



HEART HEALTH AND STRESS MANAGEMENT



LEARNING OBJECTIVES:

- Describe the impact stress can have on the heart.
- List 3 strategies/activities that can be used to reduce stress.

STANDARDS:

21st Century Skills:

- 21.3-5.HL.1
- 21.3-5.HL.5
- 21.6-8.HL.1
- 21.3-8.HL.5

SUPPLIES NEEDED FOR ACTIVITIES:

- Soft, tossable objects (12 to 15)
- Whiteboard or chalkboard and dry erase marker or chalk
- Printed copies of the worksheet for Activity 2
- Writing utensil
- Poster paper
- Markers or colored pencils

INTRODUCTION:

Before starting this lesson, let's refresh our brains about what we know from completing heart health lessons one and two. We know that the heart is located on the left side of our chest. It runs on electricity and works hard every day to pump 20,000 gallons of blood throughout our bodies! That's pretty amazing. We also learned how important it is to maintain a healthy heart because we want to protect this important pump. Do you remember how much work it was to move rice between containers or practice with the stress balls?

Stress impacts everyone differently, and what is stressful for one person may not be stressful for another. In this lesson, we will learn about the different types of stress, how stress impacts our hearts, and different strategies to positively manage stress.

ACTIVITY 1: GROUP JUGGLE

This activity allows youth to experience juggling multiple tasks at once and manage the stress associated with it.

- **DO:**

1. Have everyone stand in a circle facing one another.
2. The facilitator keeps a pile of tossable objects nearby. Say, "Do we have any jugglers in the group?" (If so, let them briefly demonstrate their skill.)
3. What is the goal of juggling? (Keep all the objects in the air without dropping them.)
4. "Today we are going to do group juggling. What do you think our goal will be? (To keep all the objects in the air without dropping them.) Okay, let's get started." *The facilitator starts tossing objects out randomly to different youth in the circle. It is chaotic, and they will not be reaching the goal. After several tosses, say, "Stop, this doesn't seem to be going well. Please return all the objects to me."*
5. "Our goal is to keep all the objects in the air. How can we do a better job of accomplishing that?" *Wait for answers; don't give them hints. They may come up with ideas such as say names, create a pattern, throw softer, slow down, eliminate objects that roll too easily – ask for clarity, so everyone understands the idea that is suggested. Take one or two ideas at a time. Facilitator repeats what is suggested and tries that method.*
6. Stop and review how that idea or ideas worked. Ask for additional ideas for how they can do better at keeping all the objects in the air.
7. Practice with the new ideas. Work towards keeping all the objects in the air through the entire set of objects. Each time should get better.

- **REFLECT:** Ask youth to share with a partner (if they are comfortable) their responses to these questions. Then ask for volunteers to share what they and their partner discussed.

1. Does it ever feel like lots of things are coming at you at the same time in your life? What are some of those things? Possible answers: school, family commitments, homework, sports, religious activities, etc.
2. How does your body feel when lots of things are coming at you at the same time and you feel stressed? Possible answers: chest tightness, heart beats faster or even skips a beat, hear pulse inside head, etc.

What is stress?

We can likely recall a time we or another person were in a stressful situation. However, it may be a bit harder to define what stress is. Stress can be defined as a reaction to a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in causing or contributing to certain diseases.

- Physical factor: chest pain or headache, sweat, muscle tension
- Chemical factor: increased heart rate
- Emotional factor: negative thoughts, feeling tired

When we think of stress, it is often tied to meaning something negative. Not all stress is bad; sometimes, we have stress related to positive things in life—moving to a new home or going to a new school or adopting a sibling. These are good changes in our lives, but they can lead to what we call positive stress or eustress. Negative stress, or distress, is usually happening when there are difficult things in our lives, such as family problems.

VOCABULARY

Stress: a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in causing or contributing to certain diseases.

Eustress: a positive form of stress having a beneficial effect on health, motivation, performance, and emotional well-being.

Distress: a negative form of stress that causes pain or suffering affecting the body, a bodily part, or the mind.

Adrenaline: a hormone that temporarily causes your breathing and heart rate to speed up and your blood pressure to rise.

Cortisol: the primary stress hormone, which increases sugars (glucose) in the bloodstream, and enhances the brain's use of glucose, and makes items more available that are needed to repair body tissues.

What happens in your body in a stressful situation?

