

FACT OR FAKE?



▲ In 1917, two young girls from Cottingley, England, released a set of photographs supposedly showing fairies they had seen in their garden. The images were fake—the fairies were simply paper cutouts—but people around the world believed the Cottingley Fairies were real. In 2018, the original photos sold at auction for over \$25,000.

WARM UP

Discuss these questions with a partner.

1. Why do you think people believed the Cottingley Fairies photos were real?
2. Have you seen any similar fake photos that you thought were real?

**BEFORE YOU READ**


- PREVIEWING** A. Read the question below and quickly note your answer.
A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball.
How much does the ball cost? _____
- SCANNING** B. Compare your answer with a partner. Then scan the reading passage to check if you were correct.
- SKIMMING** C. Skim the rest of the reading. What answer do most people give? Why?

THE KNOWLEDGE ILLUSION

- A A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?
- B If you answered 10 cents, you're not alone—most people give the same answer (the correct answer is 5 cents). It's an example of how we often **rely on** intuitive responses—answers we feel are true. People give answers that “pop into their mind,” says cognitive scientist¹ Steven Sloman. We don't spend much time “reflecting and checking whether the answer ... is right or wrong.”
- C The bat and ball question helps explain why we often believe in fake news. It is part of human nature to believe, says Sloman. But “the trick with fake news is to know to verify”—in other words, to stop and question what you know.
- D In one **experiment**, Sloman and a colleague invented a discovery called helium² rain. They told a group of **volunteers** about it, but admitted they could not fully explain what it was. They then asked the volunteers to rate their own understanding of helium rain. Most volunteers rated themselves 1 out of 7, meaning they did not understand the **concept**.
- E The **researchers** then told another group of volunteers about the discovery. This time, they said that scientists could fully explain how it works. When asked to rate their understanding, the volunteers gave an **average** answer of 2. The scientists' confidence gave the volunteers an increased sense of their own understanding, Sloman says.

¹ A **cognitive scientist** studies the processes in the brain related to knowing, learning, and understanding.

² **Helium** is a very light, colorless gas.



