

An aerial photograph showing a vast, dense crowd of people, each in their own brightly colored kayak (red, yellow, blue, green, orange). The kayakers are packed closely together, filling the entire frame, creating a vibrant mosaic of colors and shapes. The perspective is from directly above, looking down on the water.

Unit 3

Everybody's Doing It!

'There is socially contagious behaviour
when you're in a crowd.'

Iain Couzin



A group of nearly 2,000 kayaks and canoes

TO START


1. Look at the photo. What are the people doing? Do you think they meant to do this? Explain.
2. Think about a time when you were in a large group like the one in the photo. What was going on? Why were you and all the other people there?
3. According to Iain Couzin, when we're in a group, we tend to act like the others in the group. Do you agree with him? Why or why not? Give examples.

1 Humans usually make their own choices about joining groups. Do you think animals can make these same choices? Discuss. Then listen and read. [↻ 030](#)

We've all looked up at the sky to see a group of birds flying together. We might see noisy geese flying in a V-shaped **formation** as they **migrate** to a warmer climate, or a spiral of starlings at sunset. Or, unfortunately, we may have seen a group of mosquitoes or wasps coming at us! On land, we might see a group of wild horses running free, or a group of dogs in a field, or a group of monkeys in trees. Underwater, we might see a group of fish swimming together in sudden but perfectly **co-ordinated** movement.

A group of fish swimming away from a sailfish





Most groups that humans **belong to** have **leaders**. Sometimes, though, we may be in crowds with no leaders, as in a stadium full of sports fans. Can we **assume** that animal groups act in the same way? In the case of elephants, the oldest female is the leader. All her offspring, or young, and their offspring remain with her for many years. But in the case of fish that assemble in groups, there is no one leader. The fish come to an agreement together through **consensus**. They see what their neighbours are doing and mimic their behaviour. If they see a **potential** predator, they will all quickly swim away together to avoid it. Any fish that **prefer** to go off alone are probably going to be lunch!

Scientists now **realise** that **collective** behaviour in animals is a highly **efficient system** that is beneficial in many ways. These group behaviours allow animals to complete their **migrations** in relative safety, find food and protect group members from predators.

2 LEARN NEW WORDS Listen and repeat. 🔊 031

3 Work in pairs. Can you think of other animals that belong to groups with leaders? Other animals that belong to groups without leaders? Make a list for each type of animal. Share your lists with the class.