When faced with a difficult situation, it sets off a chain of events in your body. Your body releases adrenaline, which is a hormone that temporarily causes your breathing and heart rate to speed up and your blood pressure to rise. Cortisol is the primary stress hormone, which increases sugars (glucose) in the bloodstream, and enhances your brain's use of glucose, and makes items more available that are needed to repair tissues in your body. These reactions prepare you to deal with the situation – the “fight or flight” response.

Once a stressor has passed (like finishing a math test), your body's levels of adrenaline and cortisol drop, and your heart rate and blood pressure also return to a normal level. However, when your body is experiencing stress constantly, this fight or flight reaction stays turned on.

Having this much cortisol, along with other stress hormones in your body, can disrupt a variety of processes in your body and puts you at risk for a variety of health problems:

- Anxiety
- Depression
- Digestive problems
- Headaches
- Muscle tension and pain
- Heart disease, heart attack, stroke, and high blood pressure
- Sleep problems
- Weight gain
- Trouble with memory and concentration

These reasons are why it is so important for us to manage stress in our lives. Distress, and the negative coping strategies that go along with it, like using alcohol, tobacco, drugs, or consuming more calories (energy) than our body needs, can cause our blood pressure to become high, making the heart work very hard to pump blood throughout our body. Distress can also increase the risk of us having a heart attack or stroke. The good news is that if we practice positive coping strategies to manage our stress, we can lower our risk of having a heart attack or stroke.

Image 1. Explanation of Stress Response Comparing the Use of Positive and Negative Coping Strategies



Directions to explain Image 1: We encourage you to draw this diagram on the whiteboard and walk through the different coping options when faced with a stressful situation.

1. First, explain that we have a stressor, which could be a physical, chemical, or emotional factor. This causes us some form of discomfort (i.e., headache, increased heart rate, negative thoughts, etc.).
2. We are then faced with using a positive coping strategy or a negative coping strategy to deal with this discomfort.
 - a. An example of a negative coping strategy could be looking at our phone and checking a social media account, which provides us a break from the discomfort, so we feel better at the moment. Still, it doesn't provide a solution to the stressor, so we repeat the cycle again.
 - b. A more productive way of managing the discomfort we feel from a stressor is to use a positive coping strategy. Practicing a mindfulness technique, such as a breathing exercise, is considered a positive coping technique because it helps us process the stressor and think about how we can productively manage the situation. Ultimately, this will provide us relief and long-term benefits and allow us to move on from that particularly stressful situation.

Write two headings on the whiteboard. One listed 'Positive Coping Strategies' and one listed 'Negative Coping Strategies' and have the students brainstorm strategies under each category.

ACTIVITY 2: POSITIVE COPING STRATEGIES TO MANAGE STRESS

Have copies of the worksheet for Activity 2 ready to pass out to students.

- **DO:** Let's review the lists you developed. Start with the negative coping strategies and discuss the examples they shared and how that doesn't help them relieve stress long term. Then review their positive coping strategy ideas and connect to the following activity.

We will spend some time talking about positive coping strategies to address stress, and then you will get to brainstorm how to make these strategies work for you!

Positive strategies to manage stress include:

- Exercise regularly: physical activity is an essential stress reliever for all ages. The 2018 Physical Activity Guidelines for Americans recommend those between ages 6 and 17 get at least 60 minutes of physical activity each day.
 - Talk it out: talking about stressful situations with a trusted adult can help you put things into perspective and find solutions.
 - Get outside: spending time in nature is an effective way to relieve stress and improve overall well-being.
 - Make time for family and friends: fostering relationships with our family and friends can help us talk through current stressors and feel fulfilled.
 - Get enough sleep: sleep is essential for physical and emotional well-being. Aim for 9-12 hours if you're between the ages of 6 and 12, and 10 hours a night if you're a teenager.
 - Find a stimulating hobby: carve out time to do what brings you joy, whether that's unstructured time to play or uninterrupted time to practice music or art. Find a healthy balance between your favorite activities and free time.
 - Write about it: expressing yourself in writing can help reduce mental distress and improve well-being.
 - Learn mindfulness: practicing relaxation techniques such as yoga, deep breathing, or meditation can help us better deal with stressful situations by providing us with more positive thoughts.
- **REFLECT:** Now, you will take some time to think about how you can make these strategies work for you. For example, next to the exercise regularly strategy, you may list that you will play outside with your siblings when you get home from school. Encourage youth to use the list of strategies that was brainstormed earlier as many of those strategies may fall within one of these categories. Next to each strategy listed on the worksheet, think about and write down how you can make that strategy work in your life.
 - **APPLY:** Share with a partner the information on your worksheet and which strategy you plan to use next time you're faced with a stressful situation.

