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As their name suggests, Asian carp are not indigenous to the United States, yet these invasive fish have become the subject of a Supreme Court lawsuit. Introduced in the US in 1831, carp were originally intended for consumption although today they are not widely eaten. Populations have flourished in the Mississippi and Illinois Rivers since the 1970s, when it is thought that they escaped from Midwestern fish farms during heavy flooding. Carp consume only plankton, although vast amounts of it, and some species of Asian carp can grow to over one hundred pounds. Not only are the fish a hazard to recreational boaters, they also compete with native species for food and space. Environmentalists fear that carp will infiltrate the Great Lakes, via locks connecting the Mississippi to Lake Michigan, where they would damage the ecosystem. They also fear that by crowding out species such as salmon, Asian carp would also be detrimental to the Great Lakes' sports fishing industry. The US government currently spends \$80 million per annum on Asian carp control, using methods such as toxins and underwater electric barriers designed to repel carp. Evidence of carp in Lake Michigan however has led anticarp activists to call for stronger measures, such as blocking off the locks on the Chicago canal. Business interests strongly oppose the closure of this major shipping lane for economic reasons, also arguing that forcing canal traffic onto the roads will cause pollution.

**Q1** Anticarp activists have demanded more drastic measures of carp control in the US Supreme Court.

True                      False                      **Cannot say**

*Cannot say – while the first sentence mentions that carp are the subject of a Supreme Court lawsuit, it does not specify the exact nature of the debate.*

**Q2** Heavy flooding in the 1970s resulted in Asian carp proliferating in the Mississippi and Illinois Rivers.

True                      False                      **Cannot say**

*Cannot say – the third sentence says “it is thought”. This is not a proven fact.*

**Q3** Environmentalists believe that Asian carp would damage the Great Lakes' ecosystem by preying on native salmon.

True                      **False**                      Cannot say

*False – the fourth sentence states that carp “consume only plankton” so they would not prey on native salmon. Competing with the salmon's food supply is different to preying on them.*

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**Q4** Electric barriers are not a fully effective means of carp control.

True

False

**Cannot say**

*Cannot say –the passage tells us the US government use “electric barriers designed to repel carp” but it is impossible to say from the information given in the passage whether the carp evidence in Lake Michigan is due to the fish bypassing the electric barriers.*

**Q5** Anticarp activists are motivated by environmental concerns rather than business interests.

True

**False**

Cannot say

*False – the passage states that “They also fear that by crowding out species such as salmon, Asian carp would also be detrimental to the Great Lakes’ sports fishing industry”.*

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The most prevalent neurological condition in the developed world, migraine is characterised by severe, recurrent headaches, with additional symptoms including nausea and sensitivity to light and sound. The frequency and duration of migraine attacks are variable: attacks may occur a few times a year or several times per month, while pain may last between four hours and three days. Approximately one third of sufferers experience an aura - a perceptual disturbance occurring before the migraine's onset. There are numerous theories on the cause of migraines. The vascular theory posits that migraines are caused by problems with blood vessels in the brain. A more widely held view is that migraines result from low levels of the neurotransmitter serotonin in the brain. Prophylactic drug treatment, which prevents the onset of migraines, has declined in recent years, because of side effects and also improvements in medications treating an actual attack. Whereas older varieties of pain medication are potentially addictive, newer drugs called triptans work by reducing pain information travelling to the brain. Treatment plans typically include avoidance of known migraine triggers, such as diet, alcohol, and stress, as overuse of medication can lead to chronic "rebound headaches." Not only do migraines have a debilitating effect on sufferers, they are also bad for the economy, with an estimated 25 million days lost from work every year in the UK alone.

**Q6** One third of migraines are preceded by a heightened sensitivity to light.

True                      False                      **Cannot say**

*Cannot Say – the third sentence says that one third of migraines are preceded by an aura, which is not defined as a heightened sensitivity to light. However the passage does not tell us anything about a possible other third of sufferers who may or may not experience before their migraine a heightened sensitivity to light.*

**Q7** The passage states that it is not possible to work when suffering from a migraine.

True                      **False**                      Cannot say

*False – while the last sentence states that 25 million work days are lost due to migraines, it does not say that it is impossible to work.*

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**Q8** Although the cause of migraines is unknown, serotonin deficiency is the most commonly held theory.

True                      False                      **Cannot say**

*Cannot say – it is more widely held than the vascular theory, but the passage does not compare it to every theory. So we cannot say if it is the most commonly held theory.*

**Q9** Triptans are a new form of prophylactic drug which are less addictive than older medications.

True                      **False**                      Cannot say

*False – triptans are not prophylactic drugs; they reduce pain rather than prevent headaches. The passage tells us that prophylactic drugs prevent the onset of migraines as opposed to triptans which target the pain signals to the brain.*

**Q10** The vascular theory has been discredited.

True                      False                      **Cannot say**

*Cannot say – it is not the most widely held view, but it does not necessarily follow that it has been discredited.*

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Is free internet access as much a universal human right as access to clean water and healthcare? Many leading experts believe that the 80% of the world's population that is not connected to the web should have access to information through free low-bandwidth connection via mobile phones. The one fifth of the world connected to the internet, however, faces a very different problem: an insatiable appetite for bandwidth that outstrips availability. Bandwidth refers to the capacity to transfer data through a channel. Emails, for example, require less bandwidth than video. Information traffic jams result when too many users try to move information at the same time, exceeding the channel's capacity. The popularity of mobile web devices means demand for wireless channels is growing rapidly, but bandwidth supply is limited - resulting in high charges for use. With bandwidth controlled by a handful of private suppliers, bandwidth is the subject of government debate in many countries, including the United States. Bandwidth suppliers are in favour of introducing tiered pricing structures, whereby customers paying higher rates would receive faster service. Critics believe that a tiered system violates the principle of net neutrality - whereby all data is treated as equal - and would allow suppliers to profiteer from controlling a scarce resource. Suppliers argue that they are funding huge infrastructure updates - such as switching from copper wires to expensive fiberoptics - in order to improve services.

**Q11** The main argument in the passage is that internet users are not leaving enough bandwidth for 80% of the world's population.

True                      **False**                      Cannot say

*False – the passage raises two separate problems – lack of internet connection for 80% of the world and bandwidth shortage for internet users – but there is no causal relationship between the two problems.*

**Q12** Access to information via the internet is a basic human right.

True                      False                      **Cannot say**

*Cannot say – the first two sentences raise this question, but do not provide an objective answer.*

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**Q13** The growth of mobile net device use has contributed towards the pressure on bandwidth availability.

**True**                      False                      Cannot say

*True – as stated in the 7th sentence.*

**Q14** Proposed tiered pricing structures would charge users more for using mobile web devices.

True                      False                      **Cannot say**

*Cannot say – while the 7th sentence states that mobile web devices are subject to high charges, the tiered pricing structures described in the 9th sentence does not mention costs for mobile web devices, merely a cost associated with a faster service.*

**Q15** Proponents of net neutrality are against the prioritising of certain web traffic.

**True**                      False                      Cannot say

*True – as explained in the 9th and 10th sentences.*

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The Dead Sea Scrolls are probably the most significant archaeological discovery of the twentieth century. More than 800 ancient documents, written on papyrus and parchment, were found in 1947 in desert caves at Qumran, near the Dead Sea. The texts mainly date from between the last century BCE and the first century CE and are comprised of three types of document: copies of books from the Hebrew Bible; apocryphal manuscripts; and documents pertaining to the beliefs and practices of a sectarian community. The former category is arguably of the greatest academic significance, as documents such as a complete copy of the Book of Isaiah enabled historians to analyse the accuracy of Bible translations. However, the secrecy of the scholars appointed by the Israeli Antiquities Authority, and their slow rate of publication, were the subject of international controversy. In 1991, the Huntington Library made photographic images of the full set of scrolls finally available to all researchers. While the scrolls' importance is indisputable, there is no consensus over the texts' origins. The traditional view is that the scrolls belonged to an ascetic Jewish sect, widely believed to be the Essenes. The Essenes' rules and doctrines are even seen by some scholars as a precursor to Christianity. A competing theory holds that the documents are sacred texts belonging to various Jewish communities, hidden in the caves for safekeeping around 68CE, during the unsuccessful Jewish Revolt against the Romans in Jerusalem.

- Q16** The traditional interpretation of the Dead Sea Scrolls is that they belonged to an early Christian sect called the Essenes.

True                      **False**                      Cannot say

*False – the Essenes are described as an “ascetic Jewish sect”. They may have been a precursor to Christianity but they themselves were an ascetic Jewish sect.*

- Q17** Academics debate whether the scrolls are the detailed accounts of one particular sect, or provide historical information about the wider Jewish people.

**True**                      False                      Cannot say

*True – summarises the difference between the two main theories on the Dead Sea Scrolls, as described in the final three sentences.*



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**Q18** Not only the origins of the Dead Sea Scrolls, but also the process of their interpretation, have been disputed.

**True**                      False                      Cannot say

*True – the fifth and sixth sentences describe controversy over the scholars' work, while the 8th, 9th, and 10th sentences describe debate over the scrolls' origins.*

**Q19** Some scholars believe the Essenes inhabited the desert caves at Qumran, near the Dead Sea.

True                      False                      **Cannot say**

*Cannot say – while one theory states that the scrolls are thought to be Essene in origin, it does not necessarily follow that the Essenes lived in the caves.*

**Q20** The Dead Sea Scrolls include the oldest known copy of the Book of Isaiah.

True                      False                      **Cannot say**

*Cannot say – while the Dead Sea Scrolls do include a copy of the Book of Isaiah and the 4th sentence suggests that the Bible books are the oldest known copies, this is not expressly stated.*

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Have you ever set your mouth on fire by biting into a chilli pepper? The sensation is caused by capsaicin, a chemical compound that stimulates the mouth's pain receptors, which in turn tell the brain you've eaten something hot. The body reacts by perspiring and releasing endorphins, the "feel-good" effect of which perhaps accounts for spicy food's appeal. The first scale for measuring a chilli's heat was developed in 1912 by the chemist Wilbur Scoville. Scoville Heat Units refer to the number of times a chilli must be diluted before it is undetectable to tasters. The world's hottest chilli, the Indian naga jolokia, measures 970,000 SHU. Today a chilli's heat can be measured more accurately using high-pressure liquid chromatography, a technique that calculates the concentration of capsaicin in a solution. Humans have consumed chillies for over 8,000 years; they were first cultivated 6,000 years ago in South and Central America. In the late 15th century Christopher Columbus introduced chillies to the rest of the world via Spain, where they were called peppers because they were spicy like peppercorns. In addition to their culinary uses, chillies have long been prized for their medicinal properties. Scientific studies show that capsaicin may lower blood pressure and aid weight loss. Capsaicin has traditionally been used in tropical analgesics, however new research indicates that the compound may actually be carcinogenic.

**Q21** Although eaten around the world, chilli peppers are only indigenous to South and Central America.

True                      False                      **Cannot say**

*Cannot say – the passage does not explicitly state this fact. While they were first cultivated in South and Central America, wild chillies could have been found in other countries.*

**Q22** The scale developed by Wilbur Scoville is inherently subjective.

**True**                      False                      Cannot say

*True – it involves human tasters, and is therefore subjective.*

**Q23** The passage suggests that some people eat chilli peppers for their psychological effect as well as their spicy taste.

**True**                      False                      Cannot say

*True – the third sentence suggests that release of endorphins contribute to the popularity of spicy food.*

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**Q24** The chemical compound capsaicin sends a message to the brain that something hot has been consumed.

True                    **False**                    Cannot say

*False – pain receptors send this message to the brain after capsaicin is eaten.*

**Q25** Although first consumed 6,000 years ago, chilli peppers were only introduced to Europeans in the 15th century.

True                    **False**                    Cannot say

*False – Chilli peppers were first eaten 8,000 years ago, as stated in the 8th sentence. For the purposes of this statement, we don't need to know when the article was written. Since it was written in the past the time difference between passage and statement will only diverge. Note for some questions we need to know when the passage was written to place dates.*

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Bioprospecting refers to searching the world's remotest areas for genetic resources with commercial value. Bioprospecting is hardly a new phenomenon - the active ingredient in aspirin, for example, comes from willow bark, whose medicinal properties were known to the ancient Greeks. In recent years, however, the ethics of the practice have been debated. Opponents, who use the term biopiracy, view it as the exploitation of developing countries' resources and indigenous medical knowledge for the developed world's profit. Pharmaceutical companies argue that drugs resulting from bioprospecting can help thousands of people. Furthermore, they are not patenting native plants, rather the techniques used to extract compounds from them. Despite these arguments, in 2005 the Indian government successfully overturned a US patent to extract an anti-fungal agent from the neem tree. Central to the debate is the question of who owns the world's biodiversity. The UN's Convention on Biological Diversity (CBD) was established in 1993 to ensure that bioprospectors obtain consent from and share any profits with the source nation. The United States, however, has not ratified the CBD. It is not only the pharmaceutical industry that has fallen foul of sovereign rights to biological resources. In 2008, Mexican farmers won an appeal to revoke a US patent on Mexican Enola beans. Similarly, following a diplomatic crisis between India and the United States, a Texan company lost the right to patent basmati rice.

**Q26** India has successfully defended its ownership of genetic material and traditional knowledge.

**True**                      False                      Cannot say

*True – the passage provides two examples – the neem tree and basmati rice – where India has protected its ownership rights.*

**Q27** Bioprospecting is primarily carried out by the pharmaceutical and food industries.

True                      False                      **Cannot say**

*Cannot say – while the passage only uses examples from the pharmaceutical and food industries, in fact other industries may also carry out bioprospecting but the passage does not tell us either way.*

**Q28** Under the CBD, nations grant access to sovereign genetic material in exchange for a share in the rewards.

**True**                      False                      Cannot say

*True – summarises the aims of the CBD as described in the 9th sentence.*

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**Q29** The United States government believes that the earth's biodiversity is not owned by sovereign nations.

True                  False                  **Cannot say**

*Cannot say – although the US has not ratified the CBD, the US government's exact position on ownership of genetic materials is not stated in the passage.*

**Q30** Bioprospecting is defined as the practice of obtaining plants from developing countries for commercial exploitation.

True                  **False**                  Cannot say

*False – the first sentence defines it as the search for "genetic resources" which does not mean only plants. Also, the definition given in the passage is of searching "the world's remotest areas", which is not the same thing as developing countries.*