Hack Your Brain To Increase Focus And Attention

Explore mindfulness techniques that will sharpen your focus, improve your attention span, and enhance your ability to concentrate.

https://bit.ly/HYBactivity5

Reaction Time

- *Have you ever dropped your phone?*
- *What did you do?*
- *Did you try to catch it?*

Reaction Time

- Let’s test your reaction time.
- You’ll need a friend and a ruler.
  - Stand facing your partner.
  - Have your friend hold the ruler in one hand.
  - Be ready to grab the ruler when it is dropped.
  - Your friend should drop the ruler without announcing when they will do so.
  - You will try to catch the ruler as fast as you can after it is dropped.

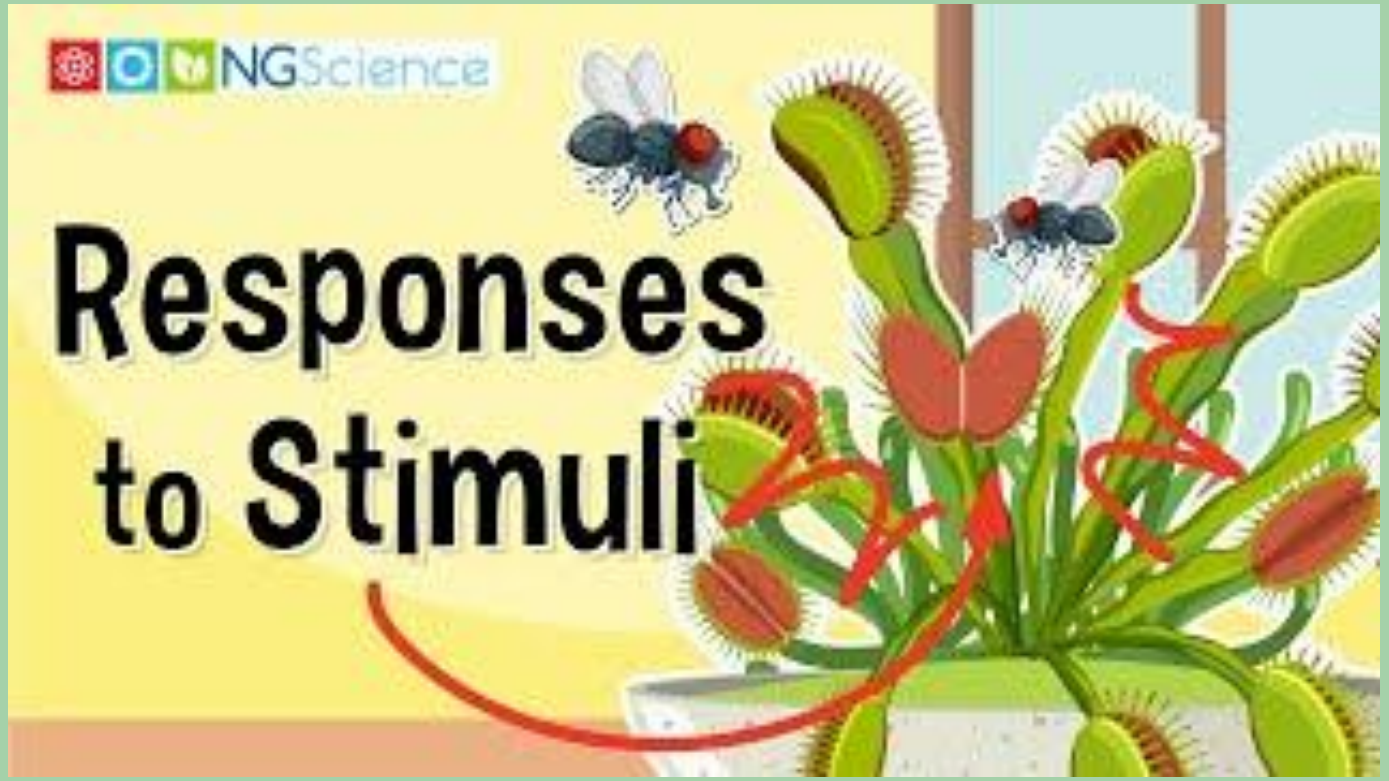
Reaction Time

- This demonstrates **reaction time** or the time between a **stimulus** and a reaction to that stimulus.
- In this case, the stimulus is the dropping ruler.
- Your eyes send a signal to the brain's **cortex**, and you react by catching the falling ruler.

