WJEC GCSE Geography

Approved by Qualifications Wales

Guidance for Teaching: Unit 2

Teaching from 2025
For award from 2027

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Ready for the world.

Contents

Introduction

The WJEC GCSE Geography has been approved by Qualifications Wales and is available to all centres in Wales. It will be awarded for the first time in Summer 2027, using grades A* to G.

Aims of the Guidance for Teaching

The principal aim of the Guidance for Teaching is to support teachers in the delivery of WJEC GCSE Geography and to offer guidance on the requirements of the qualification and the assessment process. The Guidance for Teaching is **not intended as a comprehensive reference**, but as support for teachers to develop stimulating and exciting courses tailored to the needs and skills of their learners. The guide offers possible classroom activities and links to useful resources (including our own, freely available digital materials and some from external sources) to provide ideas for immersive and engaging lessons.

Additional ways that WJEC can offer support:

- sample assessment materials and mark schemes
- professional learning events
- examiners' reports on each unit
- direct access to the subject officer
- free online resources
- Exam Results Analysis
- Online Examination Review

Qualification Structure

WJEC GCSE Geography consists of 4 units. The qualification is unitised and does not contain tiering. Aside from Unit 1, which is an introductory unit, there is no hierarchy to the order the units should be taught.

	Unit title	Type of Assessment	Weighting
Unit 1	**Our Physical and Human World**	Written examination	30%
Unit 2	**Developing Fieldwork Skills**	Non-examination assessment	25%
Unit 3	**Our Dynamic and Diverse World**	Written examination	30%
Unit 4	**Sustainable Solutions**	Non-examination assessment	15%

Assessment

Summary of Assessment

Unit 2: Developing Fieldwork Skills
Non-examination assessment: 7 hours (not including the time it takes to undertake the fieldwork)
25% of qualification

90 marks

Set and marked by WJEC.
WJEC will set two topic areas a year from: geographical flows, settlement, sustainability, mitigating risk, inequality, place and space, change over time, use of transects.

Overview of Unit 2

Developing Fieldwork Skills
Non-examination assessment – Fieldwork enquiry
Set and marked by WJEC
25% of qualification
90 marks

The purpose of this unit is to:
- explore both fieldwork and skills
- develop an understanding of the six-stage enquiry model.

Learners should also develop their mathematical and statistical skills whilst preparing for this Unit. The depth of coverage required of these skills is given in Appendix B on pages 44-45 of the specification.

Assessment overview
For this assessment learners are required to undertake a fieldwork enquiry following the six-stage enquiry process.

The assignment, which includes several tasks, will be issued to centres in an Assessment Pack via the WJEC portal. Tasks are not intended to change for the lifetime of the qualification. The two selected themes will change annually. Centres can select **one** of the two themes. The themes are published in the Assessment Pack for Unit 2 for five years. This will be updated to ensure there are always five years' worth of themes to allow for forward planning. Centres have the flexibility to decide when during the year learners undertake the assignment. However, it is important that centres select the topic from the year that they plan to submit the work for marking as this may be different to the year that the candidates undertake the assessment. If candidates choose to resit this unit later, they must undertake a fieldwork enquiry for one of themes selected for the academic year they are submitting.

This assessment contributes to 25% of the overall qualification grade and will take 7 hours for candidates to complete the tasks (this does not include the time it takes to undertake the fieldwork). The tasks will be marked out of a total of 90 marks.

This unit will be assessed through an externally set assignment and will be set and marked by WJEC. Assessments must be submitted digitally (they may be handwritten and scanned or completed digitally).

Centres will be expected to carry out fieldwork for the Unit 2 enquiry on one day, outside the classroom and school grounds. This must be accompanied by a fieldwork statement, signed by the Head of Centre, outlining the date, location and nature of the fieldwork conducted. Centres are encouraged to undertake further fieldwork during the course, either to support learning or to practice for the Unit 2 enquiry, however this is not required to be declared on the fieldwork statement.

In this unit, learners will develop knowledge, skills and understanding in:	
2.1.1	The six-stage enquiry process
2.1.2	Posing enquiry questions
2.1.3	Using maps to locate and plan the enquiry
2.1.4	Risk and constraint considerations
2.2.1	Selecting locations and sampling
2.2.2	Methods of collecting primary data
2.2.3	Methods of collecting secondary data
2.3.1	Selecting and using appropriate quantitative and qualitative techniques
2.3.2	Selecting and using appropriate presentation methods for quantitative and qualitative data
2.3.3	Referencing secondary data sources
2.4.1	Selecting relevant data to answer the enquiry question
2.4.2	Identifying, analysing and interpreting trends and patterns
2.5.1	Drawing conclusions from fieldwork enquiries
2.6.1	Evaluating each stage of the enquiry process
2.6.2	Identifying further areas of investigation/questions that could now be asked

Unit 2 Assessment objectives and weightings

AO2	Apply knowledge and understanding of geographical terms, skills and concepts to different contexts	5%
AO3	Analyse, evaluate, or make judgements from a variety of sources, synthesising where appropriate	5%
AO4	Select, use and apply skills and techniques in practice used by geographers to support geographical enquiry.	15%

Unit 2 Assessment objectives and weightings

Unit 2 Teacher Guidance

2.1 Planning an enquiry	
Content Amplification	**Teacher Guidance**
2.1.1 The six-stage enquiry process Learners should know the six-stage enquiry process. Learners should understand how: • each stage supports other stages in the process • to select a topic for enquiry.	It is intended that learners are formally taught the content of this unit before they embark on designing and carrying out their own fieldwork enquiry. The aim is for learners to become independent, balanced and sympathetic geographers who would have the confidence and skills to investigate their local environment. Therefore, learning each stage of the 6-stage enquiry process is integral to this. 2.1.1 is an overview of the enquiry process. Learners should know the order in which to carry out a fieldwork investigation, what a 6-stage enquiry is, and the purpose of each stage. Learners should also understand how each stage supports/impacts on all subsequent stages and therefore the importance of early decisions made. See resource: https://geography.org.uk/wp-content/uploads/2023/05/NEA_Geographical_investigations_split_to_A4.01.pdf It will also be helpful to share with learners at this stage the concept that the centre has selected for the cohort. As the rest of the unit is taught, examples and discussions could be based around this concept. This will help learners to select a topic within the concept to focus their enquiry on. Learners could be shown some examples of successful geographical enquiries so that they can visualise what they are working towards. Learning activities may include: • Explain how planning and data collection can influence conclusions in an enquiry. • Look through a good quality enquiry report (e.g. from the legacy specification) and highlight what impacts the decisions made during the

