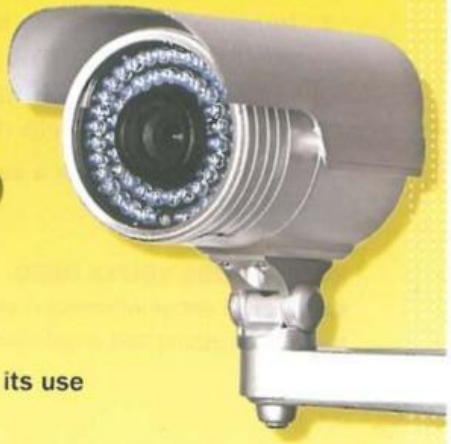
UNIT 3

Who Are You, Really?



In this unit, you will

- read about personal-identification technology and how its use affects societies.
- review finding the main idea.
- increase your understanding of the target academic words for this unit.

READING SKILLS Scanning

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

TARGET WORDS	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in *either* speaking *or* writing	used the word confidently in *both* speaking *and* writing
AWL						
adjacent						
analyze						
anticipate						
consequent						
controversy						
data						
device						
equip						
federal						
involve						
justify						
legal						
modify						
monitor						
undertake						

Outside the Reading What do you know about technology?
Watch the video on the student website to find out more.

Oxford 3000™ keywords

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Before You Read

Read these questions. Discuss your answers in a small group.

1. Imagine that someone has taken your picture without asking you. How would you feel? Explain why.
2. Police officers have difficulty spotting trouble in large crowds of people. How could technology help the police?
3. Have you ever seen a security camera? Where? Why do you think a camera was placed there?

MORE WORDS YOU'LL NEED

database: a set of information stored in a computer
threat: something that could cause harm

Read

This magazine article is about face-recognition technology used for security at sporting events. It focuses on the technology used at the 2001 Super Bowl—the American football championship game—held in Tampa, Florida.

Looking for Bad Guys at the Big Game

When the Super Bowl came to Tampa, Florida, in 2001, football players and coaches were not the only people on camera. Every fan was of interest to security officials, who used tiny, hard-to-see cameras to capture a shot of each person who passed through the stadium gates.

The organizers of any huge sporting event have to **anticipate** trouble and try to stop it before it starts. Security officials at Tampa's Raymond James Stadium hoped to do so by using machines that recognize faces. Each face seen by the gate-mounted cameras was compared to the **data** in local and **federal** law-enforcement computer systems. The **data** included photos of people previously arrested for stealing, causing fights, and other **illegal** activities. A similar set of automatic eyes routinely surveys the crowds at the Maine Road Ground in Manchester, England, the home stadium for the Manchester City soccer team. If a fan's picture matches one in the database, security officials could closely **monitor** him or her and perhaps even make an arrest.

A crowd at a sporting event, as viewed through overhead security cameras

INVASION OF PRIVACY?

Not everyone thinks this kind of surveillance is a good thing. In the United States, it has stirred some **controversy** about possible threats to the privacy rights of individuals. People being

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captured on camera were not told their pictures were being taken. None of them gave permission. The technology has not been proven to be reliable. What if the system points out an innocent person as a criminal by mistake? At a very basic level, it simply makes many people angry to think of a society in which the authorities spy on people wherever they go.

Security officials say the face-recognition (FR) system's great benefits **justify** any small inconvenience. Banks, shopping malls, and government buildings are already **equipped** with security cameras, and no one has a problem with that. Why complain about the systems used at Raymond James Stadium and the Maine Road Ground?

A security camera (right) allows security personnel to scan faces in a crowd.

BIOMETRICS

One big difference is that a system like the one used at the Super Bowl **involves** "biometric" technology. It **analyzes** facial characteristics (the features of the face) to establish a person's identity. A biometric system **undertakes** not just to display or record an event but to instantly identify the people **involved** in it.

The difference in types of systems is illustrated by another camera system in Tampa, this one in Ybor City, an entertainment district **adjacent** to downtown Tampa. At first, cameras mounted on the district's utility poles **monitored** the streets for fights, drug deals, and other crimes. The police might see a crime as it was happening or use the video to help in any **consequent** investigations.