4 Read and circle the correct word.

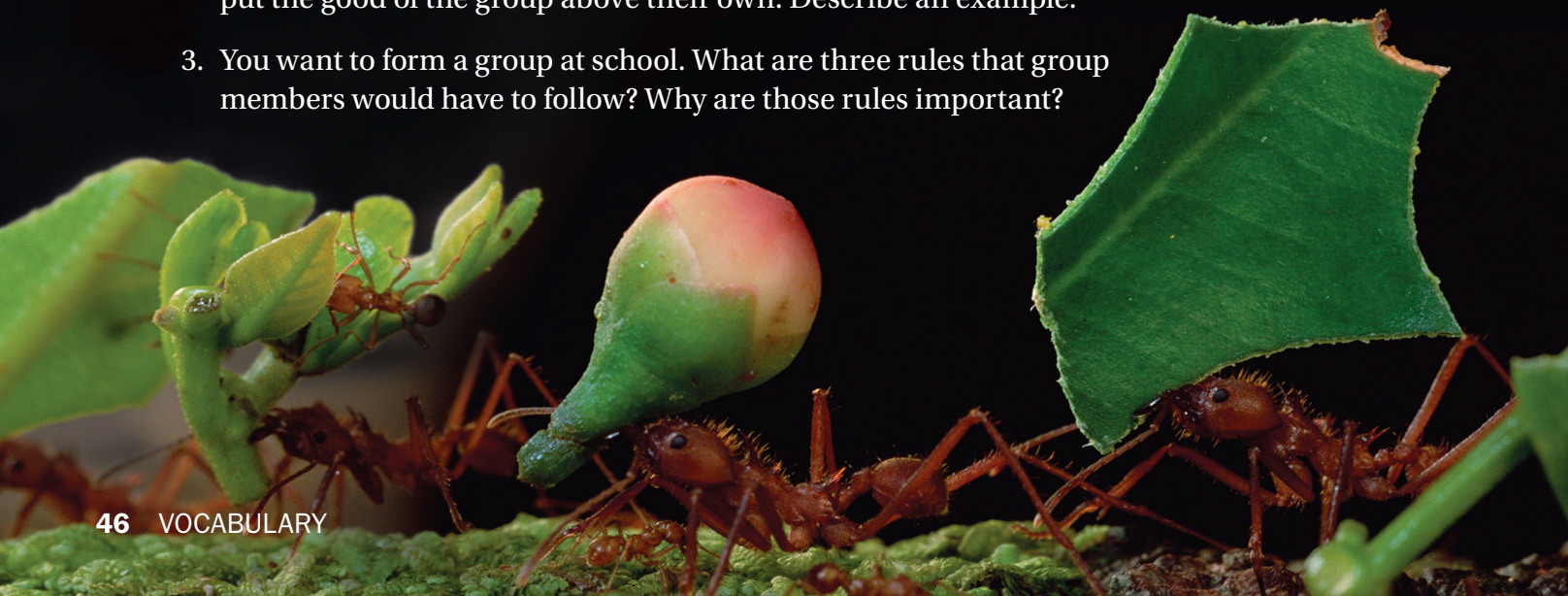
Iain Couzin liked animals as a child, but it was as an adult that he decided to focus on *efficient* / *collective* behaviours in animals. He came to *realise* / *assume* that, unlike the rhino or leopard, not all animals *prefer* / *migrate* to live or hunt alone. He discovered that many animals have highly *potential* / *coordinated*, complex social *systems* / *consensus* that permit them to do things as a group that they could never do alone. His studies on birds, fish and insects allow scientists to find *potential* / *assumed* solutions to problems such as how humans affect animal habitats, oil spills and even world hunger.

5 LEARN NEW WORDS Listen to these words and match them to their synonyms. Then listen and repeat. 🔊 032 033

assemble	crowd	mimic	remain
_____		1. group	
_____		2. stay	
_____		3. imitate	
_____		4. come together	

6 YOU DECIDE Choose an activity. Work in pairs.

1. Why do animals remain in groups? What are the advantages? Are there any disadvantages? Make two lists.
2. Some animal behaviours seem unselfish. Individual members will put the good of the group above their own. Describe an example.
3. You want to form a group at school. What are three rules that group members would have to follow? Why are those rules important?



SPEAKING STRATEGY 034

Expressing cause

Since she's scared of wasps, we stayed inside.

Because of the lack of food, the animals had to travel further and further away.


The experiment was called off due to the poor weather conditions.

Expressing effect

She's scared of wasps, so we stayed inside.

There was a lack of food. As a result, the animals had to travel further and further away.

The weather conditions were poor. Consequently, the experiment was called off.

- 1 Listen.** How do the speakers express cause and effect? Write the words and phrases you hear.  035

2 Read and complete the dialogue.

Alex: Iain and his team worked with army ants, too.

Billy: What did they want to find out?

Alex: _____ ants are so social, the team wanted to see how they organise their collective behaviours.

Billy: Don't they live together in huge groups?

Alex: Yeah, and _____, they have to be really organised.

Billy: It makes sense, I guess, _____ their numbers.

Alex: Yes, there are usually tens of thousands of ants moving at one time. _____ potential traffic jams, they organise a kind of super-motorway.

Billy: And, _____, everyone keeps moving?

Alex: Yes! The ants with food use a wide middle lane, and the ants that aren't carrying anything form lanes on the side.



