

## 'Wave of silence' spread around world during coronavirus pandemic

### Level 3 • Advanced

#### 1 Warmer

Close your eyes for 30 seconds and make a mental note of all the sounds you hear. Afterwards, compare what you heard with other students and say which of the noises you heard were the loudest.

#### 2 Key words

Match the key words with the definitions. Then find them in the article to read them in context.

mask	slippage	seismic	incremental	swell	curtailed
slump	rumbling	dry up	unprecedented	spawn	impose

1. never having happened or existed before \_\_\_\_\_
2. suddenly and greatly reduce \_\_\_\_\_
3. relating to earthquakes \_\_\_\_\_
4. introduce something such as a new law or new system and force people to accept it  
\_\_\_\_\_
5. reduced, limited \_\_\_\_\_
6. stop happening or being available \_\_\_\_\_
7. increase in size \_\_\_\_\_
8. cover or hide something \_\_\_\_\_
9. quiet and quick movement away from something else \_\_\_\_\_
10. a continuous deep sound \_\_\_\_\_
11. increasing gradually \_\_\_\_\_
12. create, lead to \_\_\_\_\_

## 'Wave of silence' spread around world during coronavirus pandemic

### Level 3 • Advanced

#### 'Wave of silence' spread around world during coronavirus pandemic

*Seismologists said high-frequency noise fell as much as 50% as planes were grounded and roads emptied*

Ian Sample

23 July, 2020

- 1 An unprecedented wave of silence spread around the world in the wake of the coronavirus pandemic, according to researchers who found that vibrations from human activity slumped under national lockdowns.
- 2 Records from seismic stations all over the planet show that high-frequency noise caused by industrial plants, traffic and other activities fell as much as 50%, as country after country imposed restrictions that grounded planes, emptied roads and brought down the shutters on shops and businesses.
- 3 "You can almost see it as a wave," said Stephen Hicks, a seismologist who worked on the study at Imperial College London. "You can see the seismic quietening spread over time, starting in China in late January and then moving on to Italy and beyond in March and April."
- 4 The scientists analysed traces from a network of 268 seismic sensors in 117 countries and found substantial falls in human-generated noise in 185 of them. The largest drops were seen in busy urban centres such as New York and Singapore, but even remote stations in Germany's Black Forest and in Rundu, Namibia, fell quieter as human activity was curtailed.
- 5 Around universities and schools in the UK and US, seismic vibrations fell 20% more than the usual drops seen during holidays. In Barbados, high-frequency noise fell by 50% in the weeks before lockdown as flights dried up and tourists already on the island took the final few flights back home.
- 6 "The quietening is unprecedented, at least as far as we can go back in time with continuous seismic data," said Thomas Lecocq, first author on the study at the Royal Observatory in Belgium. Digital records of seismic activity exist from the 1970s, but paper records go back further.
- 7 The findings, reported in *Science*, reveal that vibrations from human activity spread further than scientists expected, reaching seismometers in remote outposts or installed deep underground. "We normally try to put seismometers in quiet places, but this shows that it's hard to get away from the noise," said Hicks.
- 8 For researchers, the sudden global quietening presents an unexpected opportunity. As the global population grows and cities swell, more people are at risk from earthquakes, volcanoes and landslides driven by the geology that lies beneath them. Human activity increasingly masks the weak seismic waves that indicate slippage on geological faultlines or early rumblings in a volcano, but during lockdown, such signals are easier to spot.
- 9 "It's important to see those small signals because it tells you if a geological fault, for example, is releasing its stress in lots of small earthquakes or if it's silent and the stress is building up over the longer term," said Hicks. "It tells you how the fault is behaving."
- 10 Without the human hum to overwhelm them, seismologists can more easily spot "micro-earthquakes" driven by incremental slippage along geological faults. Once they have recorded a quake from a particular fault, they can use the "fingerprint" of the tremor to look back over archived records and see if the fault has slipped before. The same goes for monitoring volcanoes near urban centres.
- 11 "In cities with geological hazards, such as earthquakes, volcanoes and landslides, we want to monitor and maybe get a warning of what's going on. But with human noise increasing, it'll become increasingly hard to see those small signals," Hicks said. "We're hoping this will spawn a whole new set of studies in this new field of human noise."

© Guardian News and Media 2020

First published in *The Guardian*, 23/07/20

## 'Wave of silence' spread around world during coronavirus pandemic

### Level 3 • Advanced

#### 3 Comprehension check

Answer the questions using information from the article.

1. Why is the word *wave* used in the title?
2. What was the effect of restrictions and national lockdowns on global noise levels?
3. Where did the data come from?
4. What new information have these findings provided about human-generated noise?
5. What new scientific opportunities have the restrictions and lockdowns presented?

#### 4 Expressions

Find the following expressions in the article. Then use them in sentences of your own. The paragraph numbers are given to help you.

1. happening after an event or as a result of it (four words, para 1)
2. high-pitched sounds (three words, para 2)
3. close a shop or business, temporarily or permanently (four words, para 2)
4. fractures or splits between areas of rock that allow the rock to move (two words, para 8)
5. during an extended period of time (four words, para 9)

#### 5 Discussion

- **Before the pandemic, what noises would you expect to hear from your window, balcony or garden at the following times?**
  - o rush hour, e.g. 5 pm on a Monday
  - o 6 am on a weekend day, e.g. Sunday
- **How would you describe these noises?**
  - o e.g. loud, continuous, droning, annoying, comforting, welcoming, rumbling
- **How did the noises at these times change during lockdown?**

#### 6 A silent video

Watch the video graphic here. Can you see the wave of silence?

[www.theguardian.com/science/2020/jul/23/wave-of-silence-spread-around-world-during-coronavirus-pandemic](http://www.theguardian.com/science/2020/jul/23/wave-of-silence-spread-around-world-during-coronavirus-pandemic)