		planning/data collection/ data processing and presenting stages have on each subsequent stage of the investigation. Highlight areas of cynefin and discuss how it relates to the chosen topic.
		• List 10 possible topics that could be investigated through the chosen concept. Discuss and rank in order of ease of completion/suitability, to give learners an early idea of how to create an accessible enquiry, suitable for all learners to complete.
2.1.2 Posing enquiry questions	Learners should know how to pose enquiry questions. Learners should understand the role that enquiry questions have in framing the enquiry process. Learners should be able to: • plan and design enquiry questions within a given topic • justify enquiry questions • give predicted outcomes • justify predicted outcomes with reference to geographical knowledge and understanding.	This area of content covers deciding on the focus and structure of the enquiry questions. Learners should explore the different types of enquiry question (posing a question or stating a hypothesis which is to be proved or disproved). It might also be helpful to show learners how sub-questions can help to breakdown the overall enquiry question into measurable components. Learners should be shown how to justify these questions in the context of the whole enquiry. Learners should be taught what a predicted outcome is and why these should be included in their geographical enquiry. What is their purpose/value? When thinking about the context of enquiry questions it is important to remember that an aim of this unit is to foster a sense of Cynefin for learners. It might also be helpful to teach 2.1.2 and 2.1.3 at the same time so that context can be given to possible questions. Learning activities may include: • Learners looking out of the classroom window/in the school grounds and write five enquiry questions relating to what they see. • Give learners three fieldwork questions relating to their local area and ask them to give predicted outcomes. Learners can then swap their predicted outcomes with a partner who would then add justification to the predictions and highlight where cynefin is/could be addressed. • Give learners an example of a good enquiry question and a weak question and ask them to explain why. • Identify potential sources/theories of geographical understanding that are applicable to the chosen concept.

| 2.1.3 Using maps to locate and plan the enquiry | Learners should be able to plan an enquiry by:
• using appropriate Ordnance Survey (OS) maps to locate fieldwork study sites using four and six figure grid references, ensuring that they have all the correct information (for example, scale, north arrow, key and title)
• interpreting available and relevant Geographical Information Systems (GIS) data. | Learners should be familiar with using and interpreting Ordnance Survey (OS) maps from learning in Unit 1 to inform their understanding about places. It would therefore be useful to teach a quick recap of these skills focusing on the use of grid references and interpreting both physical and human features on the map.

Learners should be taught what makes a good site to collect fieldwork data and all the factors that should be taken into consideration such as representative samples, demands of the enquiry question, health and safety and time constraints.

Learners should also be shown different types of Geographical Information Systems (GIS) data and shown how these can contribute to a fieldwork enquiry such as heat maps across a city or using a GPS app to find the exact location that you planned to collect data on a beach.

Teachers should emphasise the value of using GIS to enhance the accuracy of learner's fieldwork outcomes.

Learning activities may include:
• Give learners two extracts of OS maps and ask them to describe the human and physical landscapes they see.
• Put an OS map extract on the whiteboard and ask learners to identify potential study sides for 3 different fieldwork investigations. Class discussion on whether the identified locations are appropriate or not.
• Provide learners with 2 different types of GIS information and brainstorm as a class how these can be used in fieldwork. |

| 2.1.4 Risk and constraint considerations | Learners should be able to:
• recognise what safety risks need consideration in the field and suggest strategies that will reduce these risks
• recognise the need to be sympathetic geographers, by recognising ethical considerations, including human rights and diversity, when investigating the world around them
• consider the impact of other restrictions on data collection, such as:
  • accessibility
  • availability of secondary data
  • equipment
  • time
  • travel. | Elements of section 2.1.4 could be taught alongside 2.1.3.

Learners should be taught that all primary data collection activities should be assessed for risk, which is usually in the form of a risk assessment. Discussions should be had on how to reduce these risks whilst still being able to achieve the objectives of the enquiry.

Different types of risks should be considered, reminding learners that they need to be sympathetic geographers who make ethical considerations. Risks to themselves, members of the public and the environment should all be considered.

Learners should be aware that when they carry out their own investigation they will have a limited period in which to collect data and therefore it is important to consider these before planning an investigation. Primary data collection sites need to be accessible, safe and have permission from the landowner if not public land.

Within the context of the chosen concept, learners should know what equipment is available to them from the centre and how this will impact their enquiry design.

Learning activities may include:
• Give learners a partially completed risk assessment for a fieldwork activity. Ask learners to complete the risk to themselves/public/environment columns or the mitigating risk column.
• Class discussion about what sympathetic geographers and ethical consideration are. This could also be done in small groups who are provided with a fieldwork context and the groups are to list the necessary considerations.
• On a given topic e.g. speed of river flow, learners need to write down different ways in which this could be measured including equipment required. |

2.2 Collecting evidence

Content Amplification		Teacher Guidance

2.2.1 Selecting locations and sampling	Learners should understand:
	• the importance of choosing data collection locations
	• the importance of obtaining representative and inclusive samples
	• the process of sampling, including:
	  • factors influencing sample size
	  • the choice of sampling methods, including:
	    • opportunistic
	    • random
	    • stratified
	    • systematic.
	
	Learners should be able to choose and justify:
	• data collection sites within a given area
	• sample size
	• sampling method.
		Elements of section 2.2.1 (especially the first bullet point) could be taught alongside section 2.1.3 and 2.1.4.
		
		Learners need to be able to choose sampling sites which will provide them with the data they require to complete their enquiry. They should be taught what makes a good/bad site.
		
		Teachers should illustrate the impact that different sample sizes can have on the outcomes of an enquiry and the importance of balancing time with gaining a representative and inclusive sample.
		
		Learners need to understand the four different methods of sampling and the decisions that are involved in deciding which method to use. Learners should be able to evaluate each one and apply it where relevant to their chosen enquiry.
		
		Learning activities may include:
		• Learners to work in small groups. They are given an OS map with six potential study sites. They are told that there is only time to collect data from three sites, so the groups need to identify their chosen sites and justify why.
		• Put all learners standing in a line and ask one learner to select 10 people through opportunistic, random, stratified and systematic sampling. The learners could also be lined up in age/height to add greater understanding to stratified sampling. This activity could also be used to illustrate the impact of different sample sizes on outcomes.
		• Candidates to give the advantages and disadvantages of the four methods of sampling.

| 2.2.2 Methods of collecting primary data | Learners should be able to:
• design primary data collection sheets
• select and use fieldwork equipment to gain accurate and reliable results
• select and use quantitative data collection techniques
• select and use qualitative data collection techniques
• justify the choice of the data collection methods used. | When planning their data collection methods, learners should be encouraged to look at their enquiry question/hypothesis and decide what type of data would help them to answer this question. Then when considering the equipment and time available, they can decide on what data they are going to collect.

Learners should design their own data recording sheets. Thought should be given as to how the data is going to be used which may influence how it is recorded. Therefore, it might be useful to consider section 2.3 when designing recording sheets.

To know what field equipment to select, learners will need to know what instruments measure which data and what equipment centres are able to access. It might be helpful for centres to share equipment in order that learners have the choice of as wide a range of equipment as possible.

Learners need to know the type of data collection techniques (within the context of the chosen concept) ahead of making decisions on what data to collect. Centres should provide opportunities for this within the classroom or school grounds illustrating how and why certain equipment is used. This will allow learners to make an informed choice.

Learners should be taught what quantitative and qualitative data is and how these are used together to produce valid quality data that informs conclusions. For example when investigating flow of people within an urban area, in addition to carrying out a pedestrian count (quantitative data) at various locations, learners could also interview (qualitative data) which might provide some of the reasons behind the quantitative data.

The skill of justification is going to be very important throughout the geographical enquiry and therefore this is something that learners should be taught how to do. In the context of data collection, learners should be able to justify every method of data collection they use and relate this to their enquiry question/hypothesis.

