LESSON TITLE:
All Stressed Out

LESSON DESCRIPTION:
Stress at home, stress at school, stress throughout day… when does it end? Students will find out first hand that they are not alone – stress is normal and everyone experiences it to some degree. In this interactive activity, teens will find out what exactly stress is, how it effects the body, and why it happens. They will then identify stressors in their life and hear about steps they can take to cope with stress.

GRADE LEVEL:
7-9

INSTRUCTION PHASE:
Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation

DURATION:
One class period

DELIVERY METHOD:
Individual
Pairs

MATERIALS:
1. Computer(s) with Internet access or Kit on CD
2. All Stressed Out Worksheet (one for each student)
3. Projector

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MANAGEMENT:
- Students should work independently to complete this interactive activity. As an alternative, they can work with a partner.
- This activity contains a closed captioning (cc) scroll bar that can be turned on or off. Click the cc button to turn closed captioning on or off. The activity script can also be accessed by launching the Activity Script link.
- The educator will need to reserve computer lab time for this activity. Please be aware that the lesson activity after this one may also require the use of this same equipment. If needed, please adjust equipment reservation time accordingly.

LESSON OBJECTIVES & STANDARDS:
The students will be able to:
1. Define stress and differentiate between eustress and distress.
2. Identify physical effect stress has on the body and brain.
3. Define the “fight or flight” syndrome.
4. Identify typical stressors in a student’s life.
5. Recall healthy ways to cope with stress.

National Standards
Health: 1, 2, 5, 6
Science: 4, 7
Technology: 1, 2, 3, 5

PA State Standards
Health, Safety and Physical Education: 10.1.9 A, B, E; 10.4.9 B
Science and Technology: 3.3.10 A, B

ANTICIPATORY SET:
Begin by relating student experiences to the objectives of the lesson by asking the following:

- What comes to mind when you think of the word stress?
- What are your top three sources of stress?
- Do you experience stress every day?
- What do you feel (physically and emotionally) as a result of the stressors in your life?
- Name three things you do to handle stress. Are these healthy ways of dealing with stress?
- If you don't practice stress coping strategies, what are three things you can begin doing to manage your stress?
TEACHING – Input:

Lesson Terms
1. The **adrenal glands** are endocrine glands that sit on top of the kidneys and are responsible for regulating the stress response.
2. The **autonomic nervous system** is a division of the nervous system that functions involuntarily, including heart rate, blood pressure, digestion, and breathing.
3. **Cortisol** is a hormone produced by the adrenal glands involved in the body’s response to stress, including the metabolism of fat, glucose, and protein.
4. **Distress** is stress caused by adverse events that produce negative effects.
5. The **endocrine glands** are ductless glands that empty their hormonal products directly into the blood. Endocrine glands include the pituitary gland, pancreas, thyroid, ovaries, testes, and adrenal glands.
6. **Epinephrine**, also called adrenaline, is a hormone produced by the adrenal glands that gets secreted when the sympathetic nervous system is stimulated. It works to increase cardiac output and raise blood sugar levels.
7. **Eustress** is a positive form of stress, often associated with desirable events.
8. The **fight-or-flight response** is the body’s reaction to stress.
9. **Homeostasis** is the ability of the body to maintain a steady state of internal balance.
10. **Hormones** are chemical substances in the body produced by the endocrine system.
11. The **hypothalamus** is an endocrine gland found in the brain that is part of both the endocrine and nervous systems.
12. **Norepinephrine** is a hormone produced by the adrenal glands similar to epinephrine but works to maintain blood pressure through constriction of blood vessels.
13. The **parasympathetic nervous system** is a division of the autonomic nervous system that helps to bring the body back to a relaxed state by slowing heart and breathing rate.
14. The *pituitary gland*, or master gland of the body, is a pea-sized endocrine gland located at the base of the brain that regulates many body processes including growth, reproduction, and various metabolic activities. It is a small pea sized gland located at the base of the brain.

15. **Stress** is an intense force, strain, agent or mental condition, which produces a defense reaction.

16. A *stressor* is anything capable of causing stress.

17. The *sympathetic nervous system* is a division of the autonomic nervous system that acts in opposition to the parasympathetic nervous system, increasing heart rate, breathing, and responding to stress via the fight-or-flight response.

**TEACHING – Modeling:**

- The *All Stressed Out* activity begins with a teen commentator giving a background on what stress is and its physiological effects on the body, including the fight-or-flight response (see tabs ‘Return to Intro’, ‘Types of Stress’, and ‘Your Body’).
- After learning about how stress affects the different parts of the body, students will identify stressors in a bedroom and school hallway (see ‘Bedroom Activity’ and ‘Hallway Activity’ tabs).
  - Students will be instructed to select 5 items they think are stressors in these two scenes by clicking on them.
  - As they are clicked on, each stressor will reveal a pop-up window, including a description of why this item may elicit stress and a question for students to answer.
  - *Note:* The stressors in these two scenes can be accessed by launching the *Stressors* link.
- After the bedroom and hallway scenes, students will hear coping strategies they can use to manage stress (see ‘Coping Skills’ tab).
- Finally, students can find out how stressed they are by checking out the CDC’s Stress-o-meter ([http://www.bam.gov/sub_yourlife/yourlife_stressometer.html](http://www.bam.gov/sub_yourlife/yourlife_stressometer.html#)). They will be instructed to click on the quiz at the end of the ‘Coping Skills’ section to access this link.
- It is suggested that students redo the *All Stressed Out* activity so they can now apply the coping strategies they’ve learned, as they engage in the bedroom and hallway scenes.
- Students can record coping strategies for the activity stressors on the *All Stressed Out* Worksheet.
TEACHING – Checking for Understanding:
1. Stress is your body’s response to changes around you.
   • Compare and contrast eustress and distress. Which is ‘positive’ stress? Which is ‘negative’?
   • Give example of eustress and distress.
   • Name three sources of stress at home and at school.

2. Stress affects your whole body, not just your mind.
   • When we’re relaxed, the body is in a balanced state known as ________________________.
   • What are two ways the body responds to stressors? What is this response called?
   • How does the brain respond to stress?
   • Which glands in the body are stimulated during stress?
   • Name 3 hormones released as a result of stress. What do they prepare the body for?
   • List two ways the heart and blood vessels are affected by stress.
   • How do the lungs respond to stress? The liver? Skin? Muscles? All other non-essential body functions?

3. When coping with stress, it is important to work toward staying at the eustress level where stress is motivating and not debilitating.
   • Stress that is not dealt with can wear the body down and affect our health how?
   • What is one of the first things you should do when coping with stress? Name 5 other coping skills for dealing with stress.
   • Why is sleep important when coping with stress?

CLOSURE:
Review key points of the lesson to help students form a coherent understanding of the lesson objectives. Ask students to tell or show you what they have learned, using questions similar to those found in Check for Understanding.