

# 教科書紙面 PDF

LESSON 1

Potential Uses of Optical Illusions



## Potential Uses of Optical Illusions

1 Look at the illustration below. What do you see? Some people might see a rabbit facing to the right, while others might see a duck facing to the left. This illustration shows how our eyes can be tricked, what is called an optical illusion. Such illusions have been used in various ways which we can see in our daily lives.



The rabbit-duck illusion

2 First, one example is the manner in which they have historically been incorporated into structural designs. The *karesansui* (dry landscape) garden at the Zen temple Ryōanji in Kyoto illustrates such a use. Its surface may look completely level, but actually, it inclines towards the

### Questions

1 Optical illusions ( ) our eyes.

- a. use
- b. see
- c. trick

2 Structural designs often incorporate ( ).

3 The optical illusion at Ryōanji makes the surface look ( ) although it inclines.

wall is slightly higher at its northern end. These factors create an optical illusion that makes this surface look deeper. This effect is the same as the one seen in the Ponzo Illusion (Figure 1), in which the horizontal line closer to the top looks longer than the line below it, even though the two are exactly the same length.



The karesansui at the Zen temple Ryōanji



Figure 1: An example of the Ponzo Illusion

3 Second, another optical illusion can be seen in the picture below, which shows the interior of a house that appears to have an extremely high ceiling. The effect is caused by the Fick Illusion (Figure 2), in which the vertical line seems longer than the horizontal line despite their lengths being precisely the same. Using this effect can make a room look more spacious than it actually is.



extremely high



Figure 2: An example of the Fick Illusion

1 What is the name of the optical illusion used to make a surface look deeper?

2 In the Fick Illusion, the length of the horizontal line is ( ) that of the vertical one.

- a. longer than
- b. the same as
- c. shorter than

3 The Fick Illusion can make a room look more ( ).

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