- 3 Work in groups.** Take turns. Use a coin to move (heads = 1 space; tails = 2 spaces). Express cause or effect.

- 4 Work in pairs.** Humans are harming many habitats. What are some reasons for this?



Go to page 159.

Two-word verbs

Separable

The scientists **talked over** the problem.

The scientists **talked** the problem **over**.

The scientists **talked it over**.

They **worked out** a solution.

They **worked** a solution **out**.

They **worked it out**.

Inseparable

The scientists **talked about** the problem.

The scientists **talked about it**.

The scientists **looked into** the evidence.

The scientists **looked into it**.

1 Read and complete the sentences. Make any necessary changes.

apply to

calm down

cheer up

count on

hold back

look at

turn out

work out

Humans love to laugh. In fact, even hearing other people laugh can _____ *cheer* _____ us _____ *up* _____ or make us smile. But sometimes, even when it isn't appropriate, we just can't help ourselves and we start laughing, too! Who hasn't seen people trying hard to stop giggling and to _____ themselves _____ in a place where they should be quiet?

Yawning is another common contagious behaviour. When you _____ someone who's yawning, you usually want to yawn, too. Can you _____ that yawn _____? Probably not. It's very hard to resist the urge!

Did you know that even animals yawn? It _____ that chimpanzees, dogs, lions and other animals yawn when an animal in their group yawns.

Why are these behaviours so contagious? Scientists think they have _____ the answer _____. They believe the same reason _____ both behaviours. They are old, basic ways to show a social connection with others in your group.



- 2 **Read the text in Activity 1 again.** Circle four sentences with separable verbs. Two can be rewritten without separating the verb. Write them below.

- 3 **LEARN NEW WORDS** Do you think gorillas and wolves can yawn contagiously? Listen. Then listen and repeat. [037](#) [038](#)



a **troop** of gorillas



a **flock** of birds



a **herd** of elephants



a **swarm** of ants



a **pack** of wolves



a **school** of fish

- 4 **Work in pairs.** Go back to page 44. Take turns reading sentences in the first paragraph aloud. Each time you see the word *group*, say one of the words in Activity 3 instead.
- 5 **Work in groups.** Listen again. Then take turns using verbs from the list to summarise the information. [039](#)

build up

carry out

clean up

rely on

respond to

- 6 **Work in pairs.** Talk about three surprising things you have learnt about contagious behaviour. Use some verbs from the list.

calm down


cheer up

respond to

think about

turn out

work out

- 1 BEFORE YOU READ Discuss in pairs.** The title of the reading is *Humans in Groups*. What groups do you belong to? Make a list.
- 2 LEARN NEW WORDS Find these words in the reading.** What do you think they mean? Use the context to help you. Then listen and repeat.  040

flash mob influence intention join stand out

- 3 WHILE YOU READ Notice definitions and examples in the text.**  041

- 4 AFTER YOU READ Work in small groups to answer the questions.**

1. What is the main idea of the reading?
2. What are some kinds of groups mentioned in the reading?
3. Why do people want to join groups?
4. How are in-groups and out-groups different?
5. What are emergent groups? Have you ever belonged to an emergent group? Explain what happened.

- 5 Define words.** Choose five words or phrases from the reading. Make a two-column table. Write the word or phrase on the left and its definition on the right.



A flash mob in Bucharest, Romania

Humans in Groups

You and all humans belong to many kinds of groups. In some, membership is involuntary – that is, you were not part of the decision to belong. For example, if you were born in Peru, you are a member of the group Peruvians. Other examples of involuntary group membership include left-handed people or brown-eyed people.

Most of the time, though, you and the rest of us want to join, or become members of, certain groups. Why? Joining the technology club, the school choir, or a volunteer group that visits people in hospital reflects your interests and becomes part of your social identity. You become an accepted member of the chosen in-group. At the same time, you remain different from the out-group, those people who are not in the group. This reflects the human desire to belong, but also the desire to stand out, or be seen as different.