Then Tampa **modified** those cameras to link directly to the police department's own database. This made them true biometric tools. Instead of humans **analyzing** a video to see who was depicted, machines did the identifying.

Computers will do similar analyses of the crowds at soccer's World Cup tournament in Brazil in 2014. Brazil's system will be even more advanced, however, with cameras that are worn like glasses by the police and that feed into a database of more than 13 million faces.

Advocates of biometric systems say this makes the system more scientific. Computers can compare exact measurements of facial features in order to make matches. Opponents of such systems object. They argue that machines are easily fooled by such simple **devices** as hats, new hairstyles, or glasses. Humans are a lot better at recognizing individuals, they say, than computer systems are. ■

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Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 1. Use the dictionary to help you understand new words.

___ 1. Images of individuals tied to illegal activities were used in looking for criminal activity at the stadium.

___ 2. Security officials felt that using face-recognition technology at the Super Bowl was a good idea.

___ 3. Biometric technology analyzes part of a person's body to determine who he or she is.

___ 4. All the photos in a face-recognition database come from the federal government.

___ 5. Most banks don't use cameras because their customers have complained.

___ 6. Linking the Ybor City system to a police database made the system truly biometric.

___ 7. A face-recognition system helps catch dangerous people who are still unknown to the police.

___ 8. Face-matching systems have no trouble identifying someone wearing a hat or glasses.

READING SKILL Scanning

LEARN

Most readers remember only general information after reading a text. To find specific information, they go back and *scan* the reading. *Scanning* means quickly moving your eyes over the text to find specific things.

One method is to scan for *signals*:

- capital letters: for names of people, cities, countries, and special events
- numbers: for dates, measurements, statistics, and addresses
- symbols: for percentages, monetary amounts, email addresses, etc.
- **bold** or *italic* type: for words that receive special treatment or emphasis

Another method is to scan for *keywords*:

- specific words related to the information you want to find
- unusual letter groups that your eyes would more easily notice

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APPLY

Scan Reading 1 for specific information to answer these questions. Write the answer, the signal(s) or keyword(s) you scanned for, and the line numbers where you found each answer. Compare answers with a partner.

1. At which stadium was the Super Bowl played?
   Answer: *Raymond James Stadium*
   Character(s) or Keyword(s): *capital letters, stadium, Super Bowl*
   Lines: *11*
2. Where is Ybor City?
   Answer: _____
   Character(s) or Keyword(s): _____
   Lines: _____
3. When was the Super Bowl in Tampa, Florida?
   Answer: _____
   Character(s) or Keyword(s): _____
   Lines: _____
4. What is Maine Road Ground?
   Answer: _____
   Character(s) or Keyword(s): _____
   Lines: _____
5. What is a biometric system?
   Answer: _____
   Character(s) or Keyword(s): _____
   Lines: _____

REVIEW A SKILL **Finding the Main Idea** (See p. 20)

There are nine paragraphs in Reading 1. Which paragraph has each of the following main ideas? Write the number of the paragraph.

___ When cameras were first put up in Ybor City, they helped the police see if crimes were happening.

___ Some people think face-recognition systems take away the privacy of innocent people.

___ Cameras are used at sports stadiums to scan for people who have committed crimes before.

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Vocabulary Activities STEP I: Word Level

A. **Read these excerpts from an article in a student newspaper on face-recognition technology. For each excerpt, cross out the one word or phrase in parentheses with a different meaning from the other three choices. Compare answers with a partner.**

