



Foundational Class Pre-Assessment Quiz (Ages 14-18)

This quiz is designed to challenge how much you know about health. There are no grades—just an opportunity to discover what you know and what might surprise you.

1. Which of these can be signs of dehydration—even before you feel thirsty?

- Headaches
- Trouble focusing in class
- Irritability or bad mood
- Dry lips
- All of the above

Answer: ✓ All of the above — Dehydration affects your body and brain long before thirst kicks in.

2. Which system in your body helps you both respond to danger AND properly digest your food?

- The immune system
- The muscular system
- The nervous system ✓
- The skeletal system

Answer: ✓ The nervous system controls both the fight-or-flight (danger) and rest-and-digest (calm, digestion) responses.

3. True or False:

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The food you eat can change how your genes behave—without changing your DNA sequence.

- True ✓
- False

Answer: ✓ True — Your choices, like food and lifestyle, influence gene expression through epigenetics.

4. Which situation is most likely to weaken your immune system over time?

- Exercising daily, even when tired
- Feeling constant pressure and anxiety, even if you eat well ✓
- Taking vitamins but eating mostly junk food
- Getting minor colds that your body fights off

Answer: ✓ Chronic, unmanaged stress suppresses immune function, even with other healthy habits.

5. Your brain uses about how much of your body's total energy?

- 5%
- 10%
- 20% ✓
- 50%

Answer: ✓ The brain burns approximately 20% of your energy, even while you're resting.

6. How does not getting enough sleep contribute to weight gain and muscle loss?

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- Sleep doesn't affect your weight or muscles—only diet and exercise matter
- Lack of sleep increases hunger hormones and slows muscle repair ✓
- When you're tired, your body burns extra calories to stay awake
- Losing sleep makes your muscles grow faster because your body works harder

Answer: ✓ Sleep deprivation disrupts hormones, increases cravings, and impairs muscle recovery, making it harder to stay lean and strong.

7. What is a scientifically proven effect of losing sleep, even for just one night?

- Your body burns more fat while resting
- You become more resistant to illness
- Your hunger hormones increase, making you crave unhealthy food ✓
- You make better decisions and react faster

Answer: ✓ Sleep loss increases cravings for unhealthy foods by disrupting appetite-regulating hormones.

8. Deep, slow breathing activates which powerful system in your body?

- Your fight-or-flight response
- Your muscles to burn more calories
- Your parasympathetic nervous system ✓
- Your digestive system to shut down

Answer: ✓ Slow breathing engages the parasympathetic nervous system, lowering stress and promoting digestion.



9. Scientists call the gut your 'second brain' because:

- It stores memories
- It produces mood-regulating chemicals like serotonin ✓
- It controls how you think
- It's where most thoughts happen

Answer: ✓ Your gut produces neurotransmitters, including serotonin, which influence mood and brain function.

10. How does physical exercise improve your brain performance, according to research?

- It only strengthens your muscles, not your brain
- It increases blood flow, oxygen, and brain chemicals that help with focus and memory ✓
- It makes you feel more tired, which reduces distractions
- It boosts endorphins, which relax your brain so you fidget less and think less ✓*

Answer:

✓ The correct answer is the second option — exercise increases oxygen, blood flow, and brain chemicals like BDNF that sharpen memory and focus.

The fourth option is misleading: while exercise does increase endorphins, their primary role is mood improvement, not "relaxing the brain so you fidget less and think less." In fact, exercise enhances cognitive performance, not reduces it.

11. When is the most effective time to exercise if you want to boost your brain for school?

- Right before bed
- After sitting still for hours

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- First thing in the morning, before class ✓
- It doesn't matter—exercise doesn't affect your brain

Answer: ✓ Research shows that exercising first thing in the morning boosts brain chemicals that improve focus, learning, and memory throughout the day.

12. Which of these unexpected benefits of exercise is supported by science?

- It helps your brain grow new cells and connections ✓
- It only helps your muscles grow, not your brain
- It permanently increases your IQ by 50 points
- It weakens your ability to concentrate because you're tired

Answer: ✓ Exercise promotes neurogenesis—your brain grows new cells and builds stronger connections, especially in areas tied to learning and memory.

13. Does the exercise you do when you're young affect your future as an adult? If so, how?

- Some benefits may temporarily improve your health, but most measurable effects diminish within about 5 years unless activity is maintained consistently
 - Physical activity in youth contributes to structural changes in the body—such as increased bone density and neural connections—that can influence health decades later ✓
 - Early exercise primarily alters appearance and athletic performance, but biological systems naturally reset over time
 - Exercise improves cardiovascular endurance in youth, but its influence on brain development or long-term health has not been scientifically established
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Correct Answer: ✓ Exercise during childhood and adolescence can create lasting structural changes in the body, such as stronger bones, increased brain connections, and improved metabolic function—benefits that extend well beyond the period of active training.