Most groups we join have the intention of lasting over time. They work to influence others in some way. But sometimes emergent groups form without goals or structure. The members of emergent groups don't know each other, but come together suddenly to respond to an event. For instance, a group of people might see a car accident and immediately come together to help the victims.

Not all short-lived groups deal with accidents or disasters. A flash mob, which is a group of people who suddenly assemble to perform in public, only comes together for a short time and then disappears. The goal of a flash mob is to do something surprising and entertaining in public, such as having a pillow fight or dancing in the street.

Whether we're fighting with pillows or helping people, humans are social beings who come together in groups.

6 Discuss in groups.

1. Go back to your own list of the groups you named in Activity 1. What kinds of groups were named? Compare and contrast the groups.
2. In Unit 1, you learnt about your personal identity. In this unit, you learnt about your social identity as a member of groups. How do these two identities influence one another? Give an example.
3. Would you like to be in a flash mob? What would you want the flash mob to do?

1 BEFORE YOU WATCH Discuss in pairs. Compare your own abilities with those of an ant. Name something an ant can do that you cannot.

2 Read and circle. The video you're going to watch is called *Smarter by the Swarm*. The video is about swarm intelligence. Can you guess what that means? Circle the letter.

- a. the ability of people to pressure each other into doing something
- b. improved knowledge and ability that comes when organisms work together
- c. ants living in a colony

3 WHILE YOU WATCH Note two benefits of ants working together. Watch scene 3.1.

4 AFTER YOU WATCH Work in pairs. Tick *T* for true statements and *F* for false statements.

- 1. Your brain is about 4,000 times larger than an ant's brain.
- 2. Ants often look lost when they're in large groups.
- 3. Ants leave a scent that sends a message to other ants in the colony.
- 4. Ants can communicate the fastest route to get to a place.
- 5. Companies are mimicking ant behaviour to be more efficient.
- 6. These companies learnt that ant behaviour isn't effective in humans.

☐ T ☐ F

☐ T ☐ F

☐ T ☐ F

☐ T ☐ F

☐ T ☐ F

☐ T ☐ F



A group of weaver ants work together to carry a drop of water back to their nest.

5 Work in pairs. What is *swarm intelligence*? Describe the meaning of this term. Use examples from ants and people in your answer. Then go back to Activity 2. Did you have the correct answer?

6 Discuss in groups. Think about shipping, transport and airlines. Why is it important for vehicles to work together? What do you think happens if a lorry, boat or plane doesn't communicate with others in its group? Compare this with what happens if an ant doesn't communicate with the rest of its colony.

7 YOU DECIDE Choose an activity.

1. **Work independently.** Create a comic strip with ants as the main characters. Your comic strip should show both individual and group behaviour with ants.
2. **Work in pairs.** Find out about a team of people who work together to solve problems. Explain who's on the team and what each person's role is. Share your answers with the class.
3. **Work in groups.** Imagine that you're a team of researchers and you have a group of microbots. Develop a project idea for how they can work together to get something done. Explain the goal of the project and how the microbots would make it happen.

GRAMMAR 042

Enough, too many, too much: Talking about amounts

I've got **enough** pillows, but there are **not enough** feathers. I need more.

You've put **too many** in each pillow. We've run out of feathers.

Do you want to join the flash mob pillow fight?

No way. All those people and feathers, too? It's **too much** stress for me.

1 **Listen.** For each sentence you hear, tick the correct amount. 043

	less than needed	the right amount	more than needed
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 **Read and complete the dialogue.**

Carlos: Do you want to join our flash mob later? Right now, we haven't got _____ people participating.

Juan: No, thanks. I've got _____ things to do this afternoon.

Carlos: You haven't got _____ time to see Gloria? She'll be there.

Juan: Really? OK then, I'll do my errands afterward. They shouldn't take _____ time.

3 **Work in groups of three.** Take turns playing *Rock, Paper, Scissors*. The winner chooses one item from list A and one from list B. Then the winner chooses another player to make a sentence with the chosen items. Each correct sentence is worth 1 point. The player with the most points at the end wins.