1. Some schools use a card-access security system. In this kind of system, a student must insert a personal ID card into (*a device / a piece of equipment / a piece of data / a machine*) in order to enter the school.
2. The problem is that people lose or forget their cards. A person (*involving / watching / monitoring / guarding*) the entrance will probably not recognize each student, especially at a big school.
3. (*Foreseeing / Anticipating / Predicting / Undertaking*) problems of this type, many schools have turned to "video badging"—using a computer-stored picture of the student as his or her ID card.
4. If a student forgets his or her ID card, the video badge is used as a back-up. A guard or monitor at a computer station (*inside / adjacent to / next to / near*) the entrance can type in the name of a student without a card and see the picture of that student.
5. Many corporate computer networks require employees to type in a password to identify themselves, but there are problems with this system, too. There are lots of ways to steal someone's password. (*Consequently / Therefore / As a result / Justifiably*), restricted information can be accessed by the wrong person.
6. But there's no practical way to steal someone's face. Facial recognition technology (*modifies / analyzes / examines / inspects*) facial features much like a handwriting expert looks at someone's signature.

The word *modify* is similar in meaning to the word *change*. It means "to change something slightly," usually in order to improve it.

The word *device* refers to a tool, machine, or system made for a specific purpose. For example, a knife is a device for cutting things.

B. **Check (✓) the items that would be helpful devices for a police officer. In a small group, discuss why you made your choices. Then discuss how each device could be modified for use by people in their homes.**

___ 1. a security camera
___ 2. fingerprint powder
___ 3. a police radio
___ 4. portable fences to keep people out of a place
___ 5. a high-power flashlight
___ 6. a lie detector
___ 7. a bicycle
___ 8. an electronic navigation system, like a GPS

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Vocabulary Activities STEP II: Sentence Level

Word Form Chart			
Noun	**Verb**	**Adjective**	**Adverb**
involvement	involve	involved	_____

The word *involve* has the core meaning of "include." The passive verb form usually takes the preposition *in* or *with* and means "to be included or connected." The noun form is *involvement*.

*Mark **was involved in** security efforts at the game.*

*Her work **involved** testing security systems.*

*The **involvement** of local police helped reduce crime in the neighborhood.*

As an adjective, *involved* has the same meaning as "complicated." It is often used with the word *long* to describe a series of tasks or an event with many parts to it, such as "a long, involved process" or "a long and involved ceremony."

C. **ıwer the questions using the form of *involve* in parentheses. Refer to ıding 1 for information. Compare answers with a partner.**

1. How did they use face-recognition technology at Raymond James Stadium? (*involved*)

_____

2. Why might a person's photo be in the database of a face-recognition system? (*involvement*)

_____

3. What places typically use security cameras? (*involved*)

_____

4. Why is face-recognition technology called "biometric"? (*involve*)

_____

5. Who might be caught by police using the security system in Ybor City? (*involved in*)

_____

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Word Form Chart			
Noun	**Verb**	**Adjective**	**Adverb**
anticipation	anticipate	anticipatory	_____
consequence consequences	_____	consequent	consequently
controversy	_____	controversial	controversially
justification	justify	justifiable justified justifying unjustified	justifiably
modification	modify	modified modifying unmodified	_____

D. Read these excerpts from another article about face-recognition technology. Then restate each excerpt in your notebook, using the words in parentheses. Do not change the meanings of the sentences. Be prepared to read aloud or discuss your sentences in class.

1. Critics of face-recognition (FR) technology have good reasons to question its accuracy. (*justifiably*)

   Critics of FR technology ***justifiably*** *question how accurate it can be.*

2. According to one study, the very best FR systems are only about one-third as accurate as human beings. Such findings have fueled a debate within the security industry: Are FR systems a waste of money? (*consequence* or *consequently, controversy*)
3. Developers of FR software cannot know in advance how a face might change from one photo to the next. (*anticipate*)
4. The software is constantly being improved, but image changes caused by aging, lighting, or camera angle still confuse it. (*modify* or *modification*)
5. A human's brain, however, has been practicing recognizing faces since birth. As a result, most people can see past even large changes in another's appearance. (*consequence*)
6. Does it make sense to spend billions of dollars to create automatic FR systems when top-quality "systems" are all around us? (*justified* or *justifiable*)
7. When technicians look ahead to all the possible problems in a human-centered system, most say that it does make sense to create FR systems. (*anticipate* or *anticipation*)
8. A person may be very reliable when full of energy and fully focused on an FR task. But humans do not stay that way for very long. They get tired, stressed out, bored, hungry, sick, distracted, and even angry. All these conditions can greatly affect their reliability. (*consequences*)
9. Although automatic FR systems will always have their opponents, it makes sense to keep improving them and using them. They are a better option than a room full of tired people. (*controversial, modifications*)

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READING 2

Before You Read

Read these questions. Discuss your answers in a small group.