Reaction Time

- *Does your reaction time improve with repetition?*
- You were probably paying very close attention to the ruler.
    - **Attention** is the ability to apply your mind to something and to focus on it.
    - Focusing your attention on the ruler's movement could improve your reaction time. Why?

Reaction Time



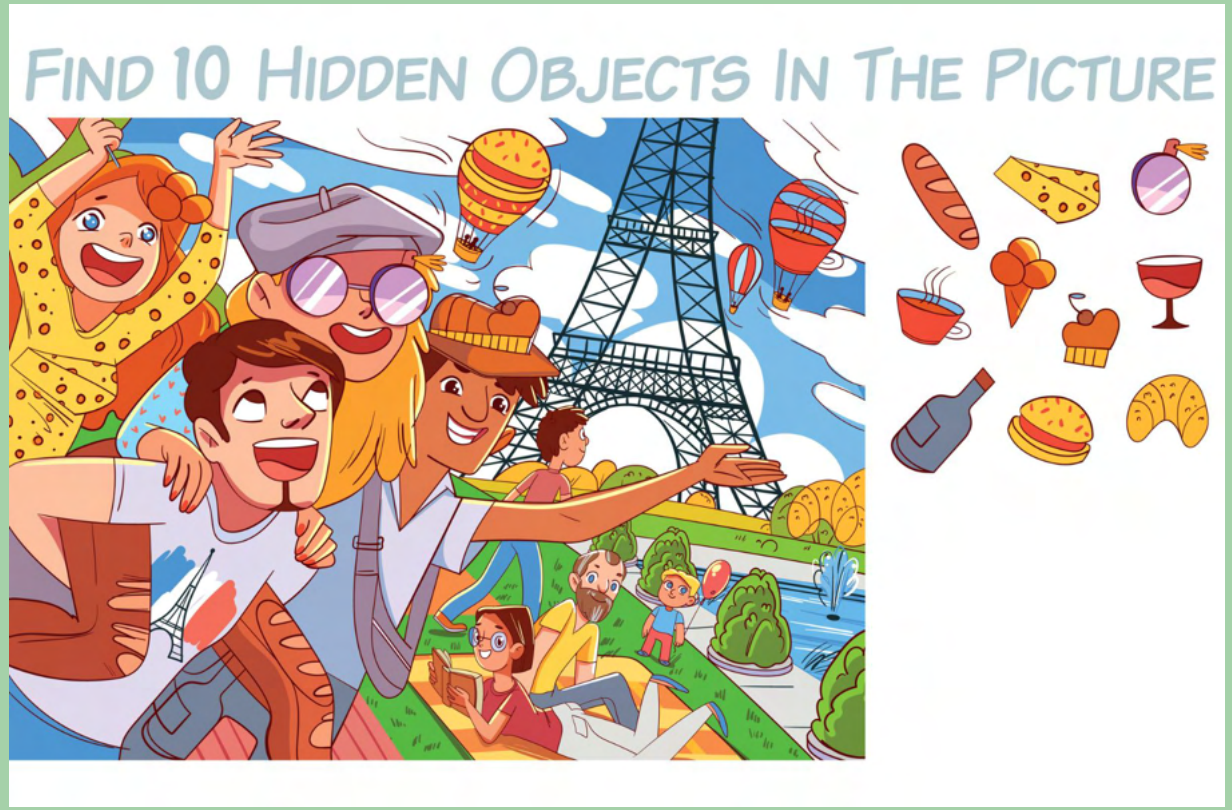
The Brain Controls Attention

- Many areas of the brain are involved in paying attention, including the frontal, occipital, and temporal lobes.
- The **prefrontal cortex** located in the frontal lobe helps with selective attention, or the ability to focus on one stimulus while ignoring other stimuli (the plural of stimulus).

