Drones to speed defibrillator delivery

LEVEL B2


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I. WARM-UP

1. Where are public defibrillators available in your area?
2. What new uses of drones have you heard about?
3. How can technology help in medical emergencies?

II. KEY VOCABULARY

defibrillator
A device that gives an electric shock to restart a heart.

cardiac arrest
A sudden stop of the heart that can quickly cause death.

drone
An unmanned aircraft controlled remotely or by software.

radius
A distance from a centre point to the edge of a circle.

coverage
The area or share of cases that a service can reach.

retrieve
To go and bring something back from a place.

accessible
Easy to reach, enter or use.

resuscitate
To bring someone back to breathing or consciousness.

III. READING

Drones could cut the time to get defibrillators to people in cardiac arrest outside hospital, researchers say. The British Heart Foundation reports over 30,000 such UK cases each year, yet fewer than one in 10 survive. Every minute without CPR and defibrillation reduces survival by 10%.

In the Greater Paris area, Matthieu Heidet's team analysed 28,349 cases from 2011–2024, excluding central Paris, and mapped them against 1,893 AEDs. About 30% occurred within 500 metres of an AED, and many devices are not accessible at all hours.

Hillary Minka said 910 extra AEDs would raise 500-metre coverage to 84.5%, while 1,712 would be needed for 100%. Modelling showed drones with a 3,900-metre radius could boost access with fewer sites. With 100 drone bases plus 26 extra AEDs, over 97% of cases lay near a fixed AED or a base.

With 200 bases and four extra AEDs, over 99% did. Only 30–40% could retrieve an AED within five minutes by road, and in France just 8% receive a public AED before crews arrive, partly due to inaccessible units.

In a 200-base scenario using 871 existing AED sites plus four more, drone delivery reached virtually all cases within five minutes, helping bystanders resuscitate sooner.

Reading text adapted from reporting by **The Guardian***: "Drones could speed up getting...". Original article linked at theenglishwire.com.*

IV. COMPREHENSION QUESTIONS

1. What problem could drones help to solve?
2. Which city region did the researchers study?
3. How close were about 30% of cases to a fixed AED?
4. What share could reach an AED within five minutes by road?
5. What did the 200-base drone model achieve within five minutes?

V. DISCUSSION

1. Should cities invest in more AEDs, drone bases, or both? Why?
2. Where would drone bases work well or badly in your area?
3. How can bystanders feel ready to use a defibrillator?
4. What risks or rules should govern medical drones?

VI. GRAMMAR FOCUS

Wish / if only

Wish + past simple expresses a present wish or regret (wish + past). Wish + past perfect expresses a past regret (wish + had + past participle). If only works in the same way.

"Bystanders **wish drones were** *nearby."*
"Volunteers **wish they had detected** *the arrest earlier."*

VII. GRAMMAR EXERCISE

Complete the sentences with the correct form of the verb in brackets.

1. If only someone (start) ___ CPR before the ambulance arrived. _____
2. Many people wish they (know) ___ where the nearest AED is. _____
3. Volunteers wish the devices (be) ___ available after hours. _____
4. If only drone bases (exist) ___ in every town today. _____
5. Researchers wish they (map) ___ more sites before 2024. _____

Teacher's Notes

TEACHERS ONLY

These notes are designed to help you get the most out of this lesson. Please do not share this page with students.


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I. LESSON GUIDE

- Timing: 8–10 minutes warm-up, 10 minutes vocabulary, 12–15 minutes reading, 10 minutes comprehension, 8–10 minutes grammar, 12–15 minutes discussion.
- Pre-teach key terms with visuals: AED, CPR, cardiac arrest, drone base, radius, coverage. Check students understand percentages and distances.
- Run a detail-hunt: pairs underline all numbers and names, then summarise the model's main findings in three sentences. Sensitivity: the topic involves sudden death and serious illness; open in pairs and allow students to speak about the news, not themselves.
- Differentiate by product: stronger students calculate how many extra AEDs each scenario needs per 1,000 cases; others create a simple flowchart showing how a drone delivery would work.

II. DISCUSSION FACILITATION TIPS

1. If the class splits, pair opposing views and have each side list costs and benefits.
2. Put a city map on screen; groups mark ideal or poor base sites and justify choices.
3. Model a simple AED script, then ask students to add two steps that reduce fear.
4. Elicit two safety risks, then ask students to propose one clear rule for each.

III. EXTENSION ACTIVITIES

Debate: In teams, argue for either 200 drone bases or more fixed AEDs; present a 90-second case.

Writing: In pairs, draft a 70-word public notice explaining how drone AED delivery works.

IV. ANSWER KEY OVERVIEW

Comprehension questions: short factual answers from the text.

Grammar exercise: Wish / if only

Discussion: open-ended. Accept any reasonable ideas supported by examples and reasoning.

Answer Key

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IV. COMPREHENSION QUESTIONS

1. What problem could drones help to solve?
   Speeding access to defibrillators for out-of-hospital cardiac arrests.
2. Which city region did the researchers study?
   The Greater Paris area, excluding central Paris.
3. How close were about 30% of cases to a fixed AED?
   Within 500 metres of the nearest AED.
4. What share could reach an AED within five minutes by road?
   About 30–40% of cases.
5. What did the 200-base drone model achieve within five minutes?
   Drone delivery reached virtually all cases within five minutes.

V. DISCUSSION

Open answers. Accept any reasonable ideas supported by examples and reasoning.

VII. GRAMMAR EXERCISE

Complete the sentences with the correct form of the verb in brackets.

1. If only someone ___ CPR before the ambulance arrived. **had started**
2. Many people wish they ___ where the nearest AED is. **knew**
3. Volunteers wish the devices ___ available after hours. **were**
4. If only drone bases ___ in every town today. **existed**
5. Researchers wish they ___ more sites before 2024. **had mapped**

VI. GRAMMAR FOCUS

Key point: Wish + past simple expresses a present wish or regret (wish + past). Wish + past perfect expresses a past regret (wish + had + past participle). If only works in the same way. (Examples constructed.)

> *"Bystanders* **wish drones were** *nearby."*
>
> *"Volunteers* **wish they had detected** *the arrest earlier."*