Learning activities may include:
• Describe a primary data collection technique to learners who then need to |

		design a data recording sheet for this data.
		• Split the class into groups. Give each group a fieldwork context. For that context give the learners 6 different methods of collecting data. Learners can then identify each as qualitative or quantitative and write a justification as to why each piece of data would be helpful in the given context.
		• Learners to practice using fieldwork equipment within the grounds of the school – in particular equipment that is relevant to the concept that has been chosen by the school.

2.2.3 Methods of collecting secondary data	Learners should be able to:
	 • find, select and use relevant secondary data
	 • ensure the secondary data used adds value to their study in terms of:
	  • context
	  • comparison with primary data
	  • understanding the reliability and validity of secondary data.
		It is important that learners understand that secondary data can be just as important as primary data in the context of a geographical enquiry, and it should not be seen as a 'bolt on' piece of evidence.
		
		 However, to add value, learners need to ensure that secondary data is relevant to their study and furthers understanding. Learners should also have an appreciation of the different ways in which secondary data can be used:
		 • Is the purpose of the secondary data to inform the reader about the location of study? For example, OS maps, meteorological office data, images from www.geograph.org.uk.
		 • Does the enquiry require a comparison over time and therefore the secondary data is providing that comparison? For example, a previous year's data collection sheets.
		 • Does the secondary data provide context to the wider geographical conditions? For example, statista.com, census data.
		
		 Centres should also show learners how to assess as to the reliability and validity of the secondary data they have found. They should encourage learners to ask questions such as:
		 • Who collected this data and why?
		 • Does the person/organisation have an agenda/message that they want to convey which the data appears to be supporting?
		 • Was the data collected likely to be accurate or is there a high chance of errors? (Professionally collected or by a previous learner)

		Learning activities may include:
		• Split the class into small groups. Give each group a different geographical topic to explore. Give the groups 10 minutes to find as many sources as possible of secondary data for that topic. At the end of the 10 minutes the groups swap the information, and each group then must assess the validity and reliability of each secondary data source the previous group had found. • Give learners three pieces of secondary evidence on a local topic, learners need to look at the secondary data and explain to the class why they would or would not use this data.

2.3 Processing and presenting evidence

Content Amplification		Teacher Guidance

2.3.1 Selecting and using appropriate quantitative and qualitative techniques	Learners should be able to select appropriate techniques to process evidence which aids interpretation, including calculating:
	• distance on maps
	• median, mean, range and mode
	• percentages
	• other relevant techniques.
		The way data is analysed and presented can have a large impact on how easy or difficult it is to see patterns and trends in the data. Selecting the most appropriate way to process data is going to be very important for learners when they are drawing their conclusions and therefore it is important they are taught a range of techniques.
		
		At the very least learners should be able to:
		• Plot, measure and draw distances on a map – this might be required during the planning stage of the enquiry or during analysis of data e.g. calculating the distance travelled by the river between two data collection sites. It is vital that this is done accurately and maybe done by hand using an OS map or via a GIS system such as ArcGIS.
		• Calculating the median, mean, range and mode of a data set is a basic statistical analysis of the data. Learners should be shown the benefits and drawbacks of using each in addition to knowing the format the data is required to be in for them to be able to apply the technique.
		• Converting data to percentages is a skill that most learners will have but they should know why they are doing this. Does a particular statistical technique need data as percentages? Does it help with data presentation?
		• In addition to the above techniques, there are many other ways to manipulate data or apply statistical techniques which may improve understanding of patterns and trends. **These further techniques are optional and not required to gain full marks.** However, some candidates maybe confident to apply them. Such statistical techniques will depend upon the type of data and the context; however, some examples are:
		  • Interquartile range
		  • Mann-Whitney U Test
		  • Manning's n
		  • Wetted perimeter

		Learning activities may include: • give learners OS map extracts and ask them to calculate various distances on the map • give learners five sets of varying data, they must select two types of statistical analysis to carry out on the data and provide reasoned judgements as to why those techniques were appropriate • provide learners with a context, then ask them research a geographical statistical analysis that could be applied to the data.
2.3.2 Selecting and using appropriate presentation methods for quantitative and qualitative data	Learners should be able to: • identify the strengths and weaknesses of different forms of data presentation • select and use appropriate maps • select and use appropriate graphs • select and use appropriate qualitative data such as focus group transcripts, field sketches or photographs.	Like the processing of data, it is also important for learners to select and accurately apply appropriate data presentation techniques for both their quantitative and qualitative data. The presentation of data has a great impact on the visualisation of trends and flows and therefore should be selected carefully. It is also important to note that learners are not required to present every piece of data that has been recorded – the 'selecting' applies not only to the data presentation method but also to which sets of data they decide to present. This should be decided upon through the value that the data brings in being able to answer the key question/hypothesis of the enquiry. Only present data that is relevant. For quantitative data there are numerous types of graphs and maps which help to illustrate trends and patterns, and the decision over which to include will depend on the type of data collected. Appropriate graphs that might be considered include: • bar graph – used to present discrete data • histogram – represents data that is discrete or continuous • line graph – used to present continuous data • scatter graph – used to show the relationship between two sets of data • pie chart – used to show data represented as segments of a circle • kite diagram – a graph that shows the frequency of a factor along a transect • pictograms – a graph where the frequency of an image indicates the value of a factor • star and radial graphs – a graph that shows multiple variables on more than one axis

- triangular graphs – a graph that displays three different components
- dispersion graphs – illustrates the range of variables within a data set
- cross sections and transects – a line graph which shows a visual representation of the cross section/transect being measured.

Appropriate mapping techniques that might be considered include:
- choropleth map – a map that uses colour to show a variable
- isoline map – a map that uses lines to join points of equal value
- flow line map – a map that shows movement from one location to another
- proportional symbols map – a map with symbols of different sizes that represent data at certain locations.

Learners should also explore different ways of displaying qualitative data. For each strategy, learners should be shown how to display and what is required.

Appropriate qualitative data presentation techniques that might be considered include:
- annotated sketch maps – a simplified drawing of a landscape with explanations of features/processes
- annotated photographs – a photograph of a study site with added explanations of features/processes
- transcripts from interviews – a written record of an interview
- word clouds – displays the frequency of keywords mentioned during interviews.

Learning activities may include:
- Put various examples of different types of graphs or maps on the whiteboard. Ask learners to identify the name of the technique and what type of data it can be used with.
- Provide learners with examples of data sets and ask them to present the data using one of the techniques (that is applicable to the concept they will be investigating).
- Put a photograph on the whiteboard and ask learners to come up and add annotations of things that they see.
- Take learners out into the school grounds and ask them to draw a field sketch map of what they see. On returning to the classroom, ask them to add annotations.

| 2.3.3 Referencing secondary data sources | • Learners should be able to present secondary data in an appropriate way
• consider if stakeholders have a vested interest when reflecting on the reliability of secondary data
• accurately reference all sources of secondary data by citing sources, using a bibliography/resource list. | When learners decide which secondary data they wish to include in their enquiry, consideration should be given to how this is to be presented. Centres should discuss the benefits of presenting secondary data in the format it was found and presenting it in a different format. Ultimately this will depend on the data being considered.

