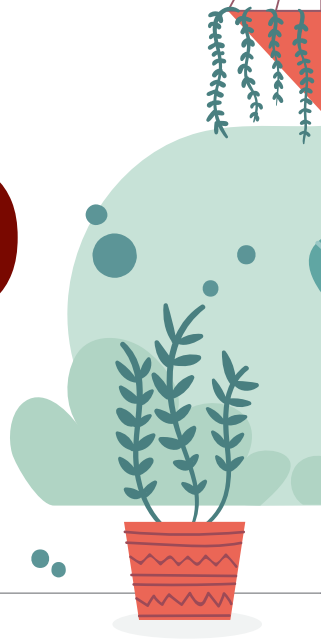


STRESSED OUT?

Learn how the body responds to stress—and healthy ways to cope.



Think of a time you were stressed. You may remember your heart racing, palms sweating, shoulders tensing up.

These reactions are part of the body's natural stress response. When the brain perceives a threat, it triggers a release of chemicals that prepare the body for the challenge.

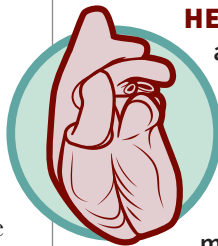
Known as “fight or flight,” the stress response evolved to help us survive (imagine an early human chased by a lion). But it can also be triggered by events that aren't life-threatening. You may feel stressed by school demands, personal relationship struggles, or social media pressures. National or global challenges can also cause stress, such as the COVID-19 pandemic and social issues like racial discrimination.

Feeling some stress is normal and can even be helpful. For example, the stress response can boost your energy and focus for a test. But constant stress can take a toll on your health. Here's why it's important to recognize when you are feeling overwhelmed and to take actions that can help you cope.

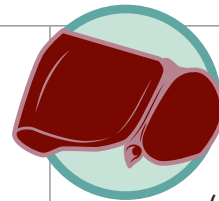
YOUR BODY UNDER PRESSURE



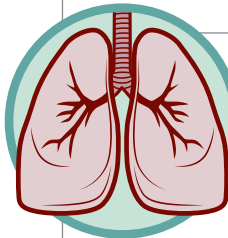
BRAIN: When you feel stressed, the brain sends a signal to the adrenal glands (located above the kidneys). The signal triggers the glands to release stress hormones. These chemicals cause changes to the body to prepare it to fight or run away (the “flight” response).



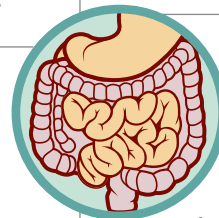
HEART: Heart rate and blood pressure increase so that blood travels through the body faster. This helps deliver oxygen to make muscles work.



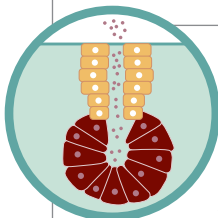
LIVER: The liver releases glucose (sugar) into the bloodstream. This powers cells in the body.



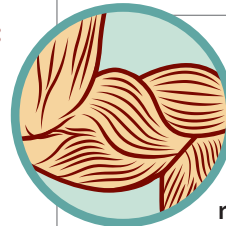
LUNGS: Breathing rate increases to deliver more oxygen to muscles and tissues.



STOMACH/INTESTINES: Digestion decreases so that the energy needed to break down food can be redirected to other parts of the body.



SWEAT GLANDS: Stress can trigger sweat to be released from some parts of your body. Stress-sweat is different from sweat caused by being hot.



MUSCLES: Muscles tense up throughout the body to prepare for responding with action.

A message from Scholastic and the National Institute on Drug Abuse (NIDA)



HEALTHY TIPS TO HELP YOU COPE



MOVE YOUR BODY: Regular aerobic exercise, like running, activates a response that helps your body cope with emotional stress.



MEDITATE: Meditation and deep breathing exercises can help you decrease blood pressure and improve symptoms of anxiety and depression.



TAKE A TIME-OUT: Stepping away from distractions, such as social media and texting, may be stressful at first, but with practice it can help you relax.



DO ONE THING AT A TIME: If you feel overwhelmed with multitasking, try to tackle one challenge at a time.



GET SUPPORT: If you are stressed, ask for help from your family, friends, or a professional, such as a doctor or school counselor.



RELAXING DURING A TEST: If you experience stress during a test, you may feel your mind “go blank.” This happens because norepinephrine—a stress hormone—may temporarily disrupt brain circuits that are used to recall memories.