ACTIVITY 3: PRACTICING MINDFULNESS

Mindfulness is a technique we can practice in life to reduce our stress. "Mindfulness is paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally." - Dr. John Kabat-Zinn

Mindfulness also involves acceptance, meaning that we pay attention to our thoughts and feelings without judging them – without believing that there is a "right" or "wrong" way to think or feel in a given moment.

Let's take a moment to practice a mindfulness activity, so we better know how to cope with a future stressor.

4-7-8 Breathing Method for Relaxation

- **DO:** We are going to practice the 4-7-8 Breathing Method for Relaxation. We will breathe in through our nose for 4 seconds, hold our breath for 7 seconds, and then exhale slowly through our mouth for 8 seconds. I will count, and you can practice it.

- **REFLECT:** What did you think of that breathing exercise? How did it make you feel? When would be a good time for you to take a mindful breath? Taking deep breaths can help provide us stress relief and bring an elevated heart rate back down to normal levels.
- **APPLY:** Whenever you find yourself in a stressful situation, practice this activity.

ACTIVITY 4: IDENTIFY POSITIVE COPING STRATEGIES TO DEAL WITH STRESSORS

- **DO:** Now, we will think about how we can positively deal with a stressor that we have been handling using a negative coping strategy. Another way that we can positively deal with stress is to utilize the S.T.O.P method (*you may want to write this acronym on the writing board as you explain so students can reference it*):

S = Stop. Stop what you are doing. Press the pause button on your thoughts and actions.

T = Take. Take a few deep breaths to center yourself and bring yourself fully into the present moment.

O = Observe. Observe what is going on with your:

- Body: What physical sensations are you aware of (touch, sight, hearing, taste, smell)?
- Emotions: What are you feeling right now?
- Mind: What assumptions are you making about your feelings? What is the story you're telling yourself about why you are having these feelings?

P = Proceed. Proceed with whatever you were doing, making a conscious, intentional choice to incorporate what you just learned.

- **REFLECT:** Assign students into teams based on the strategy that interests them – you can choose from one of the categories listed in Activity 2 or use your own categories. In teams of four or five, you will be creating a poster that explains to your peers how to manage stress using a positive coping strategy.

On the poster, make sure to include:

- An example of a stressor.
- A positive coping strategy to deal with that stressor.
- Explanation of the S.T.O.P method and how that can be used to manage stress.
- **APPLY:** Share your poster with your class and hang it in the hallway so your peers can learn how to positively cope with stress too.

Reflection and Application:

Stress is a normal part of life that everyone experiences. When we experience too much distress in our lives and use negative coping strategies to mask that stress, it can impact our health. Our heart health can suffer due to increased blood pressure, which could eventually lead to a heart attack or stroke. The good news is that we can use various strategies to positively manage our stress, including practicing healthy habits like exercising regularly, sharing your feelings with a friend, spending time outside, getting enough sleep, or practicing mindfulness.

Resources:

- Ricochet: An Extreme 4-H Leadership Adventure. Iowa State University Extension and Outreach, 4-H Youth Development. <https://www.extension.iastate.edu/4h/ricochet>.
- Stress and Heart Health | American Heart Association
- Psychological Health, Well-Being, and the Mind-Heart-Body Connection: A Scientific Statement from the American Heart Association. Published January 25, 2021. <https://doi.org/10.1161/CIR.0000000000000947>
- <https://www.apa.org/topics/child-development/stress>
- <https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress/art-20046037>
- <https://greatergood.berkeley.edu/topic/mindfulness/definition>
- Mindful Moments Notecards. Iowa State University Extension and Outreach, 4-H Youth Development.
- <https://www.mindful.org/stressing-out-stop/>

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POSTIVE COPING STRATEGIES TO MANAGE STRESS

Directions: Below is a list of positive coping strategies to manage stress. Read each strategy and think about how you could practice that particular strategy when faced with stress. For example, next to the exercise regularly strategy, you may list that you are going to play outside with your siblings when you get home from school.

Positive Coping Strategy	Example of how you can practice this strategy
Exercise regularly	
Talk it out	
Get outside	
Make time for friends and family	
Get enough sleep	
Find a stimulating hobby	
Write about it	
Learn mindfulness	