It is important that learners are taught how to consider vested interests and bias in secondary data. They should know what stakeholders are and what influence they might have in how the data is presented.

Learners should be taught what a bibliography is, what it should contain and how to reference secondary resources accurately

Learning activities may include:
• Give the learners a data set. Ask one half of the class to present it to show one viewpoint and the other half to present it to show the opposite viewpoint. Discuss this, and link to how data can be made to show what the writer wants it to show. Discuss ways of avoiding this situation.
• Give the learners several quotes on a topic e.g. different viewpoints on building new houses in a small village. Learners are to recognise the bias in each of the quotes and explain why this person might have this view.
• Give learners several secondary resources (both physical and digital) and ask them to create a bibliography. |

2.4 Analysing and applying evidence

Content Amplification		Teacher Guidance
2.4.1 Selecting relevant data to answer the enquiry question	Learners should be able to select: • primary data which contributes to answering the enquiry question • secondary data which contributes to answering the enquiry question.	It is important that learners know that they need to be selective about the data sets that they include in analysing results. Candidates should be selecting data that contributes towards answering their enquiry question/hypothesis. Both primary and secondary data should be analysed. When selecting secondary data, if the data set is large then learners need to know how to include just relevant sections which contribute towards their enquiry. Learning activities may include: • Give learners a range of primary and secondary data together with an enquiry question. Ask them to select the most relevant data that can be used to answer the enquiry question.
2.4.2 Identifying, analysing and interpreting trends and patterns	Learners should be able to: • analyse and synthesise relevant data to identify patterns and trends from primary and secondary data • use data to interpret and justify trends described.	Learners should be taught how to analyse and synthesise data so that they only include data that specifically contributes towards their enquiry question. Learners should be encouraged to look for links between data sets e.g. how one factor influences another. Detailed explanation and the use of selected extracts of data should also be encouraged as part of justification of their analysis. When discussing trends and patterns, learners should make specific reference to maps or graphs. These should be in the context of answering the enquiry question. Learning activities may include: • Give learners a set of primary data and ask them to make connections between the data. Encourage learners to interpret these connections and describe trends/patterns in the data. • Provide learners with a selection of secondary data which relates to the primary data. Class discussion as to which secondary data contributes to the enquiry question and reinforces the primary data.

2.5 Drawing conclusions

Content Amplification		Teacher Guidance

2.5.1 Drawing conclusions from fieldwork enquiries	Learners should be able to:
	• draw supported conclusions which answer the original enquiry questions
	• reference their findings in the context of wider geographical concepts, such as:
	   • continuity and change
	   • diversity
	   • environment
	   • interpretation
	   • inter-relationships
	   • place and space
	   • process
	   • scale.
		Learners should be taught how to structure a conclusion to ensure that they answer the enquiry question/hypothesis. The structure can be guided by any sub-questions the learner included during the planning stage of their enquiry. It is expected that they provide reasoned judgements based on evidence that they have collected with consideration to the wider field geographical concepts.
		
		It would be good practice to remind learners of the relevant geographic theories within the chosen concept so that they are able to select appropriately.
		
		Learners to write a conclusion which includes
		• answering the question posed
		• stating key pieces of evidence that support the conclusions
		• reasoned judgements
		• relating findings to the wider field of geography.
		
		Learning activities may include:
		• Give learners a one-page set of data/resources on a geographical concept.

2.6 Evaluating techniques	
Content Amplification	**Teacher Guidance**
2.6.1 Evaluating each stage of the enquiry process Learners should be able to evaluate each stage of the enquiry, including: • planning the enquiry • collecting evidence • processing and presenting data • analysing and applying data • drawing conclusions.	Learners should be taught how to evaluate – weigh up the advantages and disadvantages and draw a conclusion. They should consider accuracy, reliability and bias. Learners should evaluate each stage of the enquiry process. They should consider what worked well, what didn't work well and what impacts this had on future stages of the enquiry process. Learning activities may include: • Split the class into five groups. Give one example of an enquiry per group. Each group has five minutes to evaluate one section of the enquiry and then the group moves to the next enquiry and repeats the process. • Read a geographical enquiry and highlight a decision made in the planning stage. Ask the learners to look for how this decision affects the rest of the enquiry and then discuss how the enquiry would be different if a different decision had been made earlier.
2.6.2 Identifying further areas of investigation/ questions that could now be asked Learners should be able to identify: • further areas of investigation inspired by their findings • geographical questions that have arisen because of their findings.	Section 2.6.2 could be taught alongside 2.6.1. An important part of a geographical enquiry is the 'next steps' - what could happen next to improve understanding of the concept in the local area. Learners should be taught that sometimes geography can be 'messy' and the expected outcomes do not actually occur. This should not be seen as a failure but an opportunity to carry out further investigations into factors of influence within the area being studied. Learning activities may include: • Put a couple of examples of fieldwork conclusions on the board and have a class discussion as to what the 'next steps' for investigation might be. • Split the class into groups. Hand out a conclusion from a previous year's work. Ask each group to write down three geographical questions that arise from the conclusion.

Learning Experiences

Learners should be encouraged to consider the following learning experiences and skills to further develop their understanding, appreciation and awareness of the subject content. Information in the table below provides opportunities for teachers to integrate the learning experiences into delivery.

Learning Experience	Exemplification of Learning Experience
make appropriate use of digital technology when completing the qualification, for example through accessing satellite images and digital maps	2.1.3 – Digital maps can be used to locate fieldwork data collection sites, together with providing located data which can inform where collection sites might be best located. Learners could find and select an appropriate map of the area they are planning on studying. They could annotate the map to illustrate the location of study sites or to highlight key physical or human features that will influence the enquiry. Looking at GIS maps may also help to ensure exact locations for study sites or provide further detailed information regarding relevant characteristics at a location. Digital mapping websites: • Ordnance Survey – https://www.ordnancesurvey.co.uk/ • Bing maps – https://www.bing.com/maps • Digimap for Schools – https://digimapforschools.edina.ac.uk/ • Google maps – https://www.google.co.uk/maps GIS websites: • Zoopla – https://www.zoopla.co.uk/ • Quikmaps – https://quikmaps.com/ • Magic – https://magic.defra.gov.uk/ • Wundermap – https://www.wunderground.com/wundermap • ArcGIS online – https://www.arcgis.com/index.html 2.3.1 – When processing information, learners want to increase the clarity of data so that patterns or trends can be identified. Use of digital maps can increase the accuracy of measuring distance between collection sites or measuring distance to key influencing features. Digital calculators can also be used to help learners apply statistical techniques to their data such as mean, mode, median, percentages. Digital calculator websites: • Calculator.net – https://www.calculator.net/ • Calculator soup – https://www.calculatorsoup.com/ 2.3.2 – The presentation of data allows for many opportunities to use digital technology to enhance the ability to see patterns and trends.