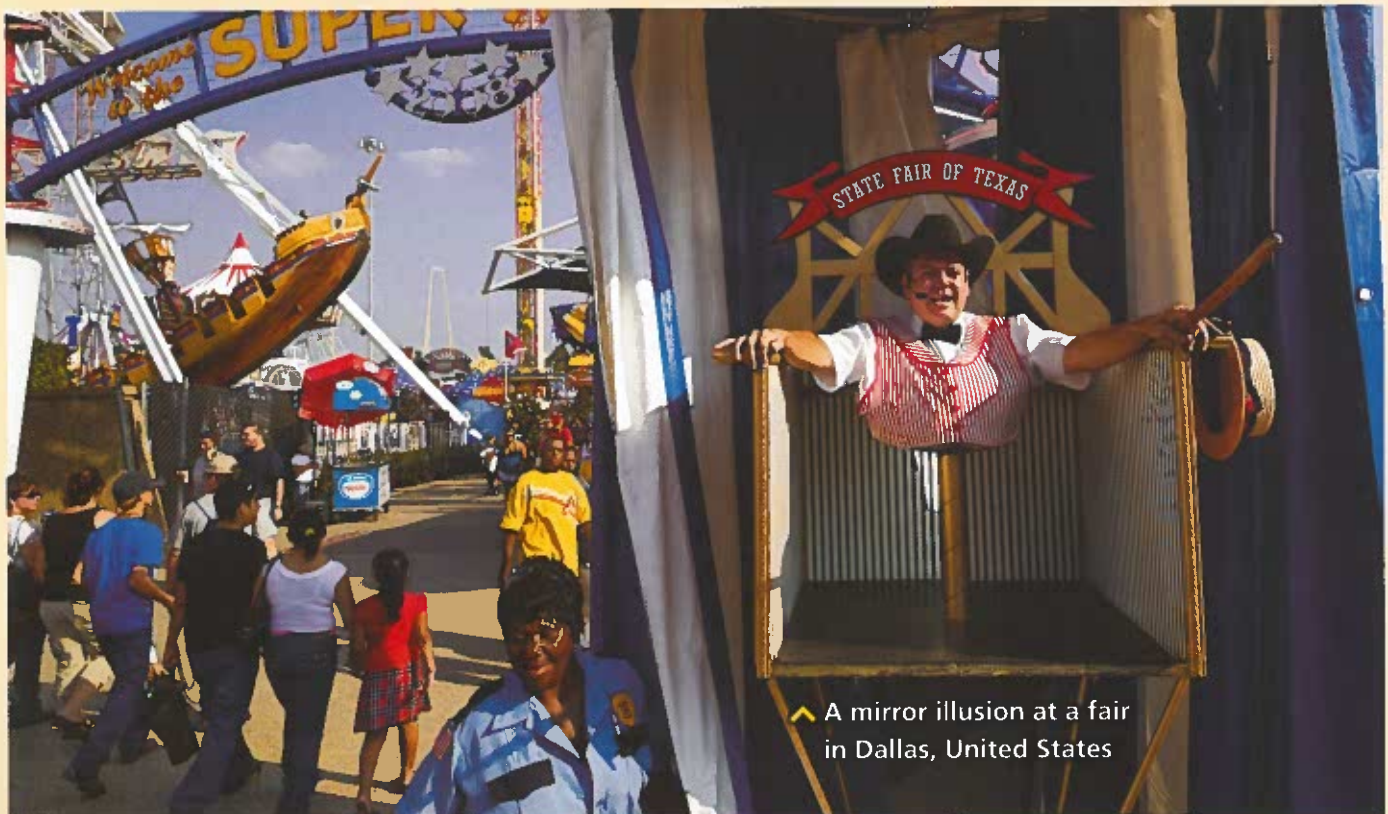
▲ A 3-D street painting in Dún Laoghaire, Ireland, creates an amazing illusion.

- F According to Sloman, studies show that knowledge spreads like a contagion.³ This idea can be seen in many fields, including politics. “If everyone around you is saying they understand why a politician is crooked,”⁴ Sloman says, “then you’re going to start thinking that you understand, too.”
- G Another explanation for the spread of fake news is “motivated reasoning,” writes Adam Waytz, a management professor at the Kellogg School. We are naturally more likely to believe things that confirm our existing opinions. If you already have a negative opinion about someone, you’re more likely to trust damaging stories about them. Over time, Waytz argues, “motivated reasoning can lead to a false social consensus.”⁵
- H So, in a world where misleading information is common, is there a way to protect ourselves? “I don’t think it’s possible to train **individuals** to verify everything that they **encounter**,” Sloman admits. “It is just too human to believe what you’re told.”
- I However, training people to care about fact-checking is important, he argues, especially in online communities. Think of the headlines and stories that are shared on your social **media** feed every day. Probably these fit in with your own worldview—but perhaps not all of them are true.
- J “Develop a **norm** in your community that says, ‘We should check things and not just take them at face value,’” Sloman says. “Verify before you believe.”

3 A **contagion** is a disease that spreads easily.

4 If someone is described as **crooked**, they are dishonest.

5 A **social consensus** refers to a group of people sharing the same opinions.



^ A mirror illusion at a fair in Dallas, United States

A. Choose the best answer for each question.

- GIST** 1. What would be the best alternative title for the reading?
 a. Helium Rain: A Great Discovery
 b. Stop, Question, and Verify
 c. Social Media and How to Use It
- VOCABULARY** 2. In paragraph C, what does the word *verify* mean?
 a. to make sure something is true
 b. to think about something for a long time
 c. to express an opinion about something
- PURPOSE** 3. The author uses the example of the bat and ball question to show that _____.
 a. people often forget skills that they learned at school
 b. there is often more than one possible answer to a question
 c. many people give quick responses without thinking carefully
- DETAIL** 4. More volunteers claimed to understand helium rain when _____.
 a. some of the volunteers explained it to them
 b. Sloman and his colleagues showed them how it works
 c. they believed that scientists fully understood it
- INFERENCE** 5. Which of the following is an example of “motivated reasoning”?
 a. You are not sure a story on social media is true, so you search online for more information.
 b. You post a message online that gives your opinion about a news story.
 c. You don’t believe a negative story about a soccer player because he plays for your favorite team.

