

## READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.

### The power of music

- A** Robert Matthews looks at research into the effects of music. Music is becoming ever more popular electronically. To meet our craving for music, internet sites are using increasingly sophisticated ways of putting us in touch with artists we may not even know we like. Most work by trawling our existing files or online listening habits and looking for patterns so they can recommend new artists for their subscribers to listen to. The search often turns up surprises. But is it possible to tease apart our likes and dislikes to identify precisely what it is about some music that thrills us or leaves us cold?
- B** For centuries composers have sought to create unforgettable music using accepted notions about the emotional appeal of certain combinations of sounds, yet only now are scientists starting to uncover what it is about these combinations that can have such a dramatic effect on our minds. Given that archaeologists have found musical instruments played by Neanderthals at least 50,000 years ago, why have scientists taken so long to investigate such a source of pleasure?
- C** 'For psychologists, who are always desperate to show that their work is rigorous, there's an image problem in tackling the emotionality of music,' says Professor Norman Cook of Kansai University in Osaka, Japan, one of the pioneers of the new science of music. 'Emotion is such a slippery topic.' The other problem, says Cook, is the long-standing principle among psychologists that our response to music is an acquired one, rather than something that is stimulated by the effect of sound on our brain cells. Yet one of the first insights to emerge from this new branch of psychology is that music affects our brains at a very basic level.
- D** Together with his colleague, Professor Takefumi Hayashi, Cook has been investigating one of the best-known examples of the emotional impact of music: the difference between major and minor chords. For centuries, composers have known that notes arranged to form major chords sound happy and upbeat, while those in minor chords sound mournful. In tests, even three-year-olds have been shown to link music in a major mode to happy faces and minor modes to sad faces.
- E** According to Cook, analysis of how people respond to notes suggests a link with how our brains interpret certain sounds in everyday life. He points out that sad-sounding minor chords can be formed by raising the pitch of any of a set of notes, while dropping the pitch produces a major chord. The same change in pitch works as an emotional telltale in communication between some mammals, where rising pitch is used to

communicate weakness or defeat, while falling pitch signals social dominance. It's also present in our speech. 'A rising inflection is used to denote questions, politeness or deference, whereas a falling inflection signals dominance,' says Cook.

- F** This suggests that music in major and minor modes taps into some very basic features of how we relate to the world and each other – perhaps dating back millions of years. Could music in general be doing something similar? Quite possibly, according to research into how music triggers certain types of brain activity. At McGill University in Canada, Professor Robert Zatorre and his colleagues have carried out studies in which volunteers listen to different types of music while their brain activity is monitored. The biggest surprise was the evidence that pleasurable music activates brain circuitry which has been in existence in the human brain for thousands of years, says Zatorre. 'We share it with rats and other distant relatives on the evolutionary tree – and it's typically associated with biological rewards, like food, for example.'
- G** At the University of Oxford, Dr Joyce Chen has been looking into another celebrated feature of music – the irresistibility of rhythm. Her interest was sparked by studies involving patients with movement difficulties. If music that had a strong rhythm – say, a marching band – was played to these patients, they were able to improve their walking ability, says Chen. In an attempt to find out why the simple act of listening to music might help disabled patients, Dr Chen and colleagues from the International Laboratory for Brain, Music and Sound Research in Montreal carried out brain scans on volunteers who were listening to rhythmic sounds. The criteria for selecting these volunteers were that they should be in first-rate physical health but musically untrained. The results have been another revelation. Chen and her colleagues found the rhythms triggered activity in parts of the brain linked to hearing, but something even more surprising was that the rhythms also triggered activity in the motor regions of the brain, linked to active movement.
- H** 'Somehow, the mere act of just listening triggers motor-neural activity. Maybe this is one reason why we often tap our feet, move or dance when hearing music,' says Chen. She believes the discovery of this deep connection between music and movement may cast light on why disabled patients can benefit from listening to music – and could also prove useful with other impairments such as those involved in sound production. 'It's been shown that people who talk with a stutter might have problems in this auditory-motor loop.'
- I** For researchers working in this new area of science, these early discoveries hold the promise of much more to come. Zatorre and his colleagues are investigating whether some people have more musical brains than others. 'We can see certain subtle brain features that can tell us how well somebody can do things like identify a slight change in a melody,' explains Zatorre. 'This ability could be enhanced by training – just like someone born with a predisposition to building strong muscles can enhance them by taking up weightlifting.'

