

センター試験 単語レベルチェック (2015年 本試験より抜粋)

青色文字 : Level 0, および基本語 (冠詞・be 動詞・人称代名詞)

緑色文字 : Level 1 ~ 6 (本書に収録のした Level 7 ~ 8 のグループ語を含む)

紫色文字 : Level 7 ~ 8

※赤小文字は本書に収録した語法・イディオムなど

6 次の文章を読み、下の問い (A・B) に答えよ。なお、文章の左にある (1) ~ (6) は段落の番号を表している。(配点 36)

Catching¹ Bees⁴ and Counting² Fish²: How “Citizen³ Science” Works¹

(1) It's a sunny² afternoon² here in Texas, and my wife² Barbara is at the park² again¹, counting² and recording² the number¹ of eggs² laid² by monarch butterflies⁴. After collecting² her data³, she'll share¹ it with the professional³ scientist¹ who recruited⁶ her. In another state¹, our friend¹ Antonio listens² for frogs² by visiting¹ 12 different¹ sites³, four times¹ a year¹. He has¹ been submitting⁵ his findings¹ to scientists¹ for almost¹ 20 years¹ now. And on the other side² of the country¹, our niece⁷ Emily is catching¹ native³ bees⁴, putting¹ tiny³ tags⁸ on them, and handing¹ in weekly⁴ reports¹ to the biology⁵ department at a local² university³. Nobody is paying¹ Barbara, Antonio, or Emily for their efforts¹, but all three consider¹ themselves lucky² to be “citizen³ scientists¹.”

(2) When volunteers² participate³ as¹ assistants⁴ in activities¹ like¹ these, they are engaging³ in citizen³ science¹, a valuable³ research¹ technique³ that invites² the public¹ to assist⁴ in gathering³ information¹. Some of them are science¹ teachers¹ or students¹, but most are simply¹ amateurs⁷ who enjoy¹ spending¹ time¹ in nature². They also¹ take¹ pride⁴ in aiding⁴ scientists¹ and indirectly⁷ helping¹ to protect² the environment¹. The movement² they are involved¹ in is not a new¹ one. In fact¹, its roots³ go¹ back over a hundred² years¹. One of the earliest projects² of this type¹ is the Christmas³ Bird² Count², started¹ by the National² Audubon Society¹ in 1900. However¹, citizen³ science¹ projects² are burgeoning more than ever: over 60 of them were mentioned² at a meeting² of the Ecological⁶ Society¹ of America not long¹ ago.

(3) In formal⁴ studies¹, professional³ scientists¹ and other experts³ need¹ to maintain³ the highest¹ possible¹ standards³. For research¹ to be accepted¹ as¹ valid⁶, it must not only¹ be thorough⁶, but also¹ objective⁵ and accurate⁵. Some might argue² that citizen³ scientists¹ cannot maintain³ the necessary² attention¹ to detail³, or that amateurs⁷ will misunderstand⁵ the context⁴ of the investigation⁵ and make¹ mistakes² when¹ collecting² and organizing³ information¹. In other words¹, can citizen³ science¹ be considered¹ truly⁴ reliable⁵ ?

(4) Two recent¹ studies¹ show¹ that it can. The first focused³ on volunteer² knowledge²

and skills¹. In this study¹, a scientist¹ asked¹ volunteers² to identify³ types¹ of crabs⁸ along the Atlantic⁴ coast⁴ of the US. He found¹ that almost¹ all adult³ volunteers² could perform³ the task³ and even¹ third graders⁸ in elementary⁵ school¹ had¹ an 80% success² rate². The second¹ study¹ compared² professional³ and nonprofessional methods³. Following¹ a strict⁵ traditional² procedure⁶, a group¹ of 12 scuba divers identified³ 106 species³ of fish² in the Caribbean. Using¹ a procedure⁶ designed² by professionals³ to be more relaxed³ and enjoyable⁵ for volunteers², a second¹ group¹ of 12 divers⁸ spent¹ the same¹ amount¹ of time¹ in the same¹ waters¹. Surprisingly⁵, the second¹ method³ was even¹ more successful²: this group¹ identified³ a total² of 137 species³. Results¹ like¹ these suggest¹ that research¹ assisted⁴ by amateurs⁷ can be trusted³ when¹ scientists¹ organize³ it.

(5) The best citizen³ science¹ projects² are win²-win² situations¹. On the one hand¹, the scientific³ community² gains³ access³ to far¹ more data³ than they would otherwise³ have¹, while¹ spending¹ less money¹. On the other hand¹, citizen³ science¹ is good¹ for the general² public¹: it gets¹ people¹ out into the natural¹ world¹ and involved¹ in scientific³ processes¹. Additionally⁷, when¹ people take¹ part¹ in a well¹-designed² study¹ that includes¹ training² to use¹ equipment⁴, collect² data³, and share¹ their findings¹, they have¹ the satisfaction⁵ of learning¹ about new¹ ideas¹ and technologies².

(6) I find¹ it encouraging³ that the list² of scientific³ studies¹ using¹ citizen³ scientists¹ is quickly¹ getting¹ longer¹. Still, we're just¹ beginning² to realize¹ the potential³ of citizen³ science¹. More scientists¹ need¹ to recognize³ how much volunteers² can contribute³ to professional³ research¹. As¹ I see¹ it, it's time¹ for us to expand³ the old¹, conservative⁶ view¹ of "science¹ for people¹" to include¹ a more democratic⁵ one of "science¹ by people¹."