EVALUATING STATEMENTS **B. Are the following statements true or false according to the reading passage, or is the information not given? Circle T (true), F (false), or NG (not given).**

1. Sloman and his colleagues discovered helium rain. **T F NG**
2. The volunteers were told that helium rain comes from certain clouds. **T F NG**
3. The second group of volunteers rated their understanding of helium rain higher than the first. **T F NG**
4. Waytz has carried out many experiments to investigate “motivated reasoning.” **T F NG**

Dealing with Unfamiliar Vocabulary (3)—Using a Dictionary

If you are unable to guess the meaning of an unfamiliar word from context, you may want to check in a dictionary. When doing so, remember the following:

- Some words have the same spelling but different meanings. Use the context to help identify the most relevant meaning, as well as the correct part of speech.
- Check if the word is part of a longer phrase. If it is, checking the meaning of the individual word may not be helpful. In a good dictionary, you will be able to search for whole phrases.

For example, the word *pop* appears in Reading A, paragraph B: *People give answers that “pop into their mind”...*

If you check this word in a dictionary, you may find the following definitions:

pop (n) modern music that is liked by many people

pop (v) to make or cause to make a short sharp sound

From context, we can guess that neither definition is correct. In this case, *pop* is part of a longer phrase “pop into their mind.” By searching for the full phrase, you can find the correct definition:

pop into your mind (phr): If something pops into your mind, you suddenly think about it.

SCANNING

A. Look back at Reading A and scan for the words below. Use context to check the correct meaning of each word as it is used in the passage. Circle the correct definition.

1. rate (paragraph D)

a. *rate* (n) the speed at which something happens

b. *rate* (v) to decide how good or bad something is

c. *at any rate* (phr) anyway

2. lead (paragraph G)

a. *lead* (v) to control a group of people

b. *lead to* (v) to cause

c. *lead* (n) a piece of wire covered in plastic

3. feed (paragraph I)

a. *feed* (v) to give food

b. *feed into* (v) to put into

c. *feed* (n) the way information is displayed on social media

SCANNING

B. Scan for the following words and check them in a dictionary. Write a definition for each word as it is used in the reading passage.

nature (paragraph C): _____

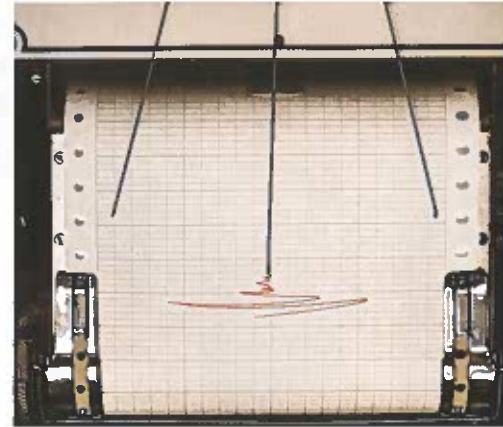
train (paragraph H): _____

face (paragraph J): _____

COMPLETION A. Complete the information using the words and phrases in the box.

average concept encounter media norm rely on

As human beings, we ¹ _____ other people for most of the knowledge that we learn. We gain so much from believing others that if we occasionally believe a lie, there is relatively little harm. Most people therefore have a tendency to trust others. However, this results in what psychologist Robert Feldman calls “the liar’s advantage.” According to this ² _____, the ³ _____ person does not expect to hear lies, and the ⁴ _____ is to believe what you hear. This is one reason why people tend to believe false information that they ⁵ _____ on social ⁶ _____.