	Software that can be used to create graphs digitally include: • Microsoft Excel • Canva – Canva.com • Visme – https://www.visme.co/graph-maker/ • Piktochart – https://piktochart.com/graph-maker/ Software that can be used to create maps digitally include: • Scribble maps – https://www.scribblemaps.com/ • Canva – https://www.canva.com/create/maps/ • Map chart – https://www.mapchart.net/ • Sketch map tool – https://sketch-map-tool.heigit.org/
develop empathy, tolerance, compassion and curiosity, through studying different geographical contexts	2.1.4 – When geographers are out in the field, consideration must be given to the community and environment that they are in. Therefore, when teaching learners about risk assessments and what should be considered possible themes may include: • how to engage with the public if you want to ask them questions. • being polite if people do not want to engage in questions and thanking those that do • general behaviour and noise levels when in the community • when taking measurements be aware of getting in the way of other members of the public • ensuring any questionnaire/interview designs are inclusive. 2.2.1 – When choosing data collection sites and sampling methods, it should be remembered that the sample of data that is collected should reflect the whole population. Therefore, when sampling features of the population that visit an area, it is important to consider characteristics such as age, ethnicity, gender. Learners need to ensure that unconscious bias does not skew their results.
participate in educational visits (other than fieldwork) in person or digitally	Opportunities arise throughout Unit 2 for educational visits, both in person and digitally. During the planning stage Google Earth photographs can be used to observe potential study sites suitability. They may also be used as a reinforcement of the wider geographical concepts that are referred to in the analysis and conclusion stages. Pilot visits may also be carried out to practice using equipment or to check on the feasibility of recording sheets/sampling method.
engage in collaborative working	All sections of Unit 2, during the teaching of skills, and the collection of data in the field.

Opportunities for embedding elements of the Curriculum for Wales

Curriculum for Wales Strands			
Cross-cutting Themes			
	There are many opportunities to include Local, National and International Contexts in GCSE Geography. These opportunities are important to Learners because geography encourages them to think about their sense of cynefin and their sense of belonging to the UK and the wider world. These can be explored through real life case studies in Wales, the UK and from around the world across the different themes in the specification and can help to ensure that learners are knowledgeable about their culture, community, society and the world, now and in the past. Below are some examples of how Local, National and International Contexts can be embedded into teaching and learning:		
Local, National & International Contexts	*Specification Reference*	*Amplification*	*Example*
	2.2.1	*Selecting locations and sampling*	Learners are required to carry out an investigation into the world around them. Therefore, the context of their study will be their local area, but towards the end of the enquiry process they will have the opportunity to relate their findings to wider geographical understanding (national or international).
	2.2.2	*Methods of collecting primary data*	
	2.2.3	*Methods of collecting secondary data*	When in the field collecting data learners will experience geographical features and processes first hand which enhances their sense of cynefin.
	2.5.1	*Drawing conclusions from fieldwork enquiries*	River study - How does river discharge change from source to mouth? Urban study – Has the number of vacant shops increased in X town or city centre? Coastal study – How do variables x, y and z change inland along the X sand dunes?

			It is important to ensure that the fieldwork study location increases the learner's sense of cynefin. For example, for centres that are not near the coast, would learners still have a sense of cynefin when they are at the seaside? In both these studies, learners will have the opportunity to: • measure and observe local features • observe OS maps to learn more about possible factorss that might influence features • carry out data collection and experience geography in the field • compare results with wider geographical theories in national or international contexts and consider these when thinking about further questions.
Sustainability	**There are many opportunities to include Sustainability in GCSE Geography. These opportunities are important to Learners because considering the sustainability of their actions in relation to global issues such as climate change, deforestation, over-abstraction of resources and population growth have never been more important than they are now. Learners should be encouraged to think how their actions now may relate to the sustainability of life on earth for future generations, something that could and should be considered across all the different themes in the specification. This gives them the chance to become ethical and informed citizens of Wales and the world, showing their commitment to the sustainability of the planet.** **Below are some examples of how Sustainability can be embedded into teaching and learning:**		
	Specification Reference	*Amplification*	*Example*
	2.1.2	*Posing enquiry questions*	When choosing the topic of the enquiry, this may have a sustainability element e.g. within the environment concept. All the concepts which form the basis of the geographical enquiry could have a sustainability focus.

			Examples include:
			• Environment – 'Tourists have a great impact on footpath erosion in National Parks' prove or disprove.
			• Place and Space – 'The coastal defences at X have had more negative than positive impacts on communities.' Prove or disprove.
			• Place and Space – 'The improvements made to X town centre have been positive in increasing visitor numbers to the town'. Prove or disprove.
	2.1.4	*Risk and constraint considerations* *(Risk assessments should contain actions to ensure that learners are sympathetic and ethical geographers who consider their impact on people and the environment when carrying out data collection)*	The aim of any data collection activity is to collect/observe the information needed without having any impact on the local community or environment. To be sympathetic and ethical geographers, learners could consider some of the following points in their risk assessment: • polluting the environment – rubbish, noise, overcrowding • inconveniencing local communities – ensuring that geographers being in the environment does not get in the way of locals carrying out their usual activities • politeness and courtesy not to offend communities • realising that approaching people in groups might be intimidating • distance travelled and method of travel to study site – air pollution • designing questionnaires/interviews so that they do not have the potential to cause offence to any member of the community

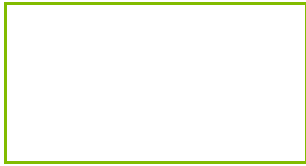|			
	There are many opportunities to include Relationships and Sexuality Education (RSE) in GCSE Geography. These opportunities are important to Learners because through the study of people and places in geography, a range of different views and ideologies will be encountered, increasing knowledge of these views and encouraging learners to have fair and unbiased opinions based on what they learn. This will help them develop secure values, establish their spiritual and ethical beliefs and an appreciation of other people's values and views, both locally, nationally and around the world. **Below are some examples of how RSE can be embedded into teaching and learning:**		
Relationships and Sexuality Education	*Specification Reference*	*Amplification*	*Example*
	2.2.2	*Methods of collecting primary data*	If questionnaires/interviews are appropriate to the enquiry, learners will have the opportunity to explore feelings, thoughts and views or members of the community. This will give them insight and understanding of other people's experiences and perspectives. Using both quantitative and qualitative techniques of collecting data can help learners find out more about people's views, feelings and thoughts. Questions might include: • how did you feel when the floodwater overflowed the river channel? • what do you think of the new channel flood defences? • in your opinion, has the increased amount of CCTV in town X improved safety for residents?

There are many opportunities to include Human Rights Education and Diversity in GCSE Geography. These opportunities are important to Learners because it is vital to consider them when studying key current topics such as migration, settlement growth, and equality of access to resources. Past, present and future issues linked to human rights and diversity must be considered when considering people, places and their interactions between them. Through this, learners can be educated to tackle ignorance and misinformation around this subject and to respect the needs and rights of others, as a member of a diverse society.
Below are some examples of how Human Rights Education and Diversity can be embedded into teaching and learning:

	Specification Reference	Amplification	Example
Human Rights Education and Diversity	2.1.2	Posing enquiry questions	Learners can consider Human Rights Education and Diversity as part of their enquiry hypothesis or key questions.
			All the concepts which form the basis of the geographical enquiry could have a human rights and diversity focus.
			Examples include:
			• Diversity – 'What are the differences in socio-economic characteristics of area A compared to area B in town X?'
			• Place and Space – 'What are the main pull factors for in-migration to city X?'
	2.1.4	Risk and constraint considerations (When considering risk assessments, they should contain actions to ensure that learners are sympathetic and ethical geographers who consider their impact on people and the community when carrying out data collection)	The aim of any data collection activity is to collect/observe the information needed without having any impact on the local community. To be sympathetic and ethical geographers, learners could consider some of the following points in their risk assessment: • inconveniencing local communities – ensuring that geographers being in the environment does not get in the way of locals carrying out their usual activities • politeness and courtesy not to offend communities • realising that approaching people in groups might be intimidating • designing questionnaires/interviews so that they do not have the potential to cause offence to any member of the community.