Questions 14-18

Reading Passage 2 has nine paragraphs, **A-I**.

Which paragraph contains the following information?

Write the correct letter, **A-I**, in boxes 14-18 on your answer sheet.

- 14** a reference to studies involving children
- 15** a mention of the discovery of significant artefacts
- 16** reasons why a particular aspect of music has not been researched
- 17** a mention of an unexpected discovery involving two different areas of the brain
- 18** a comparison of tone variations produced by certain animals and humans

Questions 19-22

Complete the summary below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 19-22 on your answer sheet.

A study involving collaboration between researchers in Oxford and Montreal. The participants in this study led by Dr Chen were chosen because they were not musicians, and they demonstrated a good state of **19** \_\_\_\_\_. The participants were given **20** \_\_\_\_\_ while music with a very noticeable rhythm was being played. Previous research had indicated that listening to this type of music seemed to be of assistance to some **21** \_\_\_\_\_ people. By listening to it, their **22** \_\_\_\_\_ ability had definitely got better. The findings of Dr Chen's study proved most informative.

## Questions 23-26

Look at the following statements (Questions 23-26) and the list of researchers below.

Match each statement with the correct researcher, **A**, **B** or **C**.

Write the correct letter, **A**, **B** or **C**, in boxes 23-26 on your answer sheet.

**NB** You may use any letter more than once.

- 23** Research into the brain activity set off by music may help people with speech defects.
- 24** It may be possible in time to improve a person's ability to recognise certain musical characteristics.
- 25** The way listeners react to certain musical combinations may be similar to the way they react to other noises.
- 26** When a person reacts positively to music, the same parts of the brain are stimulated as when certain animals react to a positive outcome.

### List of researchers

- A** Professor Norman Cook  
**B** Professor Robert Zatorre  
**C** Dr Joyce Chen

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一、段落信息配对 Q14–18

题号	答案	题干中文翻译	精准定位句 (原文)	定位句翻译	详细解释
14	D	提到涉及儿童研究的引用	<i>"In tests, even <b>three-year-olds</b> have been shown to link music in a major mode to happy faces and minor modes to sad faces."</i> (Para D)	“在测试中，甚至三岁的孩子也被证明会把大调音乐和开心的脸联系在一起，把小调音乐和悲伤的脸联系在一起。”	题干问“reference to studies involving children (涉及儿童的研究)”。只有 D 段明确提到对“三岁儿童”的测试，因此 14 选 D。
15	B	提到重要文物发现	<i>"Given that archaeologists have found <b>musical instruments played by Neanderthals at least 50,000 years ago...</b>"</i> (Para B)	“鉴于考古学家发现了至少五万年前尼安德特人演奏过的乐器……”	题干里的“discovery of significant artefacts (重要文物的发现)”对应考古学家发现的尼安德特人乐器，这是典型的“artefacts”，所以选 B。
16	C	说明为什么音乐的某个方面一直缺乏研究的原因	<i>"For psychologists... there's an <b>image problem</b> in tackling the emotionality of music... 'Emotion is such a slippery topic.'</i> ... The other problem... is the long-standing principle... that our response to music is an acquired one..." (Para C)	“对心理学家来说……在处理音乐的情感性时存在一个形象问题……‘情绪是个很难把握的话题。’……另一个问题是……长期以来的原则认为，我们对音乐的反应是一种习得的东西……”	这一段列出了两个原因：①情绪主题“不严肃”“滑溜”；②传统观点认为对音乐的反应是习得的，所以不被当作生理层面的研究对象。这正是题干所说“为什么某个方面一直没被研究”的原因，因此 16 选 C。
17	G	提到一个涉及大脑两个不同区域的意外发现	<i>"The results have been another revelation. Chen and her colleagues found the rhythms <b>triggered activity in parts of the brain linked to hearing</b>, but something even more surprising was that the rhythms <b>also triggered activity in the motor regions of the brain...</b>"</i> (Para G)	“结果又是一项新的发现。陈和她的同事发现，这些节奏激活了与听觉相关的大脑区域，但更令人吃惊的是，这些节奏还激活了与运动相关的大脑区域……”	这里先说听觉区被激活，再说“更令人吃惊的是”运动区也被激活，正好是“涉及大脑两个不同区域的意外发现”，所以 17 选 G。
18	E	对比某些动物和人类产生的音调变化	<i>"The same change in pitch works as an emotional telltale in communication between <b>some mammals</b>, ... It's also present in our speech. 'A rising inflection... whereas a falling inflection...'"</i> (Para E)	“同样的音高变化在某些哺乳动物的交流中起到情感信号的作用……在人类的说话中也存在。‘上升的语调……而下降的语调……’”	该句把哺乳动物的音高变化和人类说话中的升降调放在一起比较，正好是“a comparison of tone variations produced by certain animals and humans”，因此 18 选 E。