▲ Polygraph machines—or lie detectors—work by measuring physical signs of lying, such as blood pressure and heartbeat.

DEFINITIONS B. Match the two parts of each definition.

- | | | |
|-------------------------|---|---|
| 1. An experiment | • | • a. is someone who offers to do a particular task. |
| 2. A researcher | • | • b. is a scientific test. |
| 3. A volunteer | • | • c. is a single person. |
| 4. An individual | • | • d. is a person who finds out information. |

COLLOCATIONS C. The nouns in the box are frequently used with the adjective **average**. Complete the sentences using the correct word.

day size family salary


- The average _____ in my country is around \$60,000 per year.
- On an average _____, I use social media for around three hours.
- The government’s new tax will cost the average _____ an extra \$1,000 a year.
- In many countries, the average _____ of a new apartment is getting smaller.

BEFORE YOU READ

DISCUSSION A. What kinds of lies do you think are OK to tell? Why? Discuss with a partner.

SKIMMING B. Skim the reading passage. What was the aim of the Matrix Experiments?

- to understand the most common lies people tell
- to find out how much people will lie
- to study how lying develops in children



➤ A soccer referee shouts at a player he believes is faking injury.

THE LIMITS OF LYING

Lying is a part of human nature. But how far will people go?

- A Psychologist Dan Ariely became interested in dishonesty about 15 years ago. During a long-distance flight, he came across an IQ test in a magazine. He answered the first question and checked the answer key to see if he got it right. He then took a quick look at the next answer before looking back at the quiz. He continued in this way through the whole test. Not surprisingly, he scored very well. “When I finished, I thought—I **cheated** myself,” he says. So why did he do it? “**Presumably**, I wanted to know how smart I am, but I also wanted to prove I’m this smart to myself.” The experience led Ariely to develop a lifelong interest in the study of lying and other forms of dishonesty.
- B To find out more about lying habits, Ariely developed a series of studies known as the Matrix Experiments. In the experiments, volunteers completed a test with 20 simple math problems. They were given five minutes to solve as many as they could. For each correct answer, they were told they would receive a **sum** of money. When the time was up, the volunteers counted the number of problems they solved correctly. They were then asked to destroy their answer sheets in a shredder.¹ After **reporting** their own test **scores**, they were paid accordingly. However, there was something the volunteers didn’t know. Their answer sheets were never actually destroyed.
- C By comparing actual test scores to reported scores, Ariely’s research team found out how many volunteers **lied**, and how much they lied by. The results? Of the 40,000 people who **participated** in the experiment, nearly 70 percent lied about their test score. On average, volunteers said they solved six problems, but it was closer to four. The results are similar across different cultures. Most of us lie, but only a little.
- D The question Ariely finds most interesting is not why so many of us lie, but rather why we don’t lie a lot more. In one version of the experiment, participants were offered significantly more money for each correct answer. However, this did not cause them to cheat more. “Here we give people a chance to steal lots of money, and people cheat only a little bit. So something stops us—most of us—from not lying all the way,” Ariely says.
- E The reason, he believes, is that we want to see ourselves as **honest**, because honesty is a value taught to us by society. This is why most of us place limits on how much we lie. We may be able to come up with an **excuse** for taking Post-it Notes² from an office fairly easily. “But it is much more difficult to come up with an excuse for taking \$10,000,” Ariely explains. The extent of our lying is determined largely by what is acceptable by society. “Cheating is easier,” he says, “when we can **justify** our behavior.”

¹ A **shredder** is a machine that tears paper into thin pieces.

² **Post-it Notes** are small pieces of paper that are sticky on one side.

