

1. Participate in an assessment measuring their current level of grit.
 2. Identify cognitive and or behavioral characteristics of grit in your own life.
-
1. Complete the Grit Inventory found at angeladuckworth.com/grit-scale/
 2. Analysis of Results: Do you agree or disagree with your results? Provide a minimum of two reasons or examples to support your answer.

CRITICAL THINKING EXERCISE 6.1

Children's Book Analysis

Concept

Students will demonstrate their understanding of the concepts of growth mindset, grit, and resilience and explore the relationship between the concepts.

Learning Targets

1. Students will differentiate between the following concepts: mindset, grit and resilience.
2. Students will identify the relationship between the following concepts: mindset, grit and resilience.

Materials

- Variety of children's books
- [Handout CTE 6.1: Book Analysis and Recommendations](#)

Time

(2) 45-minute periods

Instructions

1. Provide the students with [Handout CTE 6.1: Book Analysis and Recommendations](#) and read the directions as a class. There are two parts to this assignment, a book analysis and book recommendations.
2. Students can work individually or in small groups. They should choose one book to analyze and identify examples or non-examples of a growth mindset, resilience, and grit in the story. They should record their answers on [Part One of Handout CTE 6.1: Book Analysis and Recommendations](#).
3. After completing their analysis, students should make recommendations about how to change the story to better promote these traits. They should record their answers on [Part Two of Handout CTE 6.1: Book Analysis and Recommendations](#).
4. *Extension:* Ask the students to "re-write" the book that they analyzed to promote a growth mindset, resilience, and grit.

HANDOUT CRITICAL THINKING EXERCISE 6.1

Book Analysis and Recommendations

Learning Targets

1. Differentiate between the following concepts: mindset, grit and resilience.
2. Identify the relationship between the following concepts: mindset, grit and resilience.

Directions

Select a children’s book and analyze it through the lens of mindset, resilience, and grit. First, you will want to carefully read your book. Next, identify examples (or non-examples) of a growth or fixed mindset, resilience, and grit. Lastly, take on the role of editor for the children’s book. What suggestions do you have to make it more effective in teaching mindset, resilience, and grit?

PART I: Book Analysis

Reading Selection	Example	Explanation: Identify if this is an example OR non-example and explain your reasoning.
	Growth mindset Resilience Grit	
	Growth mindset Resilience Grit	
	Growth mindset Resilience Grit	
	Growth mindset Resilience Grit	
	Growth mindset Resilience Grit	
	Growth mindset Resilience Grit	

PART II: Book Recommendations

What suggestions do you have to make it more effective in teaching mindset, resilience, and grit? Give me 2-3 SPECIFIC examples directly related to the book.

CRITICAL THINKING EXERCISE 6.2**“Gritty” Case Study****Concept**

Students will demonstrate their understanding of the concepts of growth mindset, grit, and resilience explore the relationship between the concepts.

Learning Targets

1. Students will differentiate between the following concepts: mindset, grit and resilience.
2. Students will identify the relationship between the following concepts: mindset, grit and resilience.

Materials

[Handout CTE 6.2: “Gritty” Case Study](#)

Time

(2) 45 minute periods

Instructions

1. Provide the students with [Handout CTE 6.2: “Gritty” Case Study](#) and read the directions together as a class.
2. There are two parts to this assignment; student research and student application. Students can work individually or in pairs.
3. For the first part of the assignment, students will research a person that they admire, past or present, who embody the traits of a growth mindset, resilience, and grit. Their research should answer the following questions:
 1. What has this person accomplished?
 2. Why did you choose this person?
 3. How did this person demonstrate a growth mindset, resilience, or grit. Provide specific examples.
4. Students will share their research and conclusions with the class through the creation of a cartoon character. Please provide the students with the [Handout CTE 6.2: Case Study Template](#).
5. When students are done creating their individual, they can post them around the classroom.

HANDOUT 6.2**“Gritty” Case Study****Learning Targets**

1. Differentiate between the following concepts: mindset, grit and resilience.
2. Identify the relationship between the following concepts: mindset, grit and resilience.

Directions

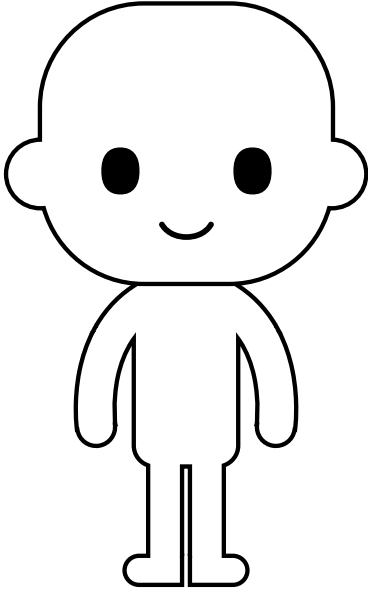
For this assignment, you will be researching a person that you admire, past or present, who embody the traits of a growth mindset, resilience, and grit. You will be sharing how he or she demonstrated resilience and/or overcame obstacles to achieve his or her goals. Your research should answer the following questions:

1. What has this person accomplished?
2. Why did you choose this person?
3. How did this person demonstrate a growth mindset, resilience, or grit. Provide specific examples.