1. Have you ever needed to prove your identity? If so, when? How did you prove it?
2. You probably have at least one picture ID (an identification document with your photograph). It may be a passport, a school ID card, or a driver's license. Do you think the picture looks like you? Why or why not? Do you think the picture could look like someone else?
3. Why might someone try to hide his or her true identity? What techniques would such a person use? Is it always wrong to pretend that you are someone else? Why or why not?

Read

This online news article describes some situations in which people pretend to be someone else.

ID FRAUD

All the places for new students had been taken at a prestigious elementary school in London, England. The school had a waiting list. Any places that opened up would be offered to children at the top of the list. One child (let's call her Wendy) was near, but not at, the top. **Adjacent** to her on the list, one step higher, was another girl (let's call her Jane). Wendy's mother set up an email account in the name of Jane's mother and sent the school an email asking them to remove Jane from the waiting list. **Consequently**, Wendy rose one step. The fraud[1] was discovered when Jane's real mother called the school to ask about the list. By the way, Wendy and Jane were only four years old.

Wendy's mother participated in a small-scale act of Internet fraud. This case of false identity was not very serious—except perhaps to Jane's mother. The school had no effective way of checking identification, probably because it did not **anticipate** cheating by desperate parents. It was especially vulnerable to fraud on the Internet, since no face-to-face contact occurred. If Wendy's mother had actually had to go to the school to remove Jane, someone might have recognized her. Even better, if she had been required to show an identification (ID) card, the fraud could probably not have been committed at all.

Proper identification, such as a passport, can help to prevent identity fraud.

[1] *fraud:* an action in which someone deliberately uses false information to achieve a desirable outcome

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FAKE IDS

Her scheme almost worked because she successfully established a false identity, even if only for a short time. Anonymity[2] is a fraudster's best friend, but a fake[3] identity can be the next-best. Establishing someone's true identity is extremely difficult, even beyond the Internet. In most countries, the basic mechanism is a national identification card with a picture and basic personal **data** (address, height, etc.). In some countries (e.g., India, the United States, and the United Kingdom), no national ID card is issued, but driver's licenses typically serve the same purposes. Without a believable ID, you can't get a job, pass through airport security, or even stay at a hotel.

The problem is that fake ID cards are relatively easy to make. In earlier times, cutting out pictures and pasting them on hand-typed cardboard usually did the job. In the 1960s, a teenager named Frank Abagnale, **equipped** only with scissors and a typewriter, made a fake ID that convinced people he was an airline pilot. Now things are not so simple. Modern IDs are almost all made of plastic with numbers and letters pressed onto them by powerful machines, with holograms[4] showing pictures or information, and with magnetic strips on the back. The process to fake an ID card **involves** expensive **equipment** such as presses to stamp the cards, good laser printers to apply type to the plastic, and encoders (**devices** that put information on magnetic strips). Anyone who **undertakes** such expenses probably won't just make one ID for himself or herself. Rather, fakers will sell their services and produce false IDs for other people. They can make a good profit doing this, usually about $92 for every $100 of fake ID sold.

WHO NEEDS FAKES?

In 2004, agents from the U.S. **Federal** Bureau of Investigation (FBI) raided a beauty parlor in Milwaukee, Wisconsin, that was selling a lot more than haircuts. FBI agents said that, while **monitoring** the shop for six months, they had seen beauty shop customers buy passports, birth certificates, driver's licenses, and other identity documents. The FBI did not claim the shop owners actually made the documents but that they earned money by passing them on to customers. Their profit on a valid U.S. passport, for example, was reportedly about $1000.

