5-09 · 5-2 동물의 마음과 사회
05 생명과 자연 · 교재 p.126

2026년 10월 고2 학평 23번

2026년 10월 시행 · 전국연합학력평가

Research on cephalopod neurobiology suggests that an octopus possesses roughly five hundred million neurons. What makes this system ① unusual is where many of those neurons are located. More than half are ② concentrated throughout the arms rather than concentrated entirely in the central brain. Each arm contains networks of nerve cells capable of controlling complex movements and responding to sensory input ③ locally. This means that many actions do not require detailed instructions from the brain itself. Instead, the arms function as highly capable extensions of the nervous system that interact with the environment ④ directly. The suckers lining each arm play an important role in this process. These structures provide strong grip but also detect chemical signals on surfaces they contact. Marine biologists studying octopus behavior have shown that this allows the animal to gather chemical information through touch. In practical terms, an octopus can effectively ⑤ taste what it touches.

1. 어휘 윗글의 밑줄 친 부분 중, 문맥상 낱말의 쓰임이 적절하지 않은 것은?

① ② ③ ④ ⑤

2. 제목 윗글의 제목으로 가장 적절한 것은?

① The Octopus Brain Controls Every Move
② Arms That Think and Taste: The Octopus Nervous System
③ Why Octopuses Have Few Neurons
④ Suckers Are Only for Gripping
⑤ Octopuses Cannot Sense Chemicals

2026년 10월 고2 학평 40번

2026년 10월 시행 · 전국연합학력평가

Dolphins' brains have evolved specialized areas dedicated to echolocation, allowing them to process acoustic information more quickly and with less energy. One key adaptation is the structure of the dolphin's auditory pathway. The signals from the ears are rapidly transmitted to the auditory cortex, the brain region responsible for processing sound. ① However, unlike many other mammals, dolphins have a highly specialized auditory cortex with distinct areas dedicated to processing different aspects of echolocation signals. ② Some areas may be responsible for analyzing the timing of echoes, while others focus on the frequency content or the intensity of the sound. ③ This specialization allows the dolphin's brain to process echo information in parallel, rather than sequentially. ④ Dolphins are also known for their playful behavior around boats. ⑤ Imagine a factory assembly line, where different workers are responsible for different tasks. By dividing the work among specialized areas, the brain can process information much faster and more efficiently. This parallel processing reduces the cognitive load associated with echolocation, allowing dolphins to react quickly to changes in their environment.

1. 무관한 문장 윗글에서 전체 흐름과 관계 없는 문장은?

① ② ③ ④ ⑤

2. 요약문 완성 윗글의 내용을 한 문장으로 요약하고자 한다. 빈칸 (A), (B)에 들어갈 말로 가장 적절한 것은?

Dolphins' specialized auditory cortex processes echo information in (A) _____, which reduces cognitive load and allows them to react (B) _____.

	(A)		(B)
①	parallel	……	slowly
②	sequence	……	quickly
③	parallel	……	quickly
④	sequence	……	slowly
⑤	isolation	……	randomly

2026년 9월 고2 학평 36번

The ability to select a set of surroundings suitable for foraging, shelter from predators, and the availability of mates is one of the most important ① determinants of biological success—measured as survival to reproductive age and the production of offspring. Many studies have shown that not only do animals have a remarkable ability to seek out the best available locations for the necessities of life, but that they are able to ② anticipate how a setting will serve their future needs. For example, the black-throated green warbler, a small songbird that nests in spruce forests of eastern North America, establishes territories preferentially among the red spruce trees early in the summer months, even though these trees offer ③ more food than the neighboring white spruce trees. Later, though, when nests are built and hungry baby birds need nourishment, it is the red spruce forest that offers the ④ easier pickings. Somehow, the warbler has been guided to settle in locations that will suit its ⑤ future parenting needs better than its present ones.

1. 어휘 윗글의 밑줄 친 부분 중, 문맥상 낱말의 쓰임이 적절하지 않은 것은?

① ② ③ ④ ⑤

2. 제목 윗글의 제목으로 가장 적절한 것은?

① Warblers Prefer White Spruce Trees
② Songbirds Live Only for Today
③ Why Red Spruce Has No Food
④ Choosing for Tomorrow: How Animals Anticipate Future Needs
⑤ Predators Choose Nesting Sites

2025년 10월 고2 학평 37번

2025년 10월 시행 · 전국연합학력평가

Distinguishing moths from butterflies on outward appearance is not always easy, but there are a few rules of thumb that can help. In most butterflies the antennae end with a small club-shaped swelling, whereas in moths they are usually feathery or narrow to a fine tip. Butterflies tend to rest with their wings held shut above their body, whereas moths more usually rest with the upper sides of the wings on full view. Further distinctions can be made by looking for a tiny hook that joins fore-and hindwings, a feature only present in moths. The stereotypical differences, with moths cast as the gloomy, nocturnal cousins of colourful sun-loving butterflies are _____. There are many brightly coloured moths and many which are active throughout the day. Equally, there are a few nocturnal butterflies and plenty that come clothed in shades of brown and grey. It's more sensible to think of them together; both butterflies and moths are beautiful and fascinating insects.

1. 빈칸 추론 윗글의 빈칸에 들어갈 말로 가장 적절한 것은?

① completely accurate
② scientifically proven
③ useful for beginners
④ based on DNA tests
⑤ simply wrong

2. 요지 윗글의 요지로 가장 적절한 것은?

① 나방과 나비를 구별하는 몇 가지 기준은 있지만, 흔한 고정관념은 틀렸으므로 둘을 함께 보는 것이 낫다.
② 나방은 모두 어둡고 밤에만 활동한다.
③ 나비는 모두 화려하고 낮에만 활동한다.
④ 나방과 나비는 쉽게 구별된다.
⑤ 나비만 아름다운 곤충이다.

2025년 9월 고2 학평 21번

2025년 9월 시행 · 전국연합학력평가

Mirror neurons are the hardware of empathy, and so what would make more sense than to look and see which animals ① possess these cells? And this is exactly where modern research now stands: all researchers know so far is that apes possess mirror neurons. We still need ② to test to see which other species are like us in this respect. Scientists often publicly speculate that we can probably expect surprises here, too. They assume that all animals that ③ live in herds or large groups possess similar brain mechanisms, because social units ④ function only if individuals can see things from the perspective of others in the group and feel what they are feeling. I can see a goldfish ⑤ waved its fin at us. As an animal that travels around in a tightly-knit group, it's on board with this idea—or at least swimming alongside the boat.

1. 어법 윗글의 밑줄 친 부분 중, 어법상 틀린 것은?

① ② ③ ④ ⑤

2. 요지 윗글의 요지로 가장 적절한 것은?

① 거울 뉴런은 인간에게만 있다.
② 금붕어는 공감 능력이 없다는 것이 증명되었다.
③ 거울 뉴런이 어떤 종에 있는지는 아직 연구 중이며, 무리 생활을 하는 동물들도 공감 능력을 가졌을 가능성이 있다.
④ 무리 생활은 공감 없이도 가능하다.
⑤ 유인원에게는 거울 뉴런이 없다.

2025년 9월 고2 학평 40번

2025년 9월 시행 · 전국연합학력평가

Mother cats can tell which kittens belong to them— when litters are mixed up they use their kittens' scent to distinguish them from offspring of other mothers. ① Despite this, when faced with a selection of kittens who have wandered from the nest, her own and others that aren't hers, a mother cat doesn't appear to favor her own offspring when retrieving them. ② The reason for this is uncertain, although distress vocalizations from kittens that are lost from their nest are known to be very powerful, so it may just be hard for the mother to resist retrieving them, regardless of whether they are hers. ③ Kittens usually open their eyes about a week after they are born. ④ In the wild, a squeaking kitten out in the open is likely to attract predators, which is bad news for any other kittens around it. ⑤ A rapid rescue of any crying kitten would be a good strategy to prevent them from drawing unwanted attention.

1. 무관한 문장 윗글에서 전체 흐름과 관계 없는 문장은?

① ② ③ ④ ⑤

2. 제목 윗글의 제목으로 가장 적절한 것은?

① Mother Cats Ignore Lost Kittens
② Any Crying Kitten Gets Rescued
③ Kittens Find Their Own Way Home
④ Scent Helps Predators Find Kittens
⑤ Mother Cats Choose Only Their Own

2024년 10월 고2 학평 29번

2024년 10월 시행 · 전국연합학력평가

Conditioned Place Preference is a way of finding out what animals want. Researchers train them to ① associate one place with an experience such as food or a loud noise and another place with something completely different, usually where nothing happens. The two places are made ② obviously different to make it as easy as possible for the animal to associate each place with what happened to it there. The animal's preference for being in one place or another is measured both before and after its experiences in the two places. If there is a shift in where the animal chooses to spend its time for the reward, this suggests that it liked the experience and is trying to ③ repeat it. Conversely, if it now avoids the place the stimulus appeared and starts to prefer the place it did not experience it, then this suggests that it found the stimulus ④ enjoyable. For example, mice with cancer show a preference for the place where they have been given morphine, a drug used to ⑤ relieve pain, rather than where they have received saline whereas healthy mice developed no such preference. This suggests that the mice with cancer wanted the morphine.

1. 어휘 윗글의 밑줄 친 부분 중, 문맥상 낱말의 쓰임이 적절하지 않은 것은?

① ② ③ ④ ⑤

2. 주제 윗글의 주제로 가장 적절한 것은?

① why mice prefer loud noises
② how morphine cures cancer in mice
③ the dangers of saline injections
④ how animals forget unpleasant places
⑤ Conditioned Place Preference as a way to learn what animals want

2024년 10월 고2 학평 30번

2024년 10월 시행 · 전국연합학력평가

Near the equator, many species of bird breed all year round. But in temperate and polar regions, the breeding seasons of birds are often sharply defined. They are triggered mainly by _____. If all goes well, the outcome is that birds raise their young when the food supply is at its peak. Most birds are not simply reluctant to breed at other times but they are also physically incapable of doing so. This is because their reproductive system shrinks, which helps flying birds save weight. The main exception to this rule are nomadic desert species. These can initiate their breeding cycle within days of rain. It's for making the most of the sudden breeding opportunity. Also, different species divide the breeding season up in different ways. Most seabirds raise a single brood. In warm regions, however, songbirds may raise several families in a few months. In an exceptionally good year, a pair of House Sparrows, a kind of songbird, can raise successive broods through a marathon reproductive effort.

1. 빈칸 추론 윗글의 빈칸에 들어갈 말로 가장 적절한 것은?

① changes in day length
② the number of predators
③ changes in water temperature
④ the color of feathers
⑤ the age of the parents

2. 제목 윗글의 제목으로 가장 적절한 것은?

① Birds Breed Only Near the Equator
② Why Seabirds Raise Many Broods
③ Desert Birds Never Breed
④ When Birds Breed: Timing Shaped by Light and Food
⑤ Sparrows Breed Once in a Lifetime

정답 및 해설

5-09 **1.**② **2.**② · 5-10 **1.**④ **2.**③ · 5-11 **1.**③ **2.**④ · 5-12 **1.**⑤ **2.**① · 5-13 **1.**⑤ **2.**③ · 5-14 **1.**③ **2.**② · 5-15 **1.**④ **2.**⑤ · 5-16 **1.**① **2.**④

5-09 · 2026년 10월 고2 학평 23번
1. ② 뉴런의 절반 이상이 중앙 뇌에 집중되지 않고 팔 전체에 '분산되어' 있다. rather than과의 대조로 보아 distributed가 알맞다. ② concentrated → distributed.
2. ② 문어 뉴런의 절반 이상이 팔에 있어 팔이 스스로 움직임을 조절하고, 빨판으로 만지는 것을 맛볼 수 있다는 글이다. ①은 글과 반대다.

5-10 · 2026년 10월 고2 학평 40번
1. ④ 글은 돌고래 청각 피질의 전문화와 병렬 처리를 설명한다. ④는 돌고래의 장난스러운 행동 이야기로 흐름과 무관하다.
2. ③ 전문화된 청각 피질이 반향 정보를 '병렬로' 처리해 인지 부담을 줄이고 '빠르게' 반응하게 한다.

5-11 · 2026년 9월 고2 학평 36번
1. ③ 솔새는 이웃한 흰 가문비나무보다 먹이가 '적은데도' 붉은 가문비나무에 자리 잡는다. even though와 이어진다. ③ more → less.
2. ④ 동물은 현재보다 미래의 필요(새끼 양육)에 맞는 장소를 고를 줄 알며, 솔새가 그 예라는 글이다.

5-12 · 2025년 10월 고2 학평 37번
1. ⑤ 화려한 나방과 낮에 활동하는 나방, 밤에 활동하는 나비도 있으므로, 나방을 어둡고 야행성인 사촌으로 보는 고정관념은 '그냥 틀렸다'.
2. ① 더듬이나 날개 모양 같은 경험 법칙은 도움이 되지만 색과 활동 시간에 대한 고정관념은 틀렸으니, 둘을 함께 보는 것이 합리적이라는 것이 요지다.

5-13 · 2025년 9월 고2 학평 21번
1. ⑤ 지각동사 see + 목적어 + 현재분사 구문이므로 waving이 알맞다. ⑤ waved → waving.
2. ③ 현재는 유인원만 거울 뉴런이 확인되었지만, 무리를 이루는 동물들도 비슷한 공감 기제를 가졌을 것이라 추정한다는 것이 요지다.

5-14 · 2025년 9월 고2 학평 40번
1. ③ 글은 어미 고양이가 자기 새끼가 아니어도 우는 새끼를 데려오는 이유를 다룬다. ③은 새끼 고양이가 눈을 뜨는 시기 이야기로 흐름과 무관하다.
2. ② 어미 고양이는 냄새로 자기 새끼를 알지만, 우는 새끼는 포식자를 끌어들이므로 누구의 새끼든 빨리 데려온다는 글이다. ⑤는 글과 반대다.

5-15 · 2024년 10월 고2 학평 29번
1. ④ 자극을 받은 장소를 피하게 되었다면 그 자극을 '불쾌하게' 여긴 것이다. ④ enjoyable → unpleasant.
2. ⑤ 장소와 경험을 연관시킨 뒤 장소 선호의 변화로 동물이 원하는 것을 알아내는 조건화 장소 선호를 다룬다.

5-16 · 2024년 10월 고2 학평 30번
1. ① 온대와 극지방 새들의 번식기는 주로 '낮 길이의 변화'에 의해 촉발되어, 먹이가 가장 많을 때 새끼를 기르게 된다.
2. ④ 새들의 번식 시기는 낮 길이와 먹이에 맞춰지며, 사막 새나 참새처럼 종마다 번식 방식이 다르다는 글이다.