TIP: If you experience your mind going blank, pause for a moment, take a deep breath, and try to relax to help the hormone surge ease off. *You’ve got this.*

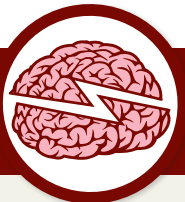


CHRONIC STRESS

Ongoing, or chronic, stress does not allow the body’s stress hormones to return to normal levels. This can lead to health problems. Chronic stress can:

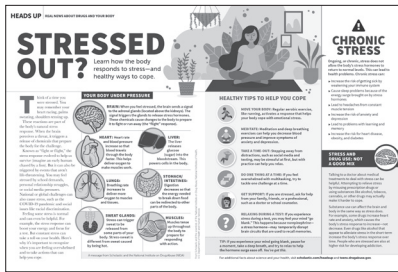
- ▶ Increase the risk of getting sick by weakening your immune system
- ▶ Cause sleep problems because of the energy surge brought on by stress hormones
- ▶ Lead to headaches from constant muscle tension
- ▶ Increase the risk of anxiety and depression
- ▶ Lead to problems with learning and memory
- ▶ Increase the risk for heart disease, obesity, and diabetes

STRESS AND DRUG USE: NOT A GOOD MIX



Talking to a doctor about medical treatments to deal with stress can be helpful. Attempting to relieve stress by misusing prescription drugs or using substances like alcohol, tobacco, cannabis, or other drugs may actually make it harder to cope.

Substance use can affect the brain and body in the same way as stress does. For example, some drugs increase heart rate and anxiety, which causes the body’s stress response to increase—not decrease. Even drugs like alcohol that appear to alleviate stress in the short-term increase the body’s stress response over time. People who are stressed are also at higher risk for developing addiction.



STRESSED OUT?

Stress is a part of every teen's life, even more so during intense challenges such as a pandemic, racial discrimination, and life transitions. But uncontrolled stress can cause serious health problems and increase the risk that students may use drugs to attempt to deal with stressors, including mental health issues and trauma. Use these materials to help your students understand how stress affects their body, and learn healthy ways to cope with pressure.

Reading-Comprehension Questions

1 What is the fight-or-flight response and why is it an important process in the body? (*The "fight or flight" response prepares the body to face a challenging situation. It boosts energy in the body if a physical reaction is needed to survive by fighting or fleeing.*)

2 Beyond helping you to survive in emergencies, how can stress be helpful to you? What are some examples? (*Stress can increase focus and energy. This can be helpful, for example, in studying for or taking a test. [Additional answers may apply.]*)

3 How can uncontrolled stress lead to health problems? (*Ongoing or chronic stress can prevent the body's stress response from returning to normal levels. This has many health risks including getting sick; sleep problems; headaches; anxiety and depression; problems with learning and memory; and heart disease, obesity, and diabetes. It can also increase the risk for drug use and for developing an addiction.*)

Critical-Thinking Writing Prompts

All Grades: Imagine your friend tells you they are feeling overwhelmed by stress. What advice would you give them?

Grades 6–8: What are signs that may indicate a person is experiencing chronic stress?

Grades 9–12: How might chronic stress as a teenager impact a person's life into adulthood? Support your answer with evidence from the text.

Answer Key: Student Activity Sheet "Stress Test"

Part 1: 1. c; 2. e; 3. b; 4. a; 5. d

Part 2: Answers will vary but should include specific evidence from the activity sheet as well as the student article about the specific body reactions to stress and the reasons for them.

Part 3: Answers will vary.

Remote Learning Suggestions

- **Create** an online discussion board and ask students to share at least one situation in which they have felt stressed. Alternatively, have students journal individually.
- **Send** students links or print copies of the student article and student activity. Instruct students to read the article independently.
- **Organize** small groups of students and send each group the reading-comprehension questions. Schedule online video chats for each group to discuss the questions. Alternatively, have students respond in writing individually.
- **Have** students complete the student activity sheet. Then, instruct them to return to the online discussion board or journal and share a strategy they could use to try to cope with pressure. A few days later, have them describe the results.

Subject Areas

- Science, Biology
- English Language Arts
- Health/Life Skills

Standards, Grs. 6–12

Common Core State Standards (CCSS)

RST.1

- ▶ Cite specific textual evidence to support analysis of science and technical texts.