Who would want a false ID? The list is long. An otherwise ordinary person might try to disappear to escape money troubles, a police investigation, an unhappy family life, or some other circumstance by simply moving far away and pretending to be someone else. Some people even stage their own "deaths" so their families can collect money from life insurance policies. First they disappear in some way that **justifies** the assumption that they're dead, such as swimming out to sea and never returning. Then comes the hard part. In order to get a job or rent an apartment somewhere new, they need fake documents. That's where places like the Milwaukee beauty shop come in.

On the Albanian ID card, the fingerprints of the legal holder are encoded on a microchip within the card.

NOT FOR AMATEURS

Getting a fake ID is **illegal** and dangerous, perhaps putting a buyer in contact with criminals or leading into a police trap to capture fraudsters. Also, the process often

[2] *anonymity:* a situation in which your identity is unknown
[3] *fake:* false
[4] *holograms:* images, created by a laser, that appear to be three-dimensional

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goes wrong when an inexperienced person tries it. A man from Hong Kong named Steven Chin Leung had quite a lot of trouble trying to use fake IDs. First, he was charged in the U.S. state of Hawaii for trying to get a U.S. passport **illegally.** To escape those charges, he went to New York and disappeared after the September 11 terrorist attack, when it was impossible to tell who was killed. He was finally caught while trying to get another document—his own death certificate—by **illegally** pretending to be his brother. Authorities knew something was wrong when their research showed that Leung actually had no brothers.

Governments and other issuers of IDs constantly **modify** their systems to stay ahead of the fakers, but it's hard to do. The ID-making **equipment** can be **legally** purchased because it has other, perfectly **legal** uses. Software for putting holograms on ID cards or encoding magnetic strips is easily available on the Internet. Perhaps the future of government IDs can be seen in the new cards issued by the European nation of Albania. In addition to the usual features—picture, signature, and so on—the Albanian card has a biometric[5] ID feature. The fingerprints of the **legal** holder are encoded on a microchip within the card so they can be **analyzed** if there is any **controversy** over whether the ID is valid. The question now is whether the ID fraud industry can find a way to beat even this identification feature.

[5] *biometric:* **involving** a measurable characteristic of a person's body

Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 2. Use the dictionary to help you understand new words.

___ 1. Jane's mother pretended to be someone else.

___ 2. The school in London was not very careful in determining parents' identities.

___ 3. In the United States and the United Kingdom., driver's licenses are used as ID cards.

___ 4. In Frank Abagnale's day, it was not technologically possible to make fake IDs.

___ 5. The FBI claimed that people could get fake IDs from a beauty shop in Wisconsin.

___ 6. People who choose to disappear need ID documents to set up new lives as someone else.

___ 7. Life insurance companies help people stage their own "deaths."

___ 8. Steven Chin Leung disappeared in order for his family to collect money from his insurance company.

___ 9. Equipment needed to make fake IDs can be legally purchased in the United States.

___10. Albanian ID cards show the holders' fingerprints but not their picture.

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READING SKILL Scanning

APPLY

Complete the chart by scanning Reading 2 for the answer to each question. Fill in the missing information.

Question	Answer	Signals and Keywords	Lines
1. What is the full name of the FBI?	*The Federal Bureau of Investigation*	*capital letters*	*68–69*
2. What did Wendy's mother send the school?			
3. What word does the abbreviation "ID" stand for?			
4. When did Frank Abagnale make a fake pilot's ID?			
5. If a maker sells an ID for $100, how much profit will he/she make?			
6. What did Steven Chin Leung do in Hawaii?			
7. What country has IDs with biometrics?			

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Vocabulary Activities STEP I: Word Level

A. **Complete the sentences about writer Philip K. Dick by using words from the target vocabulary list. Use each item one time. Use the synonyms in parentheses to help you. (Note: The sentences are not yet in the correct order.)**

adjacent	anticipate	involved in	monitor
analyzes	devices	involving	undertook

___ a. The science-fiction author Philip K. Dick, or PKD, had an amazing ability to _____ (see in advance) the effects of future technology on society.

___ b. Berkeley in the 1950s and 1960s was a center for radical thought and unusual lifestyles. PKD was _____ (part of) the area's "beat" poet culture.

