CALM

Clean Air Living Matters
Exploring Reading

CALM Lesson

Reading Borough Council
Working better with you

DESIGN NATURE

Stantec

University of Reading

defra
Department for Environment Food and Rural Affairs

AQ Mappers – Overview
Lesson Plan
AQ Mappers

Y7-Y9

90 Mins

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Lesson Objectives

- Provide a **Geography** subject enrichment activity for **KS3** pupils
- Session to be provided for up to **30 pupils** (typical class size)
- Pupils to be divided into **groups of 5 or 6** – encouraging teamwork and collaboration
- Indoor & outdoor activities

Lesson Timings

00 Short presentation to introduce the air quality subject and set context

10 Review map of area and make informed assumptions on AQ

20 Observe / Collect Data

50 Return to classroom & next steps

60 Analyse data

75 Create action plans / 'Urban Air Quality Reduction Proposal'

85 Quick share of action plans

90 Session ends

AQ Mappers – Activity 1+2
Lesson Plan
AQ Mappers

Y7-Y9

60 Mins

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Activity 1 & Activity 2

- Work in groups of five or six pupils
- Use AQ sensors, laptops & *phones
- Observe / collect data – using sensors
- Record data – data sheets

National Curriculum Links:
Geography: undertaking a geographical enquiry, asking geographical questions, collecting and recording evidence, recognising how people can improve or damage the environment, explaining their views on a geographical issue, identifying opportunities for their own involvement in managing environments sustainably and communicating in ways appropriate to the task and audience.

What you will need

- Air Gradient AQ sensors
  Indoor & Outdoor (installed in advance)
- Portable AQ sensors & *Smartphones
  ATMO Tube Pro
- Data sheets (printed and / or XLS)

Measure

- **Particulate Matter** - PM 2.5 & PM 10
- Overall **Air Quality Score** (AQS)
- Averages

AQ Mappers – Activity 1 (inside)
Activity 1
Observe Data

5-6

30 Mins

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Air Gradient – Indoor & Outdoor Sensors + Dashboard

AQ Mappers – Activity 2 (outside)
Activity 2
Collect Data

5-6

30 Mins

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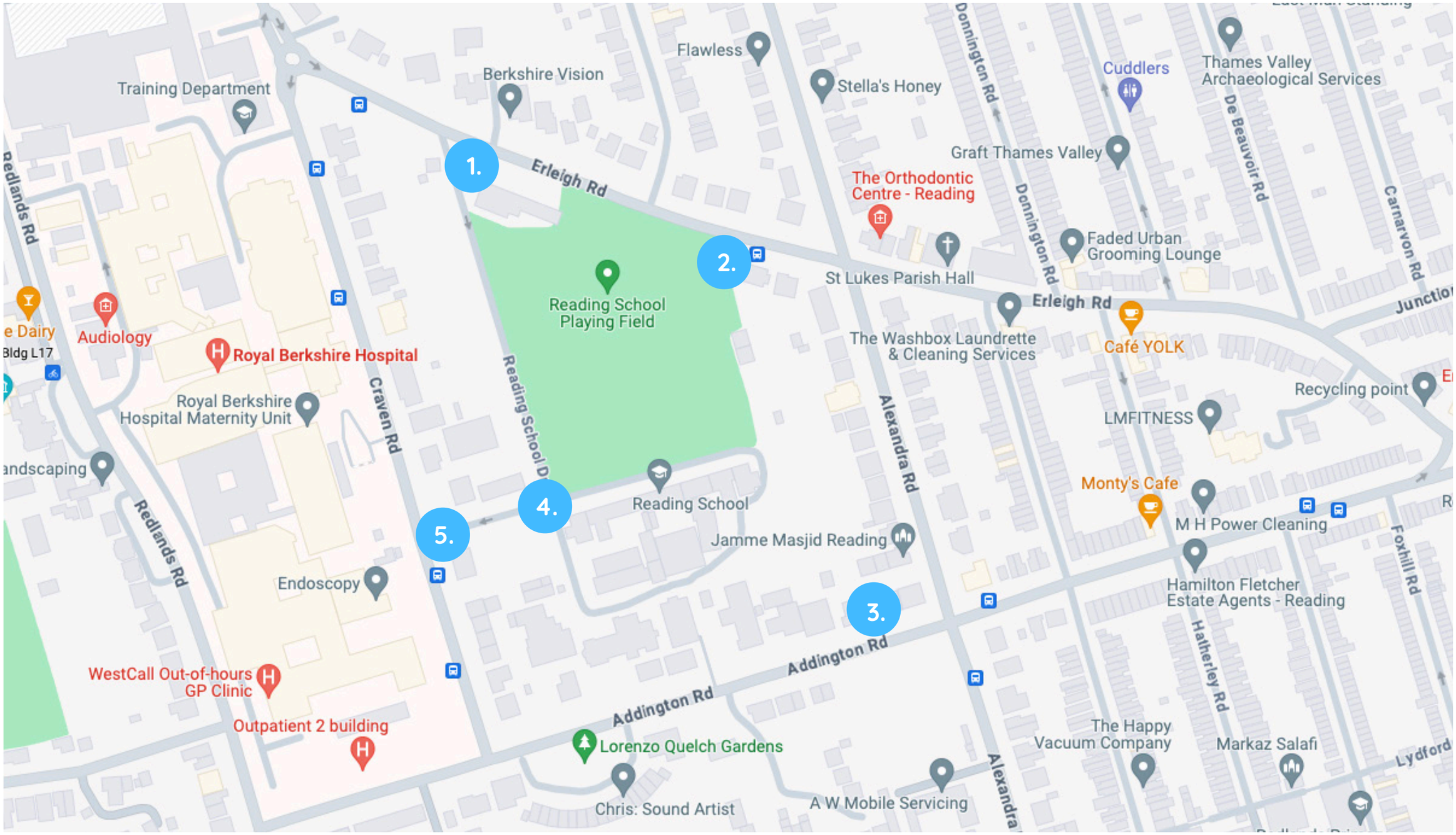
ATMO Tube Pro

AQ Mappers – Activity 2
Activity 2
Collect Data

Y7-Y9

30 Mins



AQ Mappers – Activity 2
Activity 2
Collect Data

Y7-Y9

30 Mins

Location

Sensor

	PM2.5	PM10	AQI
1.			
2.			
3.			
4.			
5.			

Location

Sensor

	PM2.5	PM10	AQI
1.			
2.			
3.			
4.			
5.			

AQ Mappers – Activity 3
Activity 3
Analyse & Action

Y7-Y9

30 Mins

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Activity 3

- **Review** data collected and output from handheld devices
- **Analyse** data and draw conclusions from what the data is showing
- **Compare** outcomes

National Curriculum Links:
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Discuss

- Discuss what can be done to improve the AQ around the school and the urban environment
- Identify challenges

Act

- Create actionable solutions and outcomes to the challenges identified
- Prepare proposal (Printed template provided)