W.2

- ▶ Write informative/explanatory texts.

Next Generation Science Standards (NGSS)

MS-LS1.A/HS-LS1.A Structure and Function

Practice Obtaining, Evaluating, and Communicating Information

Crosscutting Concept Systems and System Models

Additional Lesson Resources

Vocabulary Tools: Visit [scholastic.com/headsup/stress-vocabulary-tools](https://www.scholastic.com/headsup/stress-vocabulary-tools)

More Lessons on Science and Health:

- ▶ [headsup.scholastic.com/teachers](https://www.headsup.scholastic.com/teachers)
- ▶ [teens.drugabuse.gov](https://www.teens.drugabuse.gov)



National Institute on Drug Abuse

STRESS TEST

PART 1 MATCH THE RESPONSE

When you feel under stress, your body's stress response system kicks into gear to tackle the situation. Match each body organ below with the way in which it responds to stress.

**1. Heart**

a. Tense to protect against injury.

**2. Brain**

b. Releases glucose into the bloodstream to power cells.

**3. Liver**

c. Rate increases to push blood through the body faster.

**4. Muscles**

d. Activity decreases so energy can be used in other parts of the body.

**5. Stomach/
Intestines**

e. Signals the release of stress hormones.

PART 2 THINK ABOUT IT

Use information from this activity sheet, as well as the article "Stressed Out?" to respond to the questions below on a separate sheet.

1. Identify a situation in which you experienced stress.

2. Write about how your body responded to the stressful event, and explain why your body reacted the way it did.

3. What strategies will you use to reduce this type of stress in the future?

PART 3 COPING WITH STRESS

Stress-release strategies can help you cope with day-to-day stress so that it doesn't turn into chronic stress. Pick one of these activities and try it for at least 10 minutes every day for a week. Report back to your class how it helped you or not.



Deep Breathing Focus: Find a quiet space. Breathe deeply through your nose for a count of four. Hold your breath for a count of two. Then, let the breath out through your mouth for a count of four. Try to continue for 10 minutes or more.

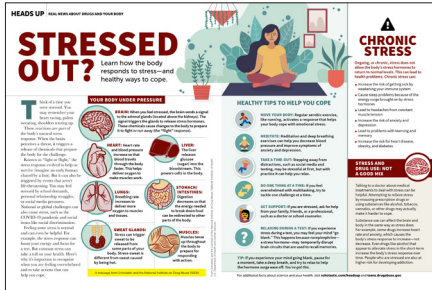


Physical Activity: Lace up and go for a walk or a run. Try to get your heart pumping, but not so much that you can't talk. In fact, you might ask a friend or family member to join you to help make it more fun!



Step Away From Your Phone: Put your phone away and do not check it for one hour on the first day, then gradually increase that time for a few days. Let your parents know, and ask them not to call you unless absolutely necessary. Only pick up the phone for them. At first you may feel stressed and worried about what you are missing. But see if it gets better each day. Track your progress.

STRESSED OUT?



OUT?

Find the article at:
headsup.scholastic.com/students/stressed-out

adrenal gland (*noun*): one of a pair of glands located near the kidneys that produces hormones, including norepinephrine

alleviate (*verb*): to make something, such as pain or suffering, easier to handle

anxiety (*noun*): feelings of worry or fear that may be strong enough to interfere with a person's daily activities

blood pressure (*noun*): the force caused by the blood pressing against the body's tubes that carry blood through the body (arteries); high blood pressure is connected to a higher risk for heart disease

chronic (*adjective*): continuing for a long time or repeatedly occurring

cope (*verb*): to handle a problem successfully

depression (*noun*): a condition in which a person feels sad and hopeless and may have difficulty concentrating and thinking

evolve (*verb*): to develop over time by natural processes

hormone (*noun*): a chemical produced by cells and released into the bloodstream that has specific effects on the body

meditation (*noun*): the act or process of sitting quietly to relax

norepinephrine (*noun*): a chemical produced and released when the body is under stress; it has many effects on the body, including increasing heart rate

perceive (*verb*): to notice or become aware of something

response (*noun*): a reaction to something

stress (*noun*): something that causes feelings of worry or anxiety; the state of worry caused by problems in life

stress hormone (*noun*): one of several chemicals produced and released in the body when a person feels threatened or afraid

symptom (*noun*): something that occurs in the brain or body that suggests that there is a disease or disorder present