___ c. Technological _____ (tools) such as face-recognition systems and eye scanners play a special role in PKD's stories.

___ d. He was born in Chicago, Illinois, but he lived most of his life in California. He went to high school in Berkeley, a city _____ (next to) to San Francisco.

___ e. In 1974, he began to have disturbing visions, some _____ (including) dreams of himself as a first-century Roman citizen who was trying to hide from government authorities.

___ f. In 1982, the now-classic movie *Blade Runner* was released. It was based on his story *Do Androids Dream of Electric Sheep?* Like all of Dick's best work, it _____ (examines) human identity in a world of powerful machines.

___ g. PKD started college in Berkeley, but he dropped out. He worked at a record store until he sold his first short story in 1952. At that point, he _____ (tried to succeed at) fiction writing as a full-time job.

___ h. These visions shaped his thinking and writing. In some of his books, the main character struggles to break free from technology that helps the government _____ (watch over) all human action and thought.

B. **Tell the story of Philip K. Dick's life by putting the sentences in activity A into a logical order. Number them from *1* to *8* (more than one sequence may be possible). Then use the target words as you compare stories with a partner.**

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C. **Read these sample sentences that feature forms of *analyze*. Then answer the questions that follow, using a dictionary as suggested. Compare answers with a partner.**

a. After we collected information, we had to **analyze** it.
b. According to government **analysts,** the traffic problem can be solved only by building a new road.
c. An **analysis** of the neighborhood's water showed several harmful chemicals.
d. After **analyzing** its purchasing system, the company decided to make some changes.

1. Check (✓) the word closest in meaning to *analyze*. Consult your dictionary before you answer.

   ___ judge

   ___ combine

   ___ examine

   ___ understand

2. Each of the sentences in the box above indicates that something was analyzed. What was analyzed?

   a. _____

   b. _____

   c. _____

   d. _____

3. Look at the sample sentences in your dictionary for *analyze* and its forms. What is being analyzed in each of those samples?

4. Does *analyze* have any forms that are not used in the sample sentences in the box above? If so, what are they? Consult your dictionary.

Vocabulary Activities STEP II: Sentence Level

D. **In a small group, discuss these questions. Use a dictionary to clarify word meanings if necessary.**

1. Certain criminals try to steal the identities of ordinary people. Which activity might put you in the most danger of having your identity stolen? Why?

   a. shopping online

   b. using a credit card in a hotel

   c. buying something by telephone

   d. answering a survey that asks for your email address

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2. Think about a culture you know well. Which of these activities do law enforcement officers monitor? Why?
   a. public gatherings on a holiday
   b. teachers talking to their students
   c. sporting events
   d. buying and selling at shops
3. What might be some consequences of each of these situations? Which consequences are good and which are bad?
   a. losing your ID card
   b. using a security system before it is tested
   c. putting security cameras in a store
   d. using a database of old photos in an FR system

Privacy allows you to live your life without unwanted attention from others. Your privacy is violated when someone—a neighbor, a salesperson, an email spammer, or the government—learns too much about you or what you are doing. Opponents of automated FR and other security technology say it threatens personal privacy. Supporters of the technology say that some violations of privacy are necessary to make society safe. The controversy is about priorities: Is public security more important than personal privacy?

E. **In each of these situations, there has been some loss of personal privacy. Write *Y* in the blank when you think the loss of privacy is justified. Write *N* when you think the loss of privacy is not justified. In your notebook, write a short explanation for each of your answers. Be prepared to read aloud or discuss your opinions in class.**

___ 1. The police set up cameras to watch people throughout the city.
___ 2. Security cameras at a sporting event take pictures of everyone who enters the stadium.
___ 3. A school takes a picture of each of its students.
___ 4. A school sells pictures of its students to an advertising agency looking for models.
___ 5. Pictures of criminals are loaded into a database.
___ 6. Pictures of everyone who has a driver's license are loaded into a database.
___ 7. A country requires everyone who lives there to get a national ID.
___ 8. A hotel requires you to show an ID card before it will give you a room.

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