LIST A:	LIST B:
enough	dancers
not enough	money
too many	people
too much	time
	pillows

rock

paper

scissors



WRITING

In writing, using good examples is one way to explain and support the main idea. We can introduce examples with phrases such as:

for example

for instance

in other words

such as

- 1 **Read the model.** Work in pairs to identify the parts of the writing. How does the writer introduce examples? Underline the phrases.

Sometimes I like being alone, but I usually prefer being with my friends. My friends and I enjoy being together because we're interested in a lot of the same things. For instance, we all like sports, and most of us play on the school football team. We also ride our bikes to places we like, such as the park.

But our favourite thing is going shopping on Saturdays. We like looking in the shops, but we have fun doing crazy things, too. In other words, we like to get people's attention. For example, we might all wear one blue sock and one red sock to see if anyone notices. Or we might pretend to look for a lost contact lens on the floor to see if someone else will start looking.



Once, we made up a foreign-sounding language and pretended that we were tourists from another country. We had a map and pretended to ask for directions in our fake language. But it was so funny, we couldn't stop laughing. Unfortunately, by now most people at the shopping centre know us, so they just ignore us!

- 2 **Work in pairs.** What examples of group behaviour does the writer describe? Are any of them contagious group behaviour? If so, which ones?
- 3 **Write.** Choose a human group behaviour or an animal group behaviour. Write a description of this behaviour. Make sure you include several examples.





NATIONAL
GEOGRAPHIC

Collaborate

‘From invasive cells to schooling fish to human cultures, groups can accomplish what solitary individuals cannot.’

Iain Couzin

National Geographic Explorer, Behavioural Ecologist



1. **Watch scene 3.2.**
2. Iain studies group behaviour of birds, insects, fish and other animals. What other group behaviours could we learn from?
3. When is it better to work alone? To work in a group? Name something that you accomplished as a group member that you couldn't have done alone.

Make an Impact

YOU DECIDE Choose a project.

1 Plan and carry out a flash mob activity.

- Choose an activity to carry out as a flash mob.
- Notify people on social media about the time and place of your flash mob.
- Film your flash mob and present it to the class.

2 Plan and make a video of human group behaviour.

- With a group, go to a crowded place. Pretend to look for something on the floor, such as a contact lens.
- One group member should film what happens for two or three minutes. Take notes on any contagious behaviour.
- Write the results of your experiment, and present them to the class.

3 Plan and carry out a photo shoot in nature.

- Choose a local insect or bird to observe.
- Research its group behaviours and take photos.
- Write and present a report to the class.



Express Yourself

- 1 Read and listen to the poem by Asher Jay.  057

The Garb Age

Fashion is about excess,
about wanting more.
It's indulgent, vain,
selfish to the core.

Excess is euphemism
for avoidable waste.
Buying without need
is in poor taste.

In a finite world
resources are scarce.
Surplus drains, and
Earth has no spares.

Fads repeat like history,
dated becomes news.
Reduce, repurpose, recycle.
Up-cycle and re-use!

Fight a failing model.
Save scraps, set the stage.
Sew your own designs,
but don't let your garb age.

- 2 Work in groups. Discuss the poem.

1. What do you think the poem is about? Circle the letter. Support your answer.
 - a. buying trendy fashions
 - b. reducing your fashion footprint
 - c. buying only recycled clothing
2. The poem says we shouldn't buy things we don't need. Do you agree or disagree? Explain.



3 Connect ideas. In Unit 3, you learnt about group behaviours. In this unit, you learnt about fashion trends. What connection can you see between the two topics?

4 YOU DECIDE Choose an activity.

1. Choose a topic:
 - fashion and group behaviour
 - clothing and its impact on the environment
2. Choose a way to express yourself:
 - a poem or rap
 - a poster
 - a short video
3. Present your work.