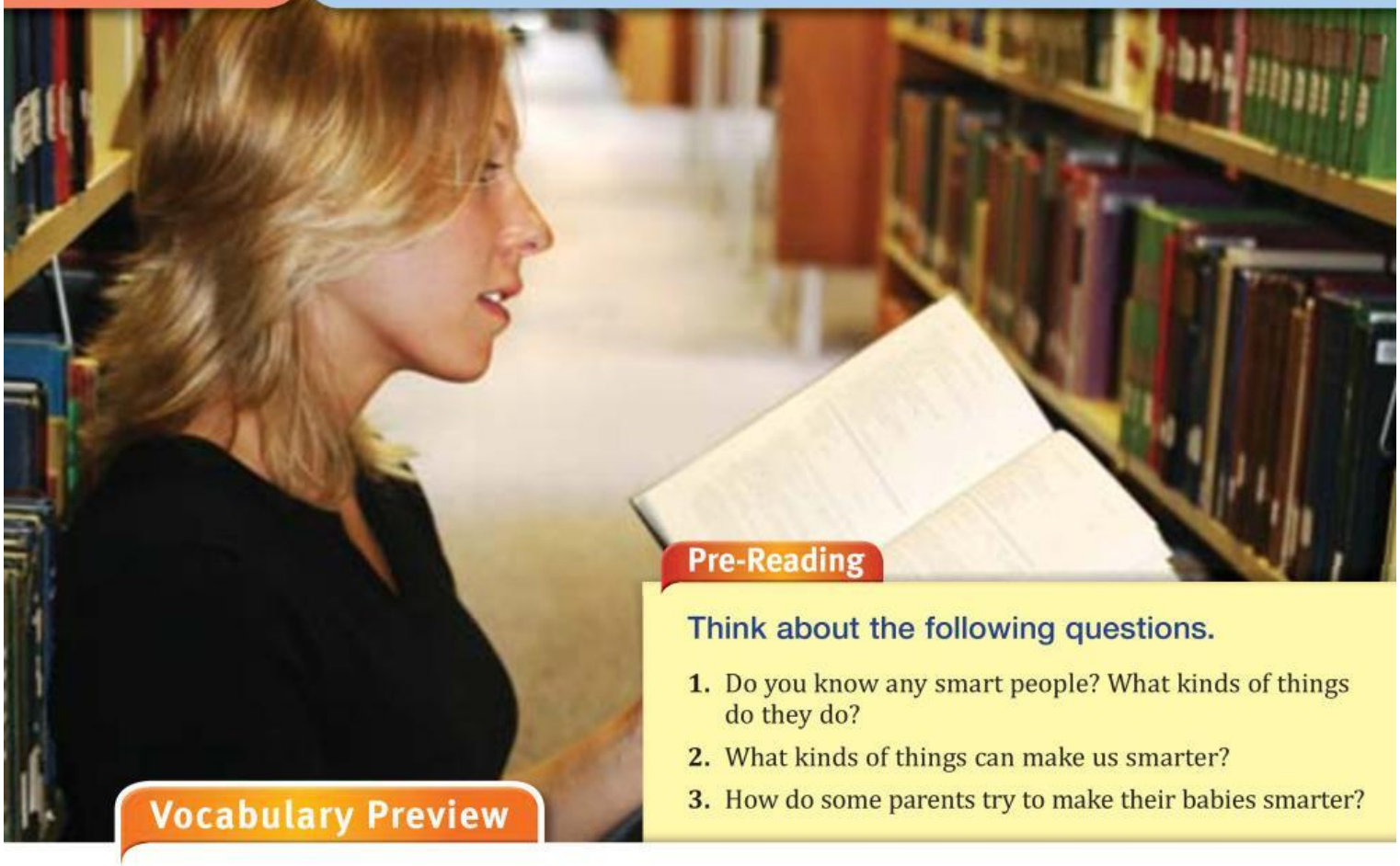
5 Smart Exercise



Pre-Reading

Think about the following questions.

1. Do you know any smart people? What kinds of things do they do?
2. What kinds of things can make us smarter?
3. How do some parents try to make their babies smarter?

Vocabulary Preview

Write the letter of the word or phrase with the same meaning as the underlined word or phrase.

a. connect; link	d. become wider or more accessible
b. related to the body and exercise	e. movement
c. actually; in fact	f. recent past; a time not long ago

1. ___ She is <u>literally</u> the best student in school.
2. ___ I hate sports, but I still have to take a <u>physical</u> education class in school.
3. ___ Your <u>short-term</u> memory can get worse with age.
4. ___ <u>Motion</u> of our bodies can improve how well we think.
5. ___ Some researchers <u>associate</u> exercise with brain development.
6. ___ Exercise causes blood vessels to <u>open up</u> so blood flows more easily.

LIVEWORKSHEETS

Smart Exercise

Track 9

Are you preparing for a big test? If so, you may want to go play some basketball in between hitting the books. Based on information they have collected over the years, researchers have seen an apparent connection between exercise and brain development. Judy Cameron, a researcher at Oregon Health and Science University, studies brain development. According to her research, it seems that exercise can make **blood vessels**, including those in the brain, stronger and more fully developed. Cameron claims this allows people who exercise to concentrate better. She says, "While we already know that exercise is good for the heart, exercise can literally cause physical changes in the brain."

The effects of exercise on brain development can even be seen in babies. Babies who do things that require a lot of movement and physical activity show greater brain development than babies who are less physically active. With babies, even a little movement can show big results. Margaret Barnes, a pediatrician, believes in the importance of exercise. She thinks that many learning **disabilities** children have in elementary school or high school can be traced back to a lack of movement as babies. "Babies need movement that stimulates their five senses," says Barnes. "They need to establish a connection between motion and memory. In this way, as they get older, children will begin to associate physical activity with higher learning."