	2.2.1	*Selecting locations and sampling*	Ensure sampling of human responses are representative and inclusive of all parts of a diverse community. Learners need to consider the impact of their sampling methods on ensuring they collect valid and representative data. When sampling people, to ensure the true diversity of the population, stratified sampling may have more successful outcomes than random or opportunistic sampling. Stratified would allow for the data collected to be proportional and representative of the whole. For example, create sub-groups of the population by age and ask an equal number of people per age group to provide the data required.
	2.2.2	*Methods of collecting primary data*	Carrying out fieldwork in their local community allows learners to foster a sense of cynefin and provides a greater understanding of their local environment. It should be encouraged that learners focus their geographical enquiry in an area that is local to them, or they are familiar with. Their research and conclusions will help them understand the processes and features that they interact with in greater depth as well as understanding decision making in their communities.
	2.6.1	*Evaluating each stage of the enquiry process*	Learners are required to form their own views and conclusions from research and evidence that they have collected. The geographical enquiry is an individual piece of work and therefore it allows learners to form their own views and draw their own conclusions from the data they have gathered. In doing this, learners will be able to make judgements and provide reasoning for these judgements. Reflective evaluation is also required on how valid their findings are.

		2.6.2	*Identifying further areas of investigation/questions that could now be asked* *(Learners can apply knowledge to different contexts by building on their investigation results to generate more geographical questions)*	For example, in an investigation into the different cultural facilities in town X learners might gain an improved insight into the needs and preferences of other members of the community who are different to themselves (such as by age, gender, religion). From this data they may reflect and discover certain areas of the community are catered for more than others and be able to reflect on how they feel about it. In the evaluation stage of the geographical enquiry, learners are not only reflective but would also consider what the next stages may be if they were to continue their research. Can they link their study to the wider world and how can their enquiry transcend the local area? Questions they may ask are: • Are my conclusions the same as my predicted outcomes? • If my conclusions are different, what makes them different? Why are they different? • What makes my study site unique? • How are my findings similar/different to the wider geographical theories? • What information would I like to find out next which would increase my understanding of this topic/my local area? • Could I do this study elsewhere in the UK or abroad?

There are many opportunities to include Career and Work-Related Experiences (CWRE) in GCSE Geography. These opportunities are important to Learners because many will go on to future careers in a world increasingly dominated by key geographical issues such as climate change and management of resources. Learners must be equipped with the knowledge and skills to understand these issues and to fire their interest in taking on a career that will make a positive difference to a sustainable future. Signposting opportunities like this is the first step to producing enterprising, creative contributors who are ready to play a full part in life and work.

Below are some examples of how CWRE can be embedded into teaching and learning:

	Specification Reference	Amplification	Example
Careers and Work-Related Experiences	2.2	Collecting evidence *(Learners are required to think logically and make decisions as to their research methodology. This experience could then be applied in future workplaces)*	Learners are required to carry out their geographical investigation individually and therefore make their own decisions with regards to methodology. One way in which these skills could be developed is: • put a photograph on the whiteboard • pose a geographical question relating to the photograph • ask learners to list five pieces of data they would want to have about the location to answer the geographical question • apply restrictions to the data collection (e.g. time, money, safety) and ask learner to ensure their data collection ideas comply with these • group/class discussion as to what methods are suitable.
	2.2.2	Methods of collecting primary data *(Learners will have authentic experiences in the field when collecting their primary data. This experience would be applicable to many careers such as working for National Rivers Authority, environmental health, town planning)*	Experiencing geography in practice will deepen learners understanding compared to classroom-based learning. To prepare them for this, learners could experience practice fieldwork first, this could include: • Carry out a pedestrian count at locations around the school. Experience firsthand how difficult it is to count large volumes of people moving in different directions and come up with a solution to this.

			• Carry out an ecosystems study in the school grounds. Experience using quadrats and the decisions required on where to place them, how to count species/numbers of plants, how to record the ones you can't identify, etc.

Cross-curricular Skills – Literacy

There are many opportunities to include Literacy in GCSE Geography. These opportunities are important to Learners because need to be able to communicate effectively in different forms and settings, through both Welsh and English. Learners must be able to write and present succinctly and in depth when required to outline their knowledge and views, make ethical and informed decisions on a range of subjects, write and present fieldwork investigations and explain the concepts they are learning about. Learners should take delight in reading on a range of subjects inside and out of their academic subjects such as geography. This will then prepare them for further study and future careers where these skills will be vital as they get ready to play a full part in life and work.

Below are some examples of how Literacy can be embedded into teaching and learning:

	Specification Reference	*Amplification*	*Example*
Listening	*2.2*	*Collecting evidence* *(If interacting with the public to gather information, learners are required to listen carefully to responses)*	When carrying out questionnaires or interviews with members of the public to gather primary data, learners will need to listen carefully in order or record their responses correctly, or when playing back any records of interviews at stage four of the process so that they transcribe all relevant information. To help learners develop this skill: • play the class a recording of someone talking (just audio or with visuals as well, no longer than five minutes) and the class just need to sit and listen
	2.4	*Analysing and applying evidence*	• then ask the class to write down the answers to questions that you will ask them once the recording has finished playing • give the class the answers so they can mark their responses • reflect with the class why they may have got some answers incorrect and how they could improve their listening skills.

	Specification Reference	*Amplification*	*Example*
Reading	*2.2.3*	*Methods of collecting secondary data* *(Reading sources of secondary data and selecting appropriate information that would help the enquiry)*	Reading newspaper articles, government websites, etc. are all valuable ways of providing more data to geographical enquiries. Being able to read through vast quantities of information quickly to establish if they are relevant or not is useful skill. This could be developed by: • providing learners with a one-page piece of writing e.g. newspaper article • put an enquiry heading on the board • give the learners a short (but appropriate depending on ability) time to read/skim read the article • class discussion over what information form the article are relevant to the enquiry.
Speaking	*Specification Reference* *2.2.2*	*Methods of collecting primary data*	Learners will need to communicate effectively with each other and the public when collecting their primary data. Learners need to be aware of the pace, volume and language of speech that they use when collecting data at fieldwork locations. Learners could carry out a pilot survey with members of staff or learners from another class to see how well they are understood. Once all questions have been asked and answered, the person answering the questions could provide feedback. Learners would also be required to communicate effectively with each other when collecting data. Depending on the type of data collected, it may require a small group of learners working together e.g. river survey. The team would need to communicate effectively for data to be collected in the allocated time.