The Brain Controls Attention

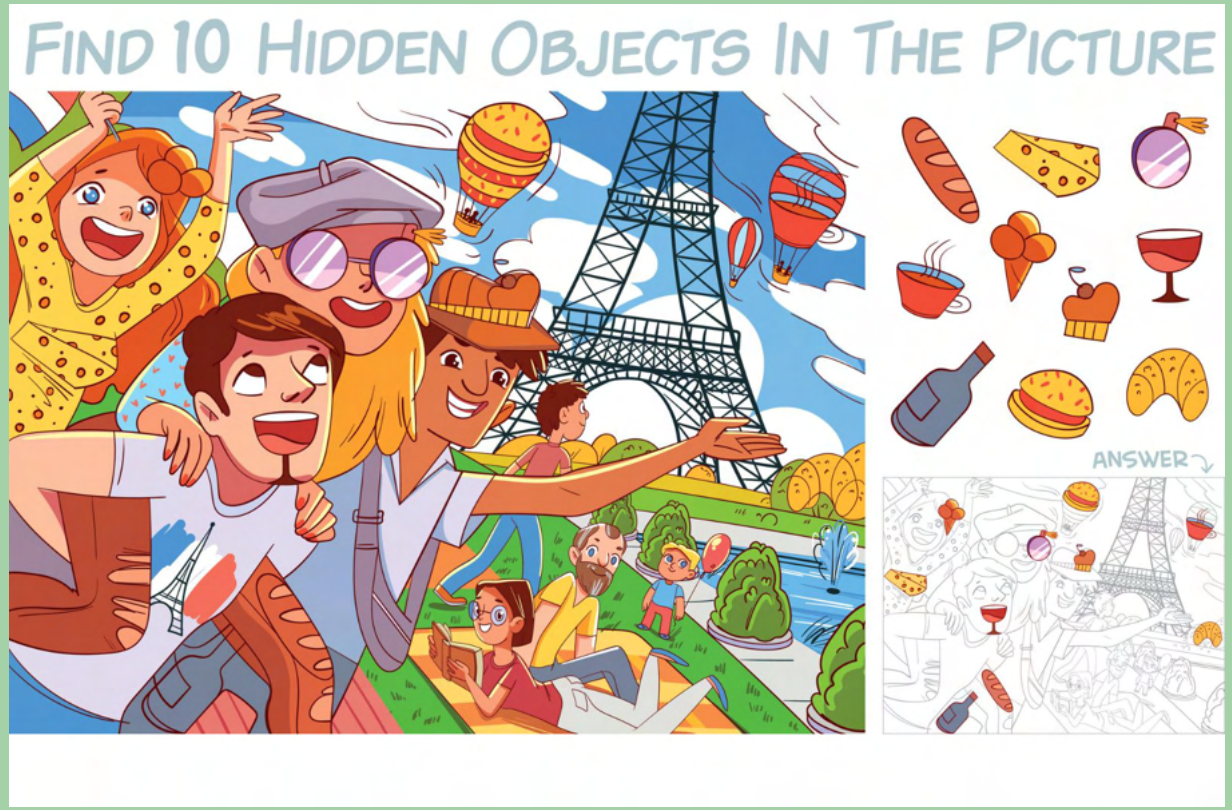
- The **visual cortex** in the occipital lobe processes visual information, while the **auditory cortex** in the temporal lobe processes auditory information.
- All these regions of the brain that are processing information are necessary to help you perceive and focus on stimuli in your environment.

Try This: Hidden Objects



Credit: Shutterstock

Try This: Hidden Objects



Credit: Shutterstock

Paying Attention

- There are two main modes for visual attention.
  - **Overt visual attention**, if you are sighted, you can physically direct your eyes to look at a stimulus.
  - **Covert visual attention** allows you to monitor what's around you without moving your eyes to focus on it.

Paying Attention

- **Auditory attention** refers to the ability of hearing individuals to be selective and concentrate on individual sounds in a noisy environment.

