

Plastics fieldwork (school grounds)



Age 11-14



180 minutes

Curriculum links

- Plan and conduct fieldwork safely and effectively
- Present data collected on fieldwork and draw conclusions
- Propose changes to improve the environment based on evidence gathered during fieldwork

Resources



Slideshow 8:
Plastics fieldwork
(school grounds)



Student Sheet 8a:
Plastics fieldwork record
sheet

Student Sheet 8b:
Plastics fieldwork report
frame

Student Sheet 8c:
Plastics fieldwork
evaluation

Lesson overview

This lesson provides a framework for conducting plastics fieldwork in the school grounds. As per most fieldwork, it consists of three phases: preparation, conducting fieldwork, and then analysis and conclusions. Depending on your school timetable and ability of your class, you will need to set aside three to four hours to complete this fieldwork activity. Suggestions for challenge tasks are included for more able students, if you teach a mixed ability class.

Lesson steps

1. Focus of the fieldwork (15 mins)

Introduce the fieldwork topic and the geographical enquiry cycle. Students will consider their fieldwork on plastics in the school grounds and place this in context of their learning on ocean plastics.

2. Evaluating environmental quality (15 mins)

Students will be assessing the environmental quality of different sites across the school grounds. During this lesson step, students will decide on the criteria that should make up an environmental quality score.

3. Fieldwork methodology (15 mins)

Students decide on the methodology they will use for their data collection and complete the introduction and methodology sections of their fieldwork report.

4. Risk assessment (15 mins)

Introduce students to the need for risk assessments and ask them to conduct a risk assessment for their school grounds fieldwork.

Learning outcomes

- Plan fieldwork including risk assessment
- Plan and carry out data collection
- Plan and carry out data collection
- Plan fieldwork including risk assessment

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Lesson steps

Learning outcomes

5. Conduct fieldwork (60 mins)

Students conduct the fieldwork, recording data for all sites using their fieldwork record sheets and through photography.

- Plan and carry out data collection

6. Analyse data (30 mins)

On returning to the classroom, students analyse their data using tables, charts and maps. These will form part of the overall fieldwork report.

- Represent data using tables, charts and maps

7. Draw conclusions (20 mins)

Students draw conclusions from their data and evaluate their fieldwork methods. They will also develop suggestions for improving the environmental quality of sites in the school grounds.

- Analyse fieldwork data and draw conclusions
- Evaluate fieldwork methods and results

8. Focus for change (10 mins)

Students share ideas for improving the school grounds. Common themes and ideas can be presented to school management for implementation.

- Suggest ways of improving the area in terms of reducing plastic pollution

TEACHER GUIDANCE 8 (page 1 of 3)

PLASTICS FIELDWORK (SCHOOL GROUNDS)

Step Guidance

Resources

1
15
mins



In this mini-fieldwork project, students will work together to conduct fieldwork on plastics in their school grounds. The fieldwork is split into three sections: preparation lesson (approx. 1 hour), conducting fieldwork (approx. 1 hour), and data analysis and conclusions (approx. 1-2 hours). This teacher guidance covers the entire 3-4 hours.

- Share the learning objectives for the school grounds fieldwork.
- Using slide 3, introduce the idea of the geographical enquiry cycle. This will be referred to throughout.
- Using slide 4, share the geographical fieldwork enquiry cycle with students. Although students will only be conducting one cycle of fieldwork, by the end of the project, they will be able to see how continuous investigation is possible.
- Using slides 5-7, connect the fieldwork to previous learning on plastics, and show how the theory lessons covered connect to students' own enquiry in the school grounds.
- Use slide 8 to refresh students' ideas about how fieldwork can be conducted. Students may draw from their own personal experience or what they have studied in other units or seen in the media.

Slideshow 8:
Slides 1-8

2
15
mins



Students start to consider how they will carry out their fieldwork. The first item to consider is how to calculate the environmental quality of a site.

- Slide 9 frames the idea of environmental quality.
- Slide 10 refers this concept back to the school grounds. Ask students to select criteria to use for assessing in pairs using slide 11.
- Students should add these criteria to Student Sheet 8a, and then practise applying them using the photographs from the school grounds.
- Share students' thoughts using a mini-plenary, before sharing the fieldwork sample sites on slide 14.