You will share your research and conclusions with the class through the creation of a cartoon character. To complete your character, you will need to access our class template. Design the face and body of your character to look like the person you researched. Then add in the following information.

HANDOUT CTE 6.2

Case Study Template

Name	What has this person accomplished?
<input type="text"/>	<input type="text"/>
	Please provide at least 3 specific examples of how (or if) the following principles are evident in this person's life: mindset, resilience, and grit.
	<input type="text"/>

ACTIVITY 7.1

WOOP Scenarios and Group Discussion

Concept

Students can be introduced to the idea of self-regulation and reprogramming habits by helping them identify different elements associated with habit formation and habit change. Teachers may want to start by modeling how to identify habits and goals. Then explain the complexity of habits as they involve implicit, subconscious, automatic components as well as explicit, conscious, and deliberate elements. To achieve this, teachers may want to explain what mental contrasting is first by providing definitions and examples (Oettingen & Reininger, 2016). Then present the WOOP strategy and define each of its subcomponents. Allow students to work in groups in order to examine scenarios and learn to identify the various components related to mental contrasting and the WOOP strategy (Oettinger, 2014).

Units it could embed into

Cognition, Stress and Health, Learning

Learning Targets

1. Identify the various components associated with bad habits.
2. Apply evidence-based strategies that can increase the probability of reducing the frequency of bad habits, increase the frequency of desired habits, and promote long-term cognitive, emotional, and behavioral change.

Directions

For this assignment, you will be researching yourself in terms of the following areas:

1. What are some bad habits in your life?
2. How were those bad habits established?
3. What is the impact of bad habits across various areas of your life like your academic performance?
4. How can we learn to reprogram our psychology towards establishing and strengthening new positive habits?

You will share your research and conclusions with the class through class and homework activities.

Materials

- [WOOP video](#)
- [Handout 7.1a: WOOP Elements](#)
- [Handout 7.1b: WOOP Scenarios](#)

Time

40-60 minutes. Some elements can be implemented as homework assignments. These lessons could be extended further to integrate some of the suggested extension activities.

Instructions

- Introduce the above vocabulary and WOOP strategy
- Share the WOOP activity handouts for the scenarios provided and ask students to be as specific as possible. Emphasize behaviors that can be reasonably targeted and changed.

Extension activities

- Conduct a whole-class debriefing that engages students in sharing problems they faced identifying each of the components of the scenario
- Invite students to brainstorm about habits they would like to change in their own lives and write them using the same handout

Alternative uses for the lesson

- This lesson could be integrated into lessons regarding motivation theory. For example, you can have students link the concepts with ideas regarding intrinsic versus extrinsic motivation or to discuss why some behaviors are easier than others to execute.

HANDOUT 7.1A

WOOP Elements

W	<p>Wish:</p> <p>What is the habit the person should consider changing?</p> <p>What will the person continue to do if they change?</p> <p>What will the person continue to do if they don't change?</p>
O	<p>Outcome:</p> <p>What will be the best result from changing the habit permanently?</p> <p>What will be the outcome if the person doesn't change the habit?</p>
O	<p>Obstacle:</p> <p>What is the main obstacle that would prevent the person from achieving their habit change?</p>
P	<p>Plan:</p> <p>What is an effective strategy to deal with the main obstacle the person faces? Make a statement connecting the obstacle and the plan using the language of: When... Then...</p> <p>When _____</p> <p>Then _____</p>

HANDOUT 7.1B**WOOP Scenarios****Scenario 1 for Group Discussion**

Monica is a 16-year-old girl who struggles maintaining healthy eating habits because she loves snacks and sweets late at night. She likes to relax by snacking and watching TV or snacking while chatting with friends on social media. She eats pretty healthy most of the time, and healthy eating habits are an important goal for her. She is an athlete at her school's track team. She has surprised herself by finishing bags of snacks and candy without realizing it. Monica catches herself compulsively going to the fridge and pantry even when she is full. This seems to happen more when she is bored or stressed. Monica's mom has brought this to her attention and sometimes Monica ends up feeling frustrated and guilty after arguing about this with her mom. Finally, Monica doesn't like to drink water and has become dehydrated at practices and during competitions.

Scenario 2 for Group Discussion

Alberto is a 13-year-old boy who is currently attending online classes due to the COVID-19 pandemic. He loves video games and has gotten into the habit of playing during class. His teachers rarely catch him because he's found strategies to play on his cellphone while appearing to be paying attention, or he turns his camera off when teachers aren't paying attention. He realizes he is not doing well in his math and social studies classes and wishes to improve, but he doesn't seem to be able to stop playing video games during and after class. He has started to become anxious about tests and homework. Alberto is also starting to think he is not very good at math and that he doesn't have the same vocabulary as other students in his class. He does want to do better in school. Finally, he wishes he could see his friends and get to play soccer with them soon.

Scenario 3 for Group Discussion

Tanya is a 15-year-old girl who feels tired all the time. She drinks 3-5 caffeinated drinks per day to get energy. She falls asleep easily during class, when she is doing homework or watching TV. She stays late at night because she has a hard time falling asleep. The caffeine doesn't seem to have much effect during the day, but at night it seems to be the opposite. During the weekdays she sleeps about 4-5 hours. However, on weekends she can sleep over 12 hours each day. She has started to feel depressed because she is falling behind in school, stopped going out for walks with her dog, and doesn't have the motivation to do her chores around the house. All of these issues have made conflict with Tanya's parents happen more and more frequently.

ACTIVITY 7.2**Habit Formation****Concept**

Students can learn to recognize how the human brain is designed to automate thoughts, behaviors, and actions in order to be more efficient. This can be a double-edged sword that promotes efficiency and productivity, but when it comes to negative habits it can contribute to unproductive or unhealthy patterns of behavior. Once a negative habit has been established it's very difficult to change. Students will learn how habits are developed when the brain strengthens associations between cues, routines, and rewards (Duhigg, 2012).

Units it could embed into

Cognition, Consciousness, Stress and Health, Learning

Learning Targets

1. Students will be able to describe the habit formation/maintenance cycle.
2. Students will be able to differentiate between cues and rewards.

Materials

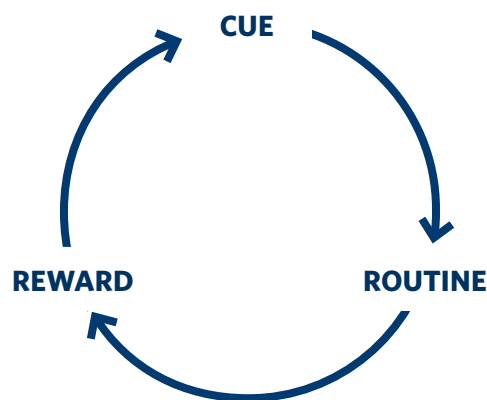
[Handout 7.2: Habit Formation](#). You can also integrate journal entries over an extended period of time.

Time

30+ minutes. This activity can be expanded into small mini-lessons over an extended period of time that may involve several weeks if desired.

Instructions

- Engage students in a discussion of how habits are formed by using the pattern of behavior that is represented here. Facilitate the application of concrete examples where students understand the reinforcing power of Cue → Routine → Reward → Cue → Routine → Reward → Cue....
 - » Example, you feel your phone vibrating, you automatically look at your notifications, you watch a very funny 10 second video



- Explain that habits can become problematic when the automatic nature of these loops interfere with other activities, such as paying attention in class or focusing on the solution to a problem, or going to bed at night.
- Help students actively apply this knowledge. Guide students into identifying a habit they would like to change. Explain, "If you have a hard time identifying a habit you would like to change, you can journal or ask family members to help you come up with a good habit to tackle."

- Guide students into being able to identify the following aspects of the habit:
 - » When did the habit begin?
 - » How has the habit changed overtime?
 - » Is there a place, context, time of the day when the habit happens?
 - » What else is happening around when you engage in the habit?
 - » Does your habit impact other goals or relationships?
 - » What does the habit do for you?
 - » What aspects of the habit make you feel good?
 - » What aspects of the habit make you feel bad?
- Share the [Handout 7.2: Habit Formation](#) instructing them to:
 - » Write a single or multiple journal entries that would allow you to identify the multiple elements of your habit loop
 - » Write a single or multiple journal entries documenting your habit over the course of a predetermined time period

Extension activities

- You can integrate this exercise as a single lesson or develop a more extensive theme across weeks during the academic year so that students can track their progress in terms of changing a habit.
- Invite students to observe the conscious and subconscious components of habits in their everyday lives and to document how they can effect change by applying strategies to regulate their behavior such as tracking, goal setting, and seeking support.
- You can extend this activity across multiple weeks in order to help students track the development and change of the elements associated with the target habit.
- Review how habits are formed when a pattern of behavior is created through the reinforcing power of Cue → Routine → Reward → Cue → Routine → Reward → Cue....
- Help students describe in detail how they have been able to put this knowledge into practice.

Alternative uses for the lesson

This lesson could be integrated into lessons regarding factors that directly impact academic performance such as procrastination, as well as general fitness, wellness, and nutrition.

HANDOUT 7.2**Habit Formation**

H	Habit: What is the habit?
C	Cue: What is/are the cue(s)?
R	Routine: What is your automatic response?
R	Reward: What is the Reward?
+	Negative Consequences: What are the negative consequences of your habit loop?

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RESOURCES

Character Lab

characterlab.org/playbooks/grit/

Ted Talk: Angela Duckworth

[Grit: The Power of Passion and Perseverance](#)

Ted Talk: Carol Dweck

[The Power of Believing You Can](#)

WOOP video

youtu.be/DpbCMzQqZAU

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www.viacharacter.org/about

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PODCASTS

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[How to Become Great at Just About Anything \(Ep. 244\)](#)

Freakonomics

[How to Get More Grit in Your Life \(Ep. 246\)](#)

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