	Specification Reference	Amplification	Example
Writing	2.1.4	*Risk and constraint considerations* *(There are opportunities throughout Unit 2 that provide learners the opportunities to write for various audiences and in a range of styles. In particular: A risk assessment for collecting primary data)*	Learners need to use the appropriate style of writing for the context in which they are writing. There are opportunities to develop writing skills throughout Unit 2, but the following are some examples of activities: • give learners a partially completed risk assessment and ask them to 'fill in the gaps', ensure that the gaps are random and therefore at some point during the exercise learners will have to write something in every column • once complete, learners can go through and highlight different types of language such as instructional, evaluative.
	2.4	*Analysing and applying evidence*	Provide learners with a graph which shows a clear trend. Ask learners to state what the trend is and then provide three reasons why this trend might be correct. For each reason, learners should try and add elaboration.
	2.5	*Drawing conclusions (Drawing reasoned and justified conclusions)*	Provide learners with a writing frame of how to write a conclusion such as: • revisit the enquiry questions to make these the focus of all conclusions • look at both the primary and secondary evidence collected • pull together all the relevant information that has been collected for each question • answer the enquiry question with reasoning and evidence.
	2.6	*Evaluating techniques (Evaluating each aspect of the enquiry and consider accuracy, bias and reliability)*	Encourage learners to evaluate each stage of the enquiry model and consider what went well and what could have been improve upon. The type of questions that could be considered are: • Is the data I have collected accurate? • Did I use the correct units of measure? • Is my method reliable?

			- Was there any other data that I could have collected that would have made my data more reliable? - Is my data affected by bias? - Did I unintentionally create bias in the wording of questionnaires?

Cross-curricular Skills – Numeracy			
	There are many opportunities to include Numeracy in GCSE Geography. These opportunities are important to Learners because using number effectively in different contexts is a key skill geographers need when learning across the topic and collecting, presenting and analysing data from fieldwork investigations. Learning to understand how to interpret data and apply mathematical concepts is a key aspect of both academic study and the world of work and provides geographers with a unique skillset that they can apply to a range of different situations. Below are some examples of how Numeracy can be embedded into teaching and learning:		
Developing Mathematical Proficiency	**Specification Reference**	**Amplification**	**Example**
	2.1.3	*Using maps to locate and plan the enquiry*	Learners are required to use and interpret OS maps, using four and six figure grid references and measuring distances using the scale. Learners could revisit previous KS3 learning as a refresher as to how to read four and six figure grid references and how to use scale. Learners could be given OS maps and ask them to find various features, using grid references and the distance between places using scale.
	2.2	*Collecting evidence (Learners may be required to measure angles)*	If measuring angles is likely to form part of the fieldwork enquiry (e.g. beach or river profiles), then giving learners the chance to become familiar with the equipment (such as a clinometer and ranging poles) will be beneficial. For example: • place one ranging pole on a chair and the other on the floor with a set distance between them then use the clinometer to measure the angle • once all learners are confident in using the equipment in the classroom, then they could measure angles of elevation around the school grounds.
	2.3.1	*Selecting and using appropriate quantitative and qualitative techniques*	Learners are expected to process the data that they have collected and to carry out relevant statistical analysis upon it. Basic data processing including percentages, calculating distances, and mean, median and mode should be able to be applied to most investigations.

		.	Processing data and applying statistical analysis to the data can help learners to see patterns and trends more clearly. Revisit statistical skills that learners should already have – percentages, mean, median, mode, range (see https://www.internetgeography.net/skills-plus-baseline/skills-plus-baseline-1-statistical-skills/) For some fieldwork activities there are more specialist statistical techniques that learners might wish to explore **(although these are not required)**. For example: Interquartile range – to look at the spread of data within the set (https://resource.download.wjec.co.uk/vtc/2017-18/17-18_2-2/_eng/unit04/02-interquartile-range.html) Mann-Whitney U Test – to measure whether there is a significant difference between data sets (https://www.youtube.com/watch?v=aO2MiSpnrnE) Manning's n – to calculate the roughness or friction to flow in a river channel (https://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_Equation.htm)
	2.3.2	*Selecting and using appropriate presentation methods for quantitative and qualitative data*	Learners are expected to present their data using graphs and maps appropriately. This should aid interpretation of data and patterns/trends. Learners are required to select appropriate methods of presenting data which aids its interpretation. Teachers can provide learners with a range of graphs, the type of data that they would be used for and how to draw/interpret them. GCSE Bitesize has a useful graph resource: https://www.bbc.co.uk/bitesize/guides/z9xmdxs/revision/1

Appropriate graphs that might be considered include:

- bar graph – used to present discrete data
- histogram – represents data that is discrete or continuous
- line graph – used to present continuous data
- scatter graph – used to show the relationship between two sets of data
- pie chart – used to show data represented as segments of a circle
- kite diagram – a graph that shows the frequency of a factor along a transect
- pictograms – a graph where the frequency of an image indicates the value of a factor
- star and radial graphs – a graph that shows multiple variables on more than one axis.
- triangular graphs – a graph that displays three different components
- dispersion graphs – illustrates the range of variables within a data set
- cross sections and transects – a line graph which shows a visual representation of the cross section/transect being measured.

Learners are required to select appropriate methods of presenting data on maps which aids its interpretation. Teachers can provide learners with a range of maps, the type of data that they would be used for and how to draw/interpret them.

Data can be added to base maps manually or through using digital resources: https://geography.org.uk/curriculum-support/classroom-practice/maps-and-mapping/working-with-digimap-school-examples/

Appropriate mapping techniques that might be considered include:

- choropleth map – a map that uses colour to show a variable
- isoline map – a map that uses lines to join points of equal value
- flow line map – a map that shows movement from one location to another
- proportional symbols map – a map with symbols of different sizes that represent data at certain locations.

	Specification Reference	*Amplification*	*Example*
Understanding the number system helps us to represent and compare relationships between numbers and quantities	*2.3.1*	*Selecting and using appropriate quantitative and qualitative techniques*	Learners will collect quantitative data and are required to process and interpret this data. When processing data, encourage learners to compare numbers between different data points and ask geographical questions as to why any differences occur.
Learning about geometry helps us understand shape, space and position and learning about measurement helps us quantify in the real world	*Specification Reference* *2.2*	*Amplification* *Collecting evidence*	*Example* Learners will collect quantitative data about the real world. Learners can carry out a pilot or small-scale study within the school grounds to learn how shape, space and position influences the geographical processes and features they might be investigating. For example, learners could take some temperature and windspeed readings at various points around the school grounds and follow up with a class discussion as to how shape, space and position affect the microclimates around the school. Learners may be required to measure angles (topic dependent). If measuring angles is likely to form part of the fieldwork enquiry (e.g. beach or river profiles), the giving learners the chance to become familiar with the equipment (such as a clinometer and ranging poles) will be beneficial. For example: • place one ranging pole on a chair and the other on the floor with a set distance between them then use the clinometer to measure the angle • once all learners are confident in using the equipment in the classroom, then they could measure angles of elevation around the school grounds • when back in the classroom learners can draw out the profile of the measurements they have taken so that they have a visual representation of what they have measured.

	Specification Reference	Amplification	Example
Learning that statistics represent data, and that probability models chance help us make informed inferences and decisions	2.2.1	Selecting locations and sampling	Learners will choose appropriate sampling methods which reliably represents the real world. Provide learners with a set of raw data and give them ten minutes to draw some conclusions from the data. Then give learners the same data but after it has been processed and had statistical analysis applied. Ask them to reconsider their conclusions considering the processed data. Have a class discussion as to the differences in the two conclusions they had drawn and what benefits the processing of data has had.