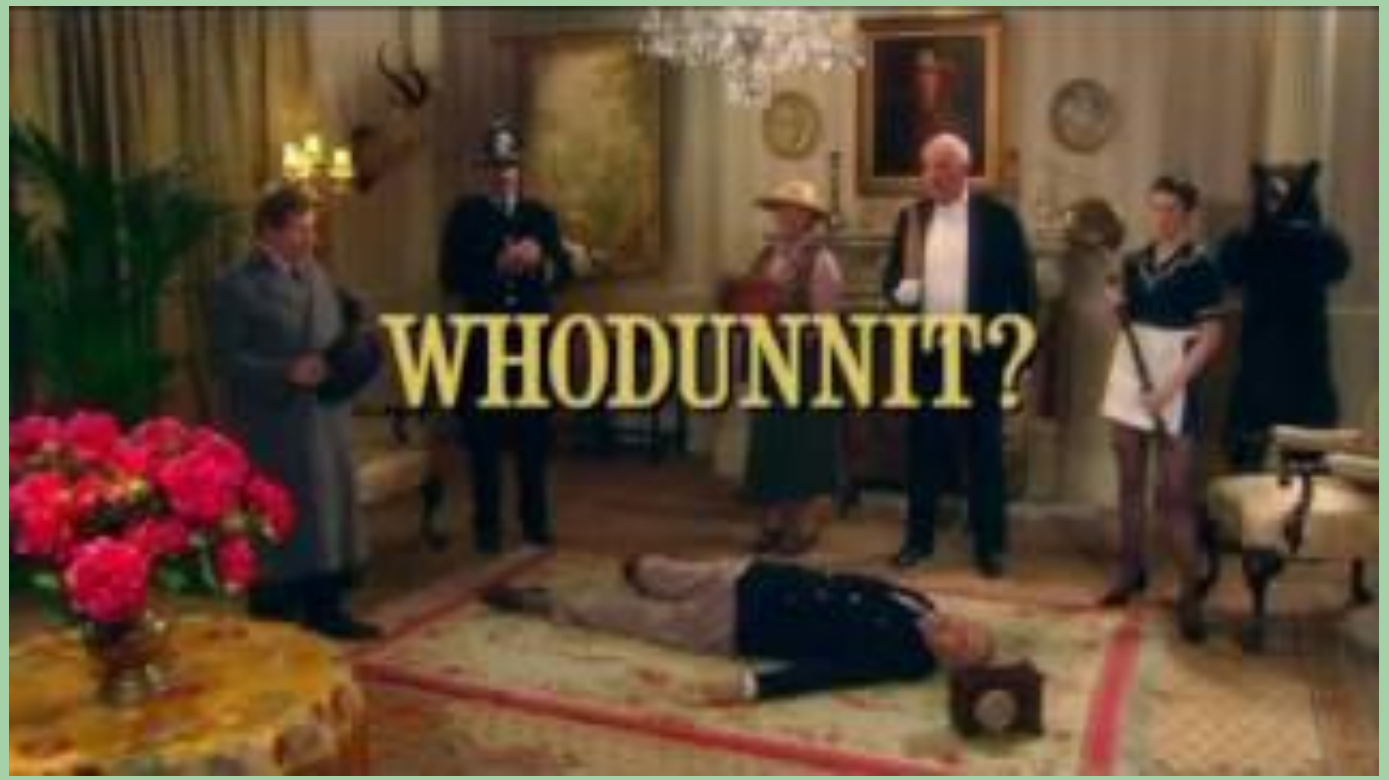
Paying Attention

- **Selective attention** is the ability to concentrate on one thing or stimulus while ignoring others.
- **Inattentional blindness** is when you focus so much on one thing that you don’t notice new things happening.
- **Change blindness** happens when your attention is focused elsewhere, or changes are so unexpected, that they go unnoticed.

Challenge Time!

- You’re going to watch a video of a detective in a murder mystery.
- Who do you think is guilty?

