

Select Readings, Second Edition
Upper-Intermediate, TOEFL®iBT-Style Midterm

Read the passage and answer the questions that follow.

Boosting Brain Power

The human brain is surprisingly **malleable**. The adult brain has an amazing ability to change and remold itself, even to the point of growing new cells. Our behavior and environment can have a staggering effect on the functions of our brains. For example, it has been observed that surgeons who spend at least a few hours a week playing video games tend to make nearly one-third fewer errors in the operating room than non-gaming doctors do. In fact, research shows that video games can improve mental skills, while boosting¹ hand-eye coordination, depth perception, and pattern recognition. Attention spans and information-processing skills are far higher in regular gamers than the normal guy on the street.

Pundits² suggest that there are six basic factors that can contribute to good mental function. The following habits can help us all fine-tune our minds.

1. Exercise

The mood-boosting effects of exercise have been widely known for many years. However, recent studies also show that exercise can significantly increase the brain's executive functions—things such as planning, organizing, and multi-tasking. In addition, people who exercise retain better executive functions and seem less likely to get dementia³ as they age.

2. Diet

Your brain is part of your body. So it only makes sense that your body requires a good diet to function at **optimum** levels. So just what should we feed our brains? And more importantly, what should we avoid? As with our bodies, it seems that the brain does not cope well with saturated fats. However, not all fat is bad. In particular, the omega-3 fatty acids found in fish, nuts, and seeds seem to be vital to a brain's well-being. In addition, fruits and vegetables appear to be brain 'super foods.'

3. Caffeine

Caffeine is the most commonly used stimulant in the world. Stimulants are substances that give the nervous system a 'kick-start' by increasing heart rate, blood pressure, energy, breathing, and more. Don't overdo it. In high **doses**, caffeine causes some unwanted side effects. However, in moderate doses, caffeine boosts arousal⁴ and alertness, and may increase mental function in the long term.

¹ **boosting** improving

² **pundits** experts in the field

³ **dementia** a brain disorder, usually including chronic problems with mental processing

⁴ **arousal** a feeling of being awake or excited

4. Video Games

As mentioned before, the stimulation that comes with playing video games seems to increase mental dexterity and improve visual perception skills. However, as with caffeine, limit time spent on video games. Too much can have the opposite effect, and might just turn you into a social outcast.

5. Music

It seems that when we hear a piece of music that appeals to our senses, our brain's reward centers are activated, and fear and negative emotions are reduced. Reduced stress and anxiety, lower blood pressure, and a slowing in the progression of age-related dementia are all associated with listening to music. There is still no agreement as to whether music actually makes you smarter, but it certainly appears that **it** can't hurt.

6. Relaxation

If you believe what you read, then believe this: Meditation—taking time to turn your mind inward and contemplate—and relaxation can reward us with tremendous benefits to both our minds and our bodies. Brain-imaging machines show that people who meditate actually show changes in the brain. Regular meditators say they feel more at ease and creative, in addition to experiencing less anxiety, pain, high blood pressure, asthma, insomnia, depression, and a vast **array** of other disorders than non-meditators.

Following these simple tips may not turn you into a genius, but they may make you perform better and live a longer and happier life.

1. The word **malleable** in the passage is closest in meaning to
 - complicated
 - puzzled
 - confused
 - suggestible
2. According to the story, behavior and environment
 - are being studied by surgeons.
 - are different in people who play video games regularly.
 - are responsible for growing new cells in the brain.
 - play a significant role in how the brain functions.
3. Which of the following is true about studies on exercise and the brain?
 - People who exercise often are less likely to develop dementia.
 - The effect of exercise on executive functions has been long known.
 - Multi-tasking can boost a person's mood when exercising.
 - Exercise has less effect on executive functions as people age.

4. The word **optimum** in the passage is closest in meaning to
- modest
 - ideal
 - unusual
 - unfamiliar
5. Which of the following can be inferred from paragraph 4?
- Eating unhealthy food can have a negative effect on the brain's functions.
 - Eating fats has a bad effect on the brain's ability to function properly.
 - Vegetarians have higher-functioning brains than meat-eaters.
 - The brain should have a special diet, unlike the rest of the body.
6. The following statements are true about the effect of caffeine on the brain EXCEPT
- even moderate doses have serious side effects.
 - it can help brain functions in the long term.
 - it is used as a stimulant all over the world.
 - taking in too much can decrease your blood pressure.
7. The word **doses** in the passage is closest in meaning to
- amounts
 - pieces
 - locations
 - opinions
8. Each of the following things is true about playing video games EXCEPT
- they can increase attention spans.
 - time spent playing them should be limited.
 - they can improve pattern recognition.
 - their effects are the same as caffeine's.
9. Which of the following can be inferred from paragraph 7?
- Listening to music makes people smarter.
 - The brain's reward centers are not activated except when listening to music.
 - Only slow music has positive effects on the brain's functions.
 - Listening to unappealing music may not decrease anxiety.
10. In paragraph 7, **it** refers to
- agreement
 - music
 - reductions

- dementia
11. Which of the following can be inferred from paragraph 8?
- Meditators tend not to drink anything with caffeine.
 - Non-meditators are much more likely to get dementia than meditators.
 - The effects of meditation on the brain can be viewed physically.
 - Meditators are measurably smarter than non-meditators.
12. The word **array** in the passage is closest in meaning to
- distance
 - knowledge
 - range
 - apparel
13. The author's purpose in writing this article is primarily to
- talk about the latest trends in brain research.
 - discuss why dementia is increasing among older people.
 - give information about simple techniques that can improve brain power.
 - indicate common practices among geniuses.
14. Look at the four squares (labeled A–D) that indicate where the following sentence could be added to the paragraph.

These can often be found in deep-fried food, fast food, and red meats.

Your brain is part of your body. [A]□ So it only makes sense that your body requires a good diet to function at optimum levels. So just what should we feed our brains? [B]□ And more importantly, what should we avoid? As with our bodies, it seems that the brain does not cope well with saturated fats. [C]□ However, not all fat is bad. In particular, the omega-3 fatty acids found in fish, nuts, and seeds seem to be vital to a brain's well-being. [D]□ In addition, fruits and vegetables appear to be brain 'super foods.'

Where would the sentence best fit?

- Position [A]
- Position [B]
- Position [C]
- Position [D]

15. **Directions:** An introductory sentence for a short summary of the reading passage is provided below. Choose the THREE sentences that contain the most important ideas in the passage. Some sentences do not belong in the summary because they give information that is not in the passage, or are only minor ideas in the passage.

Recent studies show that there are many day-to-day things that we can do to boost brain functions.

Answer Choices:

1. Like caffeine, playing too many video games can have negative effects on brain function.
2. The brain is part of the body, and as such, a proper diet and regular exercise can have a tremendous effect on its functions.
3. Both music and relaxation can play a key role in increasing brain function as well, by lowering anxiety and stress.
4. Saturated fats can have a negative effect on brain functions, but omega-3 fatty acids are actually good for the brain.
5. Recent studies have shown that the effects of meditation on the brain can be observed in brain-imaging scans.
6. Other things like caffeine and video games can provide stimulation that can boost mental functions.