Cross-curricular Skills - Digital Competence

There are many opportunities to include Digital Competence in GCSE Geography. These opportunities are important to Learners because in an increasingly digital world, using digital technologies creatively to communicate, find and analyse information provides geographers with vital skills that set them up for future academic studies and careers. As learners become more digitally competent and aware it is vital that they channel this knowledge into using digital technologies safely and with care and apply it to a range of geographical contexts. Combining opportunities for literacy, numeracy and digital competence in Geography will allow learners to undertake research, creatively present and analyse results and evaluate critically what they find as well as express emotions through different media, ensuring they are set up to tackle future challenges and are ready to learn throughout their lives.

Below are some examples of how Digital Competence can be embedded into teaching and learning:

	Specification Reference	*Amplification*	*Example*
Citizenship	*2.2.2*	*Methods of collecting primary data (The sharing of primary data could see this interaction and collaboration being developed)*	As learners can collaborate when collecting their data, the sharing of data is important. Once the full enquiry is completed, learners might also want to share their findings with relevant sections of the community to inform their thinking e.g. a study investigating the flow of people through a town centre could be shared with the local council or the management company.
	2.3.3	*Referencing secondary data sources*	Learners should know how to accurately reference all the secondary data that they have used in their enquiry in a bibliography. A guide to this can be found on GCSE Bitesize: https://www.bbc.co.uk/bitesize/guides/zctwqty/revision/12

	Specification Reference	*Amplification*	*Example*
Interacting and Collaborating	*2.2.2*	*Methods of collecting primary data*	Learners will most likely collaborate to collect their primary data. Therefore, working as a team is the most effective way to ensure accurate data is collected in the allocated time. Ensure learners practice their role in data collection e.g. if doing a river survey, ensure each group knows who will be holding the tape measure, who will be measuring speed of flow, etc. Practice using the equipment in the classroom or on school grounds first so that it is familiar to learners. Discuss with learners afterwards the importance of collaboration and supporting each other when collecting data.
	2.3.3	*Referencing secondary data sources* *(Learners may interact or collaborate with organisations to source relevant primary data)*	If permission needs to be gained to access a location to collect primary data, involve the learners in the process of contacting the relevant organisation to gain permission for access.

	Specification Reference	Amplification	Example
Producing	Throughout Unit 2	Unit 2 is required to be submitted digitally, and it is expected that most of the elements to the unit will be produced digitally	It is a requirement of the specification that the geographical enquiry is submitted digitally. Therefore, learners should become familiar with packages such as Microsoft Word and Excel, any specialist GIS software and how to convert documents into PDF format which will help them to produce/submit their enquiry report digitally.
	2.1.3	Using maps to locate and plan the enquiry	Learners may use GIS data to plan and locate their collection sites. GIS software can be used to help with data collection and data presentation. It would be helpful if learners were familiar with these before they start their own enquiries so that they have the confidence to use them independently. Resources that may help with this are:
	2.3.2	Selecting and using appropriate presentation methods for quantitative and qualitative data (Learners may use digital software to present their data)	• Field studies council – https://www.field-studies-council.org/resources/16-18-geography/gis/gis-for-data-collection/ • Royal Geographic Society – https://www.rgs.org/schools/resources-for-schools/free-gis-and-maps-for-fieldwork • Geographical Association – https://geography.org.uk/support-and-guidance-with-gis/

	Specification Reference	*Amplification*	*Example*
Data and Computational Thinking	*2.3.1*	*Selecting and using appropriate quantitative and qualitative techniques*	Learners may use digital software to process their data or to apply statistical techniques. When processing information, learners want to increase the clarity of data so that patterns or trends can be identified. Use of digital maps can increase the accuracy of measuring distance between collection sites or measuring distance to key influencing features for example. Digital calculators can also be used to help learners apply statistical techniques to their data e.g. mean, mode, median, percentages. Digital calculator websites: • Calculator.net – https://www.calculator.net/ • Calculator soup – https://www.calculatorsoup.com/

Integral Skills			
	There are many opportunities to include Creativity and Innovation in GCSE Geography. These opportunities are important to Learners because geography should encourage them to connect and apply their knowledge and skills to create ideas and projects and to think creatively to make decisions and solve problems. When faced with problems to solve and decisions to make on sustainable issues, learners will be able to think about and then make choices that reflect creative ideas and innovative solutions to issues from across the geographical world and beyond. **Below are some examples of how Creativity and Innovation can be embedded into teaching and learning:**		
Creativity and Innovation	*Specification Reference*	*Amplification*	*Example*
	2.1 *2.2*	*Planning an enquiry* *Collecting evidence* *(Learners will require creativity and innovation when planning and collecting data for their enquiry)*	Learners are required to plan their own geographical enquiries and decide on what data is to be collected. Learners are encouraged to be creative and innovative in when planning their enquiries: • put a stimulus photo on the board • give the learners an enquiry question • ask them to write down four pieces of data they would like to know about the enquiry focus and how they would go about gaining this information • follow with a class discussion as to what is practical to do in the time available.

	There are many opportunities to include Critical Thinking and Problem Solving in GCSE Geography. These opportunities are important to Learners because the ability to critically assess resources and arrive at informed solutions to a range of problems is a vital skill learners should develop throughout their study. Learners should aim to question the validity and accuracy of resources and data across the Units in the specification and apply this when making decisions and solving problems related to the key issues they will encounter. Learners should be encouraged to enjoy questioning and solving problems and be given a range of opportunities to do so within the subject of geography. **Below are some examples of how Critical Thinking and Problem Solving can be embedded into teaching and learning:**		
Critical Thinking and Problem Solving	***Specification Reference***	**Amplification**	***Example***
	2.3.3	*Referencing secondary data sources (Exploring how and why interpretations may differ and by critical understanding of a range of interpretations and representations derived from a variety of evidence, they will be better placed to evaluate their validity)*	There are many opportunities for learners to think critically when interpreting both primary and secondary data. For example, when considering secondary data, they can consider if the resource is biased. To develop these skills, give learners different opinions about a local controversial planning issue. Learners to decide as to why each person had that opinion and whether the resource is reliable.
	2.4	*Analysing and applying evidence (Learners are required to identify, analyse and interpret trends)*	Learners need to be confident in looking at data to draw conclusions. Learners should benefit from regular practice of using and interpreting data.
	2.6.1	*Evaluating each stage of the enquiry process (Learners will learn the skills to critically evaluate the usefulness, validity, and reliability of evidence. Learners evaluate the success of enquiries, suggesting improvements and refining methods for future enquiries)*	Encourage learners to evaluate each stage of the enquiry model and consider what went well and what could have been improve upon. The type of questions that could be considered are: • Is the data I have collected accurate? • Did I use the correct units of measure? • Is my method reliable?

			• Was there any other data that I could have collected that would have made my data more reliable? • Is my data affected by bias? • Did I unintentionally create bias in the wording of my questionnaires? • What questions do my findings point me into asking next?

	There are many opportunities to include Planning and Organisation in GCSE Geography. These opportunities are important to Learners because when faced with investigations to conