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Even before telescopes ① existed, people looked out into space and tried to understand the universe. The Egyptians, Babylonians, Greeks, and Maya were among the first peoples to map the movements of the stars. In Europe, a 16th-century Polish mathematician ② naming Nicolaus Copernicus put forth a revolutionary idea. Copernicus watched the stars and took measurements by eye. He concluded that the view of the universe accepted at the time—that the Sun traveled around Earth—③ was wrong, and that it was in fact Earth that traveled around the Sun. Despite widespread objections to his ideas, he published his theory in a book. Later astronomers ④ built on Copernicus' work. Technological improvements led to the development of the telescope in the early 17th century. ⑤ Using a telescope, the Italian scientist Galileo Galilei discovered the four largest moons of Jupiter and observed craters on Earth's Moon. He also confirmed that Copernicus' theory was correct. Over the centuries, scientific discoveries and information from telescopes advanced our knowledge of how the universe works.

1. 어법 윗글의 밑줄 친 부분 중, 어법상 틀린 것은?

① ② ③ ④ ⑤

2. 내용 불일치 윗글의 내용과 일치하지 않는 것은?

① 이집트인과 마야인 등은 별의 움직임을 처음 지도로 그린 민족에 속한다.
② Copernicus는 반대에도 불구하고 자신의 이론을 책으로 출판했다.
③ Copernicus는 망원경을 사용해 별을 관측했다.
④ 망원경은 17세기 초에 개발되었다.
⑤ Galileo는 목성의 가장 큰 위성 네 개를 발견했다.

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The laws and constants of physics and the fundamental forces in our universe have _____. This means that, if they were only very slightly different, life would not have been possible. For instance, the precise value of gravity has enabled our universe to arise by permitting the aggregation of dust and gas particles to proto-stars around which planets later came to orbit, including the Earth around the Sun. If the value of the electron had been ever so slightly larger or smaller, chemistry, as we know it, would not have been possible and life, which is based on organic chemistry, could not have started. The universe was not designed for us to evolve, we have no privileged position in the universe; however, the laws and constants of physics allowed advanced life to evolve.

1. 빈칸 추론 윗글의 빈칸에 들어갈 말로 가장 적절한 것은?

① random and changing values
② no effect on life
③ very precise forms and values
④ values designed for humans
⑤ simple and flexible forms

2. 요지 윗글의 요지로 가장 적절한 것은?

① 우주는 인간을 위해 설계되었다.
② 중력의 값은 생명과 무관하다.
③ 전자의 값이 조금 달라도 생명은 가능했다.
④ 인간은 우주에서 특별한 위치를 차지한다.
⑤ 물리 법칙과 상수의 정밀한 값이 우주에서 생명이 진화하는 것을 가능하게 했다.

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Many atoms in your body are nearly as old as the universe itself. When you breathe, for example, only some of the atoms that you inhale are ① exhaled in your next breath. The remaining atoms are taken into your body to become part of you, and they later leave your body by various means. You don't "own" the atoms that make up your body; you ② own them. We all ③ share from the same atom pool because atoms forever travel around, within, and among us. Atoms cycle from person to person as we breathe and as our sweat is evaporated. We recycle atoms on a grand scale. The origin of the lightest atoms goes back to the origin of the universe, and most heavier atoms are ④ older than the Sun and Earth. There are atoms in your body that have existed since the first moments of time, recycling throughout the universe among limitless forms, both nonliving and living. You're the present ⑤ caretaker of the atoms in your body. There will be many who will follow you.

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 Your Atoms Belong Only to You
② Borrowed Atoms: We All Share the Universe
③ Why Breathing Creates New Atoms
④ The Sun Is Older Than All Atoms
⑤ Atoms Stay in One Body Forever

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Imagine you are pedalling your bicycle on a level road. You stop pedalling: no force is now acting to move you forward. What happens? You gradually slow down. How could you slow down more suddenly, in a shorter distance? By putting the brakes on. Because the brakes change your movement, making you slow down more suddenly, they must be exerting a force on the bicycle and you, as they grip and rub on the wheel-rims. This is the force called friction, which tends to slow down moving things by _____, that is backwards. Even without the brakes on, there are other friction forces acting on you and your bicycle, which also slow you down. One of these is friction in the wheels rubbing on the axles. Another is air resistance, which you can feel, pushing you backwards as you and the bicycle move forwards. When you apply these ideas to something around you, like a cart, you can see what could be generating friction: mainly the axles rubbing on the body as they rotate.

1. 빈칸 추론 윗글의 빈칸에 들어갈 말로 가장 적절한 것은?

① pushing things forward
② adding speed to movement
③ working only on wheels
④ pulling things upward
⑤ acting in the direction opposite to movement

2. 주제 윗글의 주제로 가장 적절한 것은?

① how to pedal a bicycle faster
② why brakes never work in rain
③ the history of the bicycle
④ friction as a force that slows moving things
⑤ how air helps us move forward

정답 및 해설

5-32 **1.**② **2.**③ · 5-33 **1.**③ **2.**⑤ · 5-34 **1.**② **2.**② · 5-35 **1.**⑤ **2.**④

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1. ②　수학자가 Nicolaus Copernicus라고 '이름 붙여진' 것이므로 과거분사 named가 알맞다. ② naming → named.

2. ③　Copernicus는 눈으로 별을 관찰하고 측정했다. 망원경은 그 뒤 17세기 초에 개발되었다.

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1. ③　물리 법칙과 상수가 조금만 달랐어도 생명이 불가능했으므로, 이들은 '매우 정밀한 형태와 값'을 가진다.

2. ⑤　우주가 우리를 위해 설계된 것은 아니지만, 중력과 전자 등의 정밀한 값이 생명의 진화를 허용했다는 것이 요지다. ①은 글이 부정한 내용이다.

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1. ②　우리는 몸을 이루는 원자를 소유하는 것이 아니라 '빌린다'. ② own → borrow.

2. ②　몸속 원자는 우주만큼 오래되었고 끊임없이 순환하므로, 우리는 원자의 주인이 아니라 잠시 맡아 두는 관리자라는 글이다.

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1. ⑤　마찰력은 움직임과 '반대 방향으로 작용해', 즉 뒤쪽으로 작용해 움직이는 물체를 느리게 한다. ③은 브레이크 외에도 바퀴·공기 마찰이 있다는 내용과 어긋난다.

2. ④　자전거의 예로 움직임과 반대 방향으로 작용해 속도를 줄이는 마찰력을 설명한다.