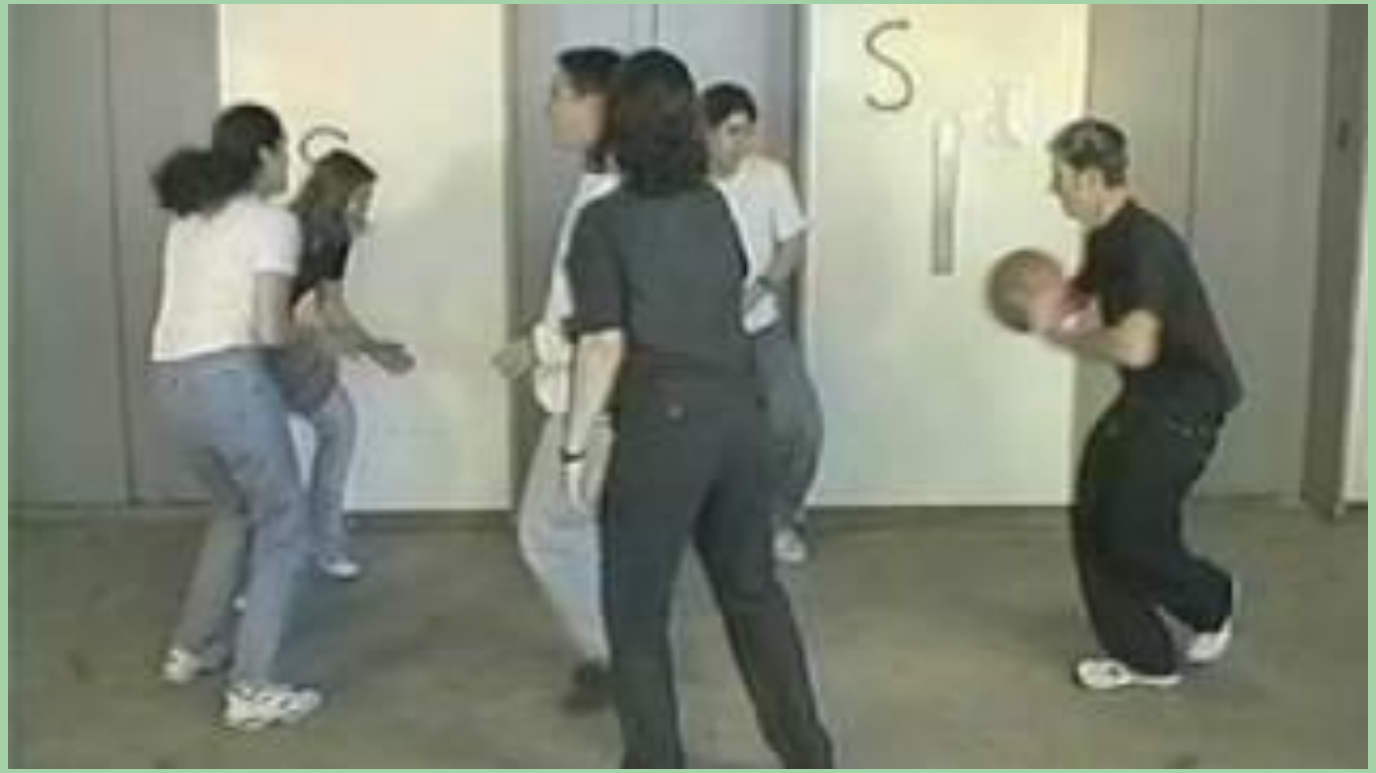
Paying Attention



Challenge Time!

- Watch the video.
- You must count how many times the players wearing white shirts pass the basketball to one another.

Spot the Differences



Share out!

- *How many passes did you count?*
- The answer is 15.
- *But did you see the gorilla?*

Use Your Attention Wisely

- Attention is a limited resource.
- When you divide your attention, your brain can struggle to know where to direct its focus, especially if the tasks are unrelated.

Use Your Attention Wisely

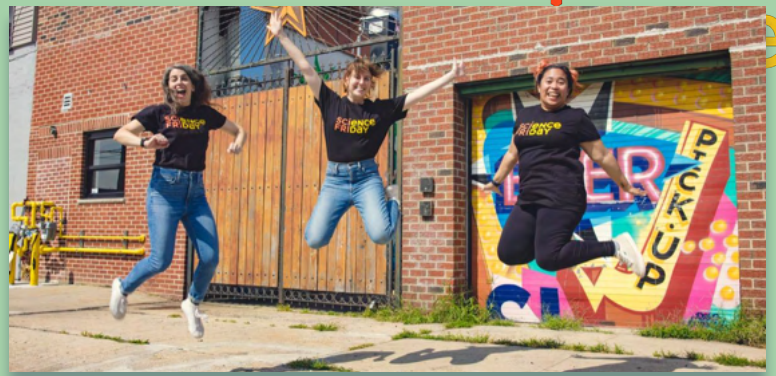
- Here are a few things you can do to strengthen your focus.
  - Mindful sitting: Choose to sit in that position can tell your mind to be alert.
  - Mindful breathing: Breathe in and out slowly, paying attention to how the breath moves through your body.
  - Mindful listening: Focus on the first sound you hear and listen until you can’t hear it anymore.

Brain Builder

- Search for the neuron symbol in previous puzzles.
- Record its location and the number associated.
- Once you have discovered all four numbers, use the image clues above to figure out the order for the final code.

SCIENCE FRIDAY

A 501(c)3 non-profit



"Increasing the public's access to science and scientific information."

Public radio, digital video, lessons and activities, online journalism, live events, citizen science.

www.sciencefriday.com