Slideshow 8:
Slides 9-14

Student Sheet 8a:
Plastics fieldwork record sheet

Student Sheet 8b:
Plastics fieldwork report frame



This section of the fieldwork will require students to reflect on photos from their school grounds. You will need to have taken these and inserted them into the slideshow in advance of the lesson. On slide 14, you will also need to insert a map of the school grounds and mark the fieldwork sites for data collection. Digital mapping sites such as Google Maps and OpenStreetMap can be used, with an annotated screenshot added to the slideshow.

TEACHER GUIDANCE 8 (page 2 of 3)

PLASTICS FIELDWORK (SCHOOL GROUNDS)

Step Guidance

Resources

3
15
mins



Students start to develop the methodology for their fieldwork and complete the first sections of their fieldwork report.

- Refer back to the fieldwork enquiry cycle on slide 15.
- Frame the data collection activity (i.e. the fieldwork) using slide 16. Ask students to follow the instructions on this slide, discussing in pairs how they propose to collect the data for their fieldwork. This can then be shared in a group of four.
- Slide 17 refers to the structure of the data collection on Student Sheet 8a.
- Slide 18 consolidates this planning and methodology stage of the fieldwork.
- Hand out copies of Student Sheet 8b and ask students to complete sections 1 and 2 of their fieldwork reports. Model answers have been provided as a precursor to students having to describe fieldwork methods at GCSE.

Slideshow 8:
Slides 15-18

Student Sheet 8a:
Plastics fieldwork record sheet

Student Sheet 8b:
Plastics fieldwork report frame

4
15
mins



Students will need to think about the risks they may face during the fieldwork and the actions that they can take to address these.

- Show students the annotated photograph on slide 19 and ask for further examples from their own school grounds, along with ideas for how these risks can be mitigated.
- Consolidate the preparation steps, making sure that student groups are ready to conduct the data collection.
- Using slide 20, use prompt questions to test student understanding of the plastics fieldwork project.

These may include:

- What is the aim of the fieldwork?
- How will you collect the data?
- What do we mean by environmental quality?
- What are the risks involved in carrying out fieldwork in the school grounds?
- How can we avoid some of these risks?



As an extension for this lesson step, consider using some of the galleries on the Encounter Edu website that show more extreme fieldwork and think about the hazards, risks and control measure that might be needed. As potential geography researchers, this may help to show students where geography can take them.



This risk assessment exercise is not a substitute for this fieldwork being risk assessed by a qualified individual following school guidelines.

Slideshow 8:
Slides 19-20

TEACHER GUIDANCE 8 (page 3 of 3)

PLASTICS FIELDWORK (SCHOOL GROUNDS)

Step Guidance

Resources

5

60
mins



This lesson step represents the fieldwork.

- Connect students to the preparation lesson, remembering to go over the data collection aspect and making sure that each student group has enough copies of Student Sheet 8a.
- Review the areas for the students to visit.
- Students carry out their fieldwork by visiting the sample sites and recording the data.
- Students return to the classroom with their fieldwork record sheets complete.



Remember to add any briefing notes to this stage of the fieldwork that are noted in your risk assessment. These may include notes about hazards identified, environmental conditions, behaviour expectations, etc.

Slideshow 8:

Slide 20

Student Sheet 8a:

Plastics fieldwork record sheet

6

30
mins



On their return to the classroom, students present and analyse the data they collected during the fieldwork phase.

- Review the data presentation activities on slide 22. These are also repeated on Student Sheet 8b.
- Ensure that student groups know how to complete these tasks and what success looks like.
- Hand out graph paper and photocopies of a map of the school grounds as necessary.
- Students who complete the three compulsory activities can be challenged to complete some of the optional activities.
- Students should also complete the data analysis section of their reports.

Slideshow 8:

Slides 21-27

Student Sheet 8b:

Plastics fieldwork report frame

7

20
mins



Students draw conclusions from their data and answer the questions in the conclusion section of their report.

- Students use the framework provided on Student Sheet 8c.



Students may need longer to complete their reports and an additional lesson or home learning time can be assigned to this.

Slideshow 8:

Slides 28-30

Student Sheet 8c:

Plastics fieldwork evaluation

8

10
mins



Students share their ideas for improving the school grounds.

- Ask students to share their ideas for improving the grounds and through a whole class discussion take forward ideas to be presented to school management.

Slideshow 8:

Slide 30