READING COMPREHENSION

A. Choose the best answer for each question.

DETAIL

1. Why did Dan Ariely first become interested in researching dishonesty?
- He saw someone cheating on a test.
 - He looked at the answers for a quiz he was taking.
 - He lied to another passenger on an airplane.

DETAIL

2. Which of the following is true about the Matrix Experiments?
- Volunteers who lied about their score received no money.
 - The volunteers' answer sheets were destroyed.
 - The average volunteer solved four problems correctly.

REFERENCE

3. What does *They* refer to in the third sentence of paragraph B?
- problems
 - researchers
 - volunteers

DETAIL

4. The version of the Matrix Experiment described in paragraph D involved ____.
- more money for correct answers
 - volunteers from different cultures
 - more than 20 problems

SUMMARIZING

5. Which of the following statements best summarizes the conclusion Ariely draws in paragraph E?
- Stealing office equipment is more common than stealing money.
 - Most people in a society believe themselves to be honest.
 - We learn from society what kind of lies are acceptable.



Psychologist Dan Ariely

MATCHING
PARAGRAPHS

- B. Match the headings below to paragraphs in the reading passage (A–E). One heading is extra.

- ___ 1. Why people put limits on lying
- ___ 2. Contrasting ideas about dishonesty
- ___ 3. The design of Ariely's experiments

- ___ 4. Why Ariely chose to study lying
- ___ 5. What Ariely finds most interesting about dishonesty
- ___ 6. The results of the Matrix Experiments

Understanding a Research Summary

When writers describe an experiment or a piece of research, they often cover the following points:

- the **purpose** of the study (the question they want to answer)
- the **method** (how they set up and carried out the study)
- the **results** (what the study found)
- the **conclusion** (the significance of the results)

When reading a research summary, highlighting these points and noting them in the margin can help your understanding. Note that the order in which the information is presented will not always be the same.

UNDERSTANDING RESEARCH

A. The following excerpts are from Reading B. What does each one describe? Write **purpose, method, results, or conclusion**.

1. Most of us lie, but only a little. _____
2. Of the 40,000 people who participated in the experiment, nearly 70 percent lied about their test score. On average, volunteers said they solved six problems, but it was closer to four. _____
3. In the experiments, volunteers completed a test with 20 simple math problems. They were given five minutes to solve as many as they could. For each correct answer, they were told they would receive a sum of money. _____
4. To find out more about lying habits, Ariely developed a series of studies known as the Matrix Experiments. _____

UNDERSTANDING ARGUMENTS

B. Look back at Unit 2, Reading B. Highlight and label the parts of the passage that explain the purpose, method, results, and conclusion. Is the order of the information the same or different from Reading 11B?

CRITICAL THINKING Evaluating a Claim

- ▶ Ariely says, "Cheating is easier when we can justify our behavior." Look at the situations below. How might each person justify their behavior? Discuss your ideas with a partner.
 1. A soccer player pretends to be injured even though he is fine.
 2. A worker takes home some office stationery to use at home.
 3. A salesperson sells a product that he knows isn't very good.
- ▶ List some other examples of common dishonest behavior. For each example, do you think the behavior can be justified? Discuss with a partner.

COMPLETION A. Complete the information with the correct form of the words in the box.

excuse honest lie participate report

To study the development of lying in children, psychologist Kang Lee uses a simple experiment. Children who ¹_____ in the study play a simple guessing game. A card with a number on it is laid facedown on the table. The child must try to guess the number, and if they guess correctly, they win a prize. The researcher then makes a(n) ²_____ to leave the room. Hidden cameras show that most children can't stop themselves from looking at the next card. When the researcher returns, they ask the child, "Did you look at the card?" Among two-year-olds who peeked, two-thirds were ³_____ about it. But by age four, the researchers ⁴_____ that more than 80 percent of children who looked at the card lied to cover it up. The results of the experiment suggest that as children get older, they ⁵_____ more often.

DEFINITIONS B. Match each word with its definition.