二、摘要填空 Q19–22

A study involving collaboration between researchers in Oxford and Montreal. The participants in this study led by Dr Chen were chosen because they were not musicians, and they demonstrated a good state of 19 ..... The participants were given 20 ..... while music with a very noticeable rhythm was being played. Previous research had indicated that listening to this type of music seemed to be of assistance to some 21 ..... people. By listening to it, their 22 ..... ability had definitely got better.					
题号	答案	题干中文翻译	精准定位句 (原文)	定位句翻译	详细解释
19	physical health	他们表现出良好的 19 _____ 状态	<i>"The criteria for selecting these volunteers were that they should be in <b>first-rate physical health</b> but musically untrained."</i> (Para G)	“筛选这些志愿者的标准是：他们必须 <b>身体健康</b> 一流，但没有受过音乐训练。”	空格前有“a good state of ...”，需要一个健康状态的名词短语。原文是“first-rate physical health”，符合“good state of physical health”。不超过两词，因此答案写 <b>physical health</b> 。
20	brain scans	参与者在播放节奏很明显的音乐时被给予 20 _____	<i>"...Dr Chen and colleagues... <b>carried out brain scans on volunteers who were listening to rhythmic sounds.</b>"</i> (Para G)	“陈博士和同事……在志愿者听有节奏的声音时为 <b>他们做脑部扫描。</b> ”	这里描述合作研究的具体做法：在听节奏音乐时对志愿者做“brain scans”，与摘要中“were given 20 ... while music... was being played”完全对应，所以 20 选 <b>brain scans</b> 。
21	disabled	先前研究表明，这种音乐似乎对某些 21 _____ 人有帮助	<i>"Her interest was sparked by studies involving <b>patients with movement difficulties...</b> they were able to improve their walking ability..."</i> (Para G) ; <i>"...may cast light on why <b>disabled patients</b> can benefit from listening to music..."</i> (Para H)	“她的兴趣源于一些涉及行动不便患者的研究……他们能够提高行走能力……”；“这项发现也许可以解释为什么 <b>残疾患者</b> 听音乐会受益……”	摘要中的“this type of music”指前文所说 <b>强节奏音乐</b> 。相关旧研究提到这种音乐帮助的是“patients with movement difficulties / disabled patients”。空后已有单词“people”，因此只需填一个形容词 <b>disabled</b> ，构成“disabled people”，与文中“disabled patients”意义相同，且用词来自原文。
22	walking	通过聆听这种音乐，他们的 22 _____ 能力确实提升了	<i>"If music that had a strong rhythm... was played to these patients, they were able to <b>improve their walking ability</b>, says Chen."</i> (Para G)	“如果给这些病人播放节奏很强的音乐……他们就 <b>能提高自己的行走能力。</b> ”	摘要中提到“their ... ability had definitely got better”，与原文“improve their walking ability”直接对应，因此答案是 <b>walking</b> 。

三、研究者配对 Q23–26

研究者表：

- A Professor Norman Cook  
B Professor Robert Zatorre  
C Dr Joyce Chen

题号	答案	题干中文翻译	精准定位句（原文）	定位句翻译	详细解释
23	C	由音乐引发的大脑活动研究可能帮助有语言缺陷的人	<i>“She believes the discovery... may cast light on why disabled patients can benefit from listening to music – and could also prove useful with other impairments such as those involved in sound production. ‘It’s been shown that people who talk with a stutter might have problems in this auditory-motor loop.’”</i> (Para H, Chen)	“她认为，这一发现也许可以解释为什么残障患者听音乐会受益——并且对其他障碍（例如与发声有关的障碍）也可能有用。‘已经有研究表明，说话口吃的人在这个听觉-运动环路上可能存在问题。’”	题干说“帮助有言语缺陷的人”，H 段明确提到“stutter（口吃）”这种言语障碍，并说这种发现可能对这类障碍有用，是 Chen 的研究，因此 23 选 C。
24	B	将来有可能提高一个人识别某些音乐特征的能力	<i>“Zatorre and his colleagues are investigating whether some people have more musical brains than others. ‘We can see certain subtle brain features that can tell us how well somebody can do things like identify a slight change in a melody,’ explains Zatorre. ‘This ability could be enhanced by training...’”</i> (Para I)	“扎托尔和同事正在研究为什么有些人的大脑更“音乐化”。‘我们能看到一些细微的大脑特征，它们可以告诉我们某人识别旋律中细微变化的能力如何。’扎托尔解释说，‘这种能力可以通过训练得到增强……’”	这里说可以通过训练增强“识别旋律细微变化”的能力，即识别音乐特征的能力在未来可以提高，对应题干“may be possible in time to improve... ability to recognise certain musical characteristics”，所以 24 选 B。
25	A	听众对某些音乐组合的反应可能与他们对其他声音的反应类似	<i>“According to Cook, analysis of how people respond to notes suggests a link with how our brains interpret certain sounds in everyday life... The same change in pitch works as an emotional telltale in communication between some mammals... It’s also present in our speech.”</i> (Para E, Cook)	“根据库克的说法，人们对如何对音符作出反应的分析表明，这与我们大脑解读日常生活中某些声音的方式有关……同样的音高变化在一些哺乳动物的交流中作为情感信号发挥作用……在人类的语言中也存在。”	Cook 把大调、小调（音高变化）与哺乳动物交流、以及人类说话中的升降调联系起来，说明我们对这些音乐组合的反应跟对其他声音（动物叫声、说话声）的反应相似，因此 25 选 A。
26	B	当人们对音乐作出积极反应时，大脑中被激活的部分与某些动物对积极结果反应时激活的区域相同	<i>“...pleasurable music activates brain circuitry which has been in existence in the human brain for thousands of years, says Zatorre. ‘We share it with rats and other distant relatives on the evolutionary tree – and it’s typically associated with biological rewards, like food...’”</i> (Para F, Zatorre)	“扎托尔说，令人愉悦的音乐会激活大脑中的某些回路，这些回路在人体大脑中已经存在了数千年。‘我们和老鼠以及进化树上其他远亲共享这些回路——它们通常与食物等生物学奖励相关。’”	这里说“令人愉悦的音乐”激活的大脑回路，与老鼠获得食物等“奖励”时激活的回路是同一类，正是题干所说“同样的部分在动物获得积极结果时被激活”，因此 26 选 B。