

SIEMENS STEM DAY ACTIVITY

MANAGING STRESS

OBJECTIVES

Students will be able to:

- **Understand** types of stress and the psychology of stress management.
- **Explain** the correlation between stressors and responses in order to either help to reduce and manage stress or to heighten stress.
- **Practice** implementing effective stress management coping strategies to promote health and wellbeing.

THIS LESSON FOCUSES ON

Engineering Design Cycle

- Defining the Problem
- Designing Solutions

21st Century Skills

- Collaboration
- Communication

OVERVIEW

Small amounts of stress can be considered healthy, beneficial, and even motivational. On the other hand, too much stress can affect one's health and wreak havoc on one's mental and emotional wellbeing. In this activity, students will learn to identify stress and analyze ways that people deal with stress, including both positive and negative reactions to it. Additionally, students will practice implementing effective stress management strategies to promote balance, health, and wellbeing.

STEM incorporates Science, Technology, Engineering, and Mathematics to focus on real-world issues and problems guided by the engineering design process. This type of instruction supports students in developing critical thinking, collaboration, reasoning, and creative skills to be competitive in the 21st-century workforce.

Each Siemens STEM Day classroom activity highlights one or more components of the engineering design cycle and an essential 21st-century skill.

MATERIALS

- *7 Tips for Stress Management Article*, one per student
- *Stressors and Responses Sort Cards*, one per two students
- *Apply It: Role Play Template*, one per student

HAVE YOU EVER WONDERED . . .

What is considered a healthy amount of stress and how to most effectively deal with stress?

MAKE CONNECTIONS!

How does this connect to students?

“By high school and college, many students have run out of steam. Anxiety—the **mental-health tsunami** of their generation—has caught up with them. Today’s teens and young adults are the most anxious ever, according to mental-health surveys.”¹

Additionally, the **instantaneous nature of technology** often contributes to heightening students’ stress levels. Social media platforms frequently contribute to bullying, self-doubt and comparison, and fear of missing out (FOMO), thus producing feelings of stress and anxiety.

How does this connect to careers?

Licensed **clinical and counseling psychologists** diagnose and treat mental, emotional, and behavioral disorders. Using assessment tools and various other resources, psychologists can provide patients with coping strategies and guide them towards greater health and wellbeing.

Social workers generally help people assess and solve problems in their lives. Using active listening, interpersonal skills, and critical thinking, social workers connect with and counsel their clients during times of crisis or difficulty.

Professionals in positions of leadership are more effective when they have the skills to identify problems, consider potential solutions, and guide others. Those who are in leadership roles and portray stress management strategies, not only increase productivity, but also set an example for others to cultivate these skills.

How does this connect to our world?

In today’s society, there is an unprecedented amount of stress and pressure on people, both in school and the workplace. It is essential for people to learn effective stress management and coping strategies to **achieve greater health and productivity**.

Lingering effects of stress impact relationships, regardless of whether they are at home, at school, or even international colleagues. People who have a toolkit of stress management techniques usually have greater success reducing stress, which contributes to the maintenance of healthy relationships.

¹ The Epidemic of Anxiety Among Today’s Students, <http://neatoday.org/2018/03/28/the-epidemic-of-student-anxiety/>

BLUEPRINT FOR DISCOVERY

1. To engage students, ask them to collectively brainstorm some stressful situations. Examples would be studying for a test, learning to drive, speaking in public, etc. Lead a group discussion to share all of the brainstormed ideas. Generally, the students will identify negative circumstances that lead to stress such as those previously listed. Ask the participants to identify any feelings associated with the circumstances they shared. Students will likely describe feelings of dread, sadness, pain, anger, depression which can all provoke stress.
2. Explain to students that, “Most people consider the definition of stress to be something that causes distress. However, stress is not always harmful since increased stress results in increased productivity. A definition of stress should also embrace this type of healthy stress, which is usually ignored when you ask someone about their definition of stress.”² Next teach the students that there are four main types of stress:
 1. **Acute Stress:** Often known as fight or flight, the body prepares to defend itself by engaging in (fighting) or fleeing a situation.
 2. **Chronic Stress:** Ongoing stress that is a part of people’s daily lives such as a job, bills, or family situations.
 3. **Eustress:** Stress associated with positive events such as a promotion, wedding, or planning a trip.
 4. **Distress:** Most commonly identified stress that has negative associations like an injury, a work problem, a divorce, or financial troubles.
3. Ask students to think back to the beginning brainstorming activity. Ask them which types of stress they identified. Students will likely identify acute stress, chronic stress and distress. Explain to the students that it is important to understand that stress can be both helpful and harmful. Many people commonly identify with the negative types of stress; however, eustress is often overlooked.
4. Pass out the *7 Tips for Stress Management* handout and ask students to read through it with a partner. After providing sufficient time, ask the students to regroup as a whole class. Emphasize that stress is a natural part of life; however, how people choose to deal with their stress is what differentiates between helpful and harmful stress.
5. Ask students to select a partner for this activity. Pass out one set of *Stressors and Responses Sort Cards* to each partner set. Explain that the objective of this activity is for them to collaborate together to first sort the descriptions into stressors and responses. The second task is for the students to subcategorize the responses according to whether they *Reduce Stress* or *Heighten Stress*.

Note: It is important to have the bold category headings and descriptions cut out and shuffled ahead of time.
6. Emphasize to the students the importance of having a “tool kit” of positive stress management techniques to effectively managing stress. Additionally, this activity only represents a few of the various stressors and responses associated with stress.
7. Pass out the *Apply It: Role Play Template* to each student. Tell the students that they are now going to practice effective coping strategies by role-playing. In small groups of three or four people, students

² The American Institute of Stress, What is Stress? <https://www.stress.org/daily-life>

will role-play a stressful scenario and then act out several ways of coping and reducing the stress. Encourage the students to be creative, yet realistic, with their role-play scenarios.

8. Conclude the lesson by asking the partner sets to act out their stressful scenarios and effective stress management techniques. As students watch each other's skits, encourage them to share compliments or constructive comments.

TAKE ACTION!

Get connected with a passion project. Research indicates that people who actively connect with others around a common cause, sport, or hobby are reported to have less stress and anxiety when compared to others who are less engaged. Are you interested in animal rights, knitting, or hockey? If so, find a group of people who share your passion and spend time together with them.

NATIONAL STANDARDS

<p>Standards for Technology Literacy</p>	<p>Standard 4: Students will develop an understanding of Technology and Society. This includes learning about the cultural, social, economic and political effects of technology.</p>
<p>Next Generation Science Standards</p>	<p>HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.</p> <p>HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>

Before discussing stress management techniques, there are several factors to consider.

The following 7 tips are adapted from The American Psychological Association “*Check Out the Stress Tip Sheet*,” 2018³ to support individuals with a stress management plan:

1. Understand your stress

How do you stress? It can be different for everybody. By understanding what stress looks like for you, you can be better prepared, and reach for your stress management toolbox when needed.

2. Identify your stress sources

What causes you to be stressed? Be it work, family, change or any of the other potential thousand triggers.

3. Learn to recognize stress signals

We all process stress differently so it's important to be aware of your individual stress symptoms. What are your internal alarm bells? Low tolerance, headaches, stomach pains or a combination from the above ‘Symptoms of stress.’

4. Recognize your stress strategies

What is your go-to tactic for calming down? These can be behaviors learned over years and sometimes aren't the healthy option. For example, some people cope with stress by self-medicating with alcohol or overeating.

5. Implement healthy stress management strategies

It's good to be **mindful** of any current unhealthy coping behaviors so you can switch them out for a healthy option. For example, if overeating is your current go to, you could practice meditation instead, or make a decision to phone a friend to chat through your situation. The American Psychological Association suggest that switching out one behavior at a time is most effective in creating positive change.

6. Make self-care a priority

When we make time for ourselves, we put our well-being before others. This can feel selfish to start, but it is like the airplane analogy—we must put our own oxygen mask on before we can assist others. The simplest things that **promote well-being**, such as enough sleep, food, downtime, and exercise are often the ones overlooked. *Self-care is group-care.*

7. Ask for support when needed

If you're feeling overwhelmed, reach out to a friend or family member you can talk to. Speaking with a healthcare professional can also reduce stress and help us learn healthier coping strategies.

³ <https://positivepsychology.com/stress-management-techniques-tips-burn-out/>

Stressors	Responses	Helps Reduce Stress	Heightens Stress
Moving	Increased blood pressure	Exercise	Overeating
Death of a Loved One	Panic	Talk with a friend	Deep Breathing
Wedding	Difficulty Sleeping	Play with a Pet	Self Soothe
Birth of a Sibling	Feeling Overwhelmed	Practice Mindfulness	Lash Out
Get a New Pet	Depression	Meditate	Take Quiet Time
Diagnosis of a Disease	Fatigue	Go to Counseling	Worry and Obsess
Winning a Contest	Headaches	Downtime in Nature	Relaxing Music

APPLY IT: ROLE PLAY TEMPLATE

With your small group, brainstorm the details of the scenario that you are going to role-play for the class.

Scenario Description	Details Associated with the Stressor
Potential Helpful Responses	Potential Harmful Responses