- | | | |
|----------------------|---|--|
| 1. justify | • | • a. (n) an amount (e.g., of money) |
| 2. presumably | • | • b. (n) a result; e.g., in a test or game |
| 3. score | • | • c. (v) to break the rules, e.g., in a game |
| 4. cheat | • | • d. (adv) not certainly, but very likely |
| 5. sum | • | • e. (v) to give a reason for an action |

WORD FORMS C. The box below shows the different forms of the word **honest**. Complete the sentences using the words in the box.

honest (adj) **honestly** (adv) **honesty** (n)
dishonest (adj) **dishonestly** (adv) **dishonesty** (n)

- The children were punished for their _____ behavior.
- I _____ don't know what happened to the last piece of cake.
- Parents shouldn't encourage _____, but learning to lie is part of a child's development.
- It was a(n) _____ mistake. I didn't mean to do it.

✓ A fake smile and a real smile. Can you tell which is which?

SMILE TRIAL

BEFORE YOU WATCH

PREVIEWING A. Read the information. The words and phrases in **bold** appear in the video. Match the words and phrases to their definitions.

When it comes to **spotting** lies and untruths, paying attention to **nonverbal** forms of communication can be very important. Body language and **facial expressions** often give clues that someone might be lying. Blinking quickly, touching your face, and excessive sweating are all thought to be signs that someone is being dishonest. It's also possible to tell if someone is displaying **genuine** emotions. For example, if someone is smiling, but they're actually unhappy, the muscles in the face will behave slightly differently.

- | | | | |
|----------------------|---|---|-----------------------------------|
| 1. facial expression | • | • | a. to find or identify |
| 2. genuine | • | • | b. without speaking |
| 3. nonverbal | • | • | c. real, not fake |
| 4. spot | • | • | d. a way of showing your emotions |

PREDICTING B. Look at the pictures above. Which of these smiles do you think is real? Which is fake? Discuss with a partner and explain your reasons.

WHILE YOU WATCH

GIST A. Watch the video. Check your predictions and reasons in Before You Watch B.

DETAIL B. Watch the video again. Does each statement below describe a real or a fake smile? Circle the correct options.

- | | | |
|---|------|------|
| 1. involves the movement of muscles around the eyes | Real | Fake |
| 2. also known as a "Duchenne smile" | Real | Fake |
| 3. created by Duchenne using electricity to move the muscles | Real | Fake |
| 4. connected to the area of the brain related to emotion | Real | Fake |
| 5. connected to a part of the brain called "the motor cortex" | Real | Fake |

CRITICAL THINKING Applying Ideas

- Look at the emotions below. What body language and/or facial expressions do people use to express each one? Discuss with a partner.

anger disappointment interest joy surprise

- In what situations might someone want to fake the emotions above? Which are the hardest to fake? Why? Discuss with a partner and note your ideas.

VOCABULARY REVIEW

Do you remember the meanings of these words? Check (✓) the ones you know. Look back at the unit and review any words you're not sure of.

Reading A

- | | | | | |
|----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> average | <input type="checkbox"/> concept* | <input type="checkbox"/> encounter* | <input type="checkbox"/> experiment | <input type="checkbox"/> individual |
| <input type="checkbox"/> media* | <input type="checkbox"/> norm* | <input type="checkbox"/> rely on* | <input type="checkbox"/> researcher* | <input type="checkbox"/> volunteer |

Reading B

- | | | | | |
|---------------------------------------|--------------------------------------|---------------------------------|-----------------------------------|-------------------------------|
| <input type="checkbox"/> cheat | <input type="checkbox"/> excuse | <input type="checkbox"/> honest | <input type="checkbox"/> justify* | <input type="checkbox"/> lie |
| <input type="checkbox"/> participate* | <input type="checkbox"/> presumably* | <input type="checkbox"/> report | <input type="checkbox"/> score | <input type="checkbox"/> sum* |

* Academic Word List