

# SCIENCE AT HOME

# FEELING ANXIOUS

GRADE: **9-12**

TOPIC: THE SCIENCE BEHIND  
FEELING ANXIOUS

EXPECTATIONS: THIS PROGRAM SUPPORTS  
*OPEN MINDS, HEALTHY MINDS: ONTARIO'S  
COMPREHENSIVEMENTAL HEALTH AND  
ADDICTIONS STRATEGY*

VIDEO: [youtu.be/DtDirHODgdc](https://youtu.be/DtDirHODgdc)

## INTRODUCTION:

When you're in danger, your body responds quickly and automatically. The bronchioles inside your lungs expand, your heart rate increases, and blood is diverted to your muscles and brain. This is called the "fight, flight or freeze" response. Your body responds this way because it's trying to protect you, by preparing you to act quickly in an emergency.

The fight, flight or freeze response starts in the brain. A structure called the amygdala, which processes strong emotions like fear, sends a message to another structure, the hypothalamus. The hypothalamus coordinates the release of hormones such as cortisol and adrenaline, which launch the emergency response.

Even if you've never been in a truly life-threatening situation, you've probably experienced this response. Situations that make you feel anxious, like public speaking, riding a roller coaster or even shopping for groceries during a pandemic, can also bring it on. Because your brain acts so quickly, it often mistakes these everyday situations for true emergencies. And even if you're not in danger, you still get the racing heart, sweaty palms and butterflies in your stomach. This is normal, and it happens to everyone.

The fight, flight or freeze response is rapid and subconscious, but a slower process is also taking place. The brain's prefrontal cortex has also been alerted, and its job is to evaluate whether the danger is real. If you are actually in danger, your prefrontal cortex will start developing a plan. If you are not, it will initiate the shutdown of the fight, flight or freeze response. You have more conscious control over this part of the process.



Feeling anxious can have a negative effect on your mental health. There are things you can do to alleviate anxious feelings in the short term and to improve mental health over the long term. You can learn helpful techniques and practise them even if you aren't feeling anxious right now.

## ACTIVITY: Deep breathing

Find a standing, sitting or lying position that feels comfortable.

Place one hand on your belly. Inhale slowly and deeply through your nose. As air fills your lungs, you should feel your hand being pushed out.

Exhale slowly through your mouth. Try to push out all the air.

Some people find it helpful to count slowly to four as they inhale and to count to four again as they exhale.

Try breathing like this for one or two minutes, and notice how you feel afterwards.

Breathing balloon:

<https://kidshelpline.ca/get-info/breathing-balloon/>



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### ACTIVITY: Mindfulness meditation

Mindfulness meditation means fully focusing your attention on what you are experiencing in the moment – mentally, emotionally, physically and without judgement. Doing this regularly can have a positive effect on mental health and has even been shown to decrease levels of the stress hormone cortisol.

These videos are a great introduction to the technique:

Why mindfulness is a superpower: an animation

<https://youtu.be/w6T02g5hnT4>

Meditation 101: A beginner's guide

<https://youtu.be/o-kMJBWk9EO>

### ACTIVITY: Thought record

Negative thoughts can amplify anxious feelings. A thought record can help you challenge or reframe your negative thoughts so that your perspective is more balanced.

You may be worried about an upcoming test, for example. You may be thinking that if you don't get 85% on the test, you won't get into university or college. But you can work through those thoughts and feelings and reframe them: maybe you'll need to work even harder to make it into your first-choice institution, but this one test probably won't make or break your post-secondary career.

The Canadian Mental Health Association explains how to use this technique:

Challenge thinking traps

<https://cmha.bc.ca/-/covid-19-take-care-of-yourself/challenge-thinking-traps/>

### ACTIVITY: Self-care

It sounds simple, but taking care of yourself is good for mental health.

Get enough sleep.

Up all night? Get a better sleep with these tips:

<https://kidshelpphone.ca/get-in-fo/all-night-get-better-sleep-these-tips/>

Stay active. When you exercise, your brain releases chemicals such as endorphins that can improve your mood.

Do activities you enjoy. Paint a picture or paint your nails. Listen to music or make music. Take a bubble bath or play a video game. Make time for the things that bring you some joy.

**Note:** Some people will need help that goes beyond these techniques, and if you think that includes you, see the "Taking it further" section below.

### WHY THIS MATTERS:

Just as physical health is important, so is mental health. Anxious feelings can lead to poor mental health. One study in Ontario found that about two-thirds of young people have had concerns about their level of anxiety and about half have missed school because of it. If you are having these feelings too, you are not alone.



## WHY THIS MATTERS (continued):

A separate study found that a third of students in the province from grades 7 through 12 who wanted to speak to someone about their mental health did not know where to turn.

## TAKING IT FURTHER: Asking for help

Some people will need more help than these coping strategies can provide.

School Mental Health Ontario has some great tips on how to know when you should ask for help. Ask yourself:

- Is how I'm thinking, feeling, or acting different for me? A change from how I used to be?
- Are my thoughts, emotions or actions affecting my everyday life negatively?
- Have I been feeling this way for some time, like more than a couple of weeks?
- Am I dealing with my problems in unhealthy ways?
- Am I carrying too much by myself?

If you or your friend answered mostly yes to these questions, it is probably time to connect with an adult who can help. Reaching out can prevent problems from getting worse.

Source:  
<https://smho-smso.ca/students/learn-more/signs-to-watch-for/>

More tips:  
<https://smho-smso.ca/students/learn-more/get-help-early/>

Consider speaking to trusted adults like teachers, parents, coaches, faith leaders, Elders, or your family doctor. You can also call Kids Help Phone at 1-800-668-6868 or text CONNECT to 686868, anytime, and speak to a trained counsellor.

## MORE ONLINE:

What is happening in our brains and bodies when we feel anxious?

Anxiety

<https://www.sciencedaily.com/terms/anxiety.htm>

How to calm down when you're stressed

<https://kidshelpphone.ca/get-info/how-calm-down-when-youre-stressed/>

Learn about the difference between mental health and mental illness:

About your mental health

<https://smho-smso.ca/students/learn-more/about-your-mental-health/>