The benefits of exercise on the brain are not just for babies. Older people can beef up their brains by working out as well. Researchers at Cornell University studied a group of **seniors** ranging in age from seventy to seventy-nine. Their study showed a short-term memory increase of up to forty percent after exercising just three hours a week. The exercise does not have to be very difficult, but it does have to increase the **heart rate**. Also, just like the motion for infants, exercise for older people should involve some complexity. Learning some new skills or motions, such as with yoga or **tai-chi**, helps open up memory paths in the brain that may not have been used for a long time.



For most people, any type of physical activity that increases the heart rate is helpful. The main goal is to increase the brain's flow of blood. Your brain can benefit from as little as two to three hours of exercise a week.

Reading Time _____ minutes _____ seconds 399 words

6 *blood vessel*: a thin tube in the body that carries blood

14 *disability*: a physical or mental problem due to irregular development

21 *senior*: a person over sixty-five years of age

24 *heart rate*: the speed of the heartbeat

27 *tai-chi*: a martial art with powerful, slow movements

LIVEWORKSHEETS

Reading Comprehension

Choose the best answer.

1. What is the main idea of this reading?

a. How to exercise
b. How exercise helps the brain
c. How to get good scores on a test
d. How the brain can change

2. According to the reading, what is the connection between exercise and brain development?

a. Exercise makes us less intelligent.
b. The brain needs special mental exercise.
c. The more exercise, the bigger the brain.
d. Physical exercise helps us think better.

3. The minimum amount of exercise required to gain any benefit is _____.

a. Three hours per week
b. Forty hours per week
c. Three hours per day
d. Forty hours per month

4. Why is yoga recommended for seniors?

a. It is easy on joints.
b. It does not increase the heart rate.
c. It can be done in groups.
d. It includes learning new motions.

5. What type of patient does a pediatrician probably treat?

a. Poor people
b. Children
c. Animals
d. Old people

Idiomatic Expressions

Find these idioms in the reading.

- **hit the books** [to study hard]
  I have a big test tomorrow. I need to hit the books tonight.
- **be traced back to** [to be connected to; to be as a result of; originated from]
  Your back problem can be traced back to that car accident you were in last year.
- **beef up** [to strengthen; to improve]
  I added more memory and a faster hard drive to beef up my computer.

Fill in the blank with one of the above idioms. Change its form if necessary.

1. Your grades are too low! You had better _____!
2. All that regular exercise really _____ his body.
3. His excellence in school can _____ his love of reading.

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Summary

Scan the passage and complete the chart with the correct information.

Who?	What?	Result?
• Everyone	• Exercise • More fully 1 _____ blood vessels	• 2 _____ development • 3 _____ better
• 4 _____	• Movement + 5 _____ activities	• Better brain development
• Older people	• Exercise for 6 _____ hours that increases 7 _____ • Learning new 8 _____ (yoga, tai-chi)	• 40 percent increase in 9 _____ memory • Opens up memory 10 _____



Listening

Worth a Try?

Track 10 Listen to the dialog and complete each sentence.

1. The woman suggests that he _____.
2. She says doing _____ can re-activate old memory pathways.
3. She also suggests that waking up to different smells each day may increase _____ _____ and _____.

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Discussion

Discuss the following questions.

1. Do you think that exercise affects brain development? Why or why not?
2. Which sports or exercise activities do you think require the most intelligence? Why?
3. What is your favorite sport or exercise? Why?

Grammar

Prepositions + *-ing*

The *-ing* form should be used when the verb follows a preposition.

Older people can beef up their brains by (working out / work out) as well.
Their study showed a short-term memory increase of up to forty percent after (exercising / to exercise) just three hours a week.

Writing

Write your own short paragraph by answering the questions below.

My Favorite Exercise

(1) What is your favorite exercise or sport? **(2)** How often do you do it? **(3)** How long do you do this exercise or sport each time? **(4)** Where do you do it? **(5)** Who do you do it with?

Example

Walking is my favorite exercise. I walk every day. Each day, I walk for at least twenty minutes. I walk to and from school. Usually, I walk alone, but sometimes my friend walks with me.

LIVEWORKSHEETS

Vocabulary and Idiom Review

A. Choose the best word or phrase to fill in the blank.

1. The actor's last movie _____ his best work.

a. was far from b. was fun to c. was traced back d. was wiped out

2. The committee suggested a _____ plan to deal with the problem, but the plan won't solve things completely.

a. physical b. little c. short-term d. higher

3. The process is more complicated than I had _____ thought.

a. initially b. literally c. permanently d. physically

4. In the next chapter, we will learn about the _____ of the moon around the Earth.

a. dilemma b. goal c. mass d. motion

5. The survey results showed that _____ who drive have relatively few accidents.

a. abilities b. babies c. rhythms d. seniors

6. The company installed a firewall to _____ its computer security.

a. beef up b. open up c. put up with d. turn up

7. The city's crime _____ has dropped five percent over the last year.

a. goal b. pressure c. rate d. therapy

B. Choose the correct form of the word to fill in the blank.

8. Neutral colors like brown and gray are often _____ with casual clothes.

a. association b. associated c. associative

9. Being more _____ active is one of the best things you can do for yourself.

a. physique b. physical c. physically

10. She was so angry that her hands were _____ shaking with rage.

a. literalist b. literal c. literally

LIVEWORKSHEETS