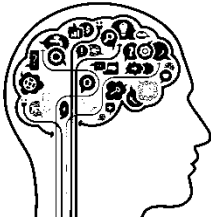


Exercise 3

Read the following article about brain games, and then complete the notes on the opposite page



CAN BRAIN GAMES KEEP MY MIND YOUNG?

It's easy to keep your ageing brain as nimble as it was in college. Log on to a website full of brain games or download the right apps, and within 20 minutes you'll be doing your part to sharpen your memory and slow the inexorable decline of your mental functions. At least that's what the companies behind this booming industry would have you believe. But is it true?

Concrete proof about the benefits of brain games is hard to come by, experts say, when it comes to measurably improving aspects of mental fitness, like having a good memory or sound reasoning. "People would really love to believe you could do something like this and make your brain better, make your mind better," says Randall W. Engle, the primary investigator at the Attention and Working Memory Lab at the Georgia Institute of Technology. "There's just no solid evidence."

That's not to say brain games are without benefit. Experts say these kinds of mental exercises can change your brain—just not in a way that necessarily slows its ageing. The brain changes with just about everything you do, including mental training exercises. But, worryingly, numerous studies have shown that brain games lack what researchers call "transfer." In other words, repeating a game over and over again teaches you how to play the game and get better at it but not necessarily much else.

"It's like, you walk through fresh snow, you leave a trace. If you walk the same route again, the trace gets deeper and deeper," says Ursula Staudinger, director of the Butler Columbia Ageing Center at Columbia University. "The fact that structural changes occur [in the brain] does not imply that in general this brain has become more capable. It has become more capable of doing exactly the tasks it was practicing."

Brain-game designers, not surprisingly, disagree. Michael Scanlon, chief scientific officer at Lumosity, a large brain-game company, cites a 2007 study he led as support for his company's getting into the brain-game business in the first place. "Our basic intention was to release a product that helps people improve cognitive abilities," he says. Scanlon says the research, which Lumosity funded and conducted, found that online-based brain training can improve thinking. The small study of 23 people is one of several studies Lumosity has performed, though most have not been peer-reviewed.

As the brain-game industry has grown—revenue topped \$1 billion in 2012 and is projected to hit \$6 billion by 2020, according to a report from neuroscience market-research firm Sharp Brains—so has the criticism. More than 70 prominent brain scientists and psychologists signed a withering statement on the subject last year. The open letter, organized by the Stanford Center on Longevity and covered by media outlets across the world, argued that claims on behalf of brain games about improved cognition were "frequently exaggerated and at times misleading." The scientists also laid out criteria that the games would have to meet to convince them of their merit. It's a tough list.

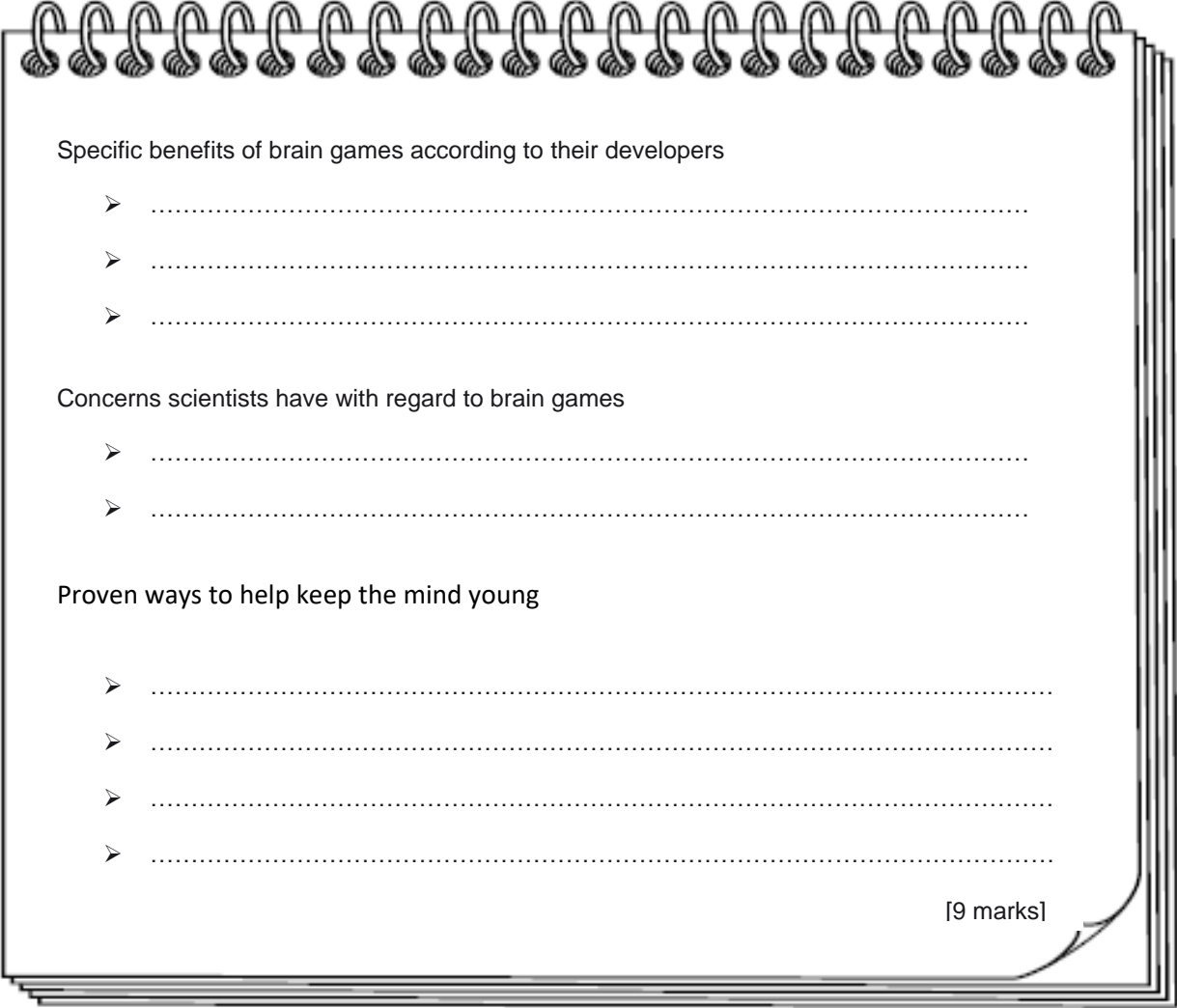
Still, Staudinger allows that brain games do have the benefit of being fun—which may make them a worthwhile way for people of any age to spend time. There's no question that many consumers have become devoted to them. Lumosity, which offers some games free and a premium membership at a cost, says it reached 50 million members in 2013.

The issue most scientists have with people playing the games frequently is the opportunity cost: you could be doing something else that actually would improve your cognitive ability. Most researchers agree that the activity most clearly proven to slow ageing in the brain is aerobic exercise. Other factors that sound scientific research has shown to help an ageing brain include healthy dietary choices, regular meditation and learning new things.

As brain games evolve and new, impartial research emerges, it's possible that the scientific consensus about their impact on the brain will change. But Engle doesn't think it's likely. "I need fairly substantial evidence that it's not kind of a gimmick," he says. "I'm a scientist."

You are going to give a talk about brain games to your science club. Prepare some notes to use as the basis for your talk.

Make your notes under each heading.



Specific benefits of brain games according to their developers

-
-
-

Concerns scientists have with regard to brain games

-
-

Proven ways to help keep the mind young

-
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[9 marks]

Key

Specific benefits of brain games according to their developers

- ***sharpen your memory***
- ***slow decline of your mental functions***
- ***improve thinking***

Concerns scientists have with regard to brain games

- ***lack “transfer”***
- ***opportunity cost / you could be doing something else that actually would improve your cognitive ability***
- ***no solid evidence of their benefits***
- ***claims brain games improve cognition are exaggerated and misleading.***

Proven ways to help keep the mind young

- ***aerobic exercise.***
- ***healthy dietary choices,***
- ***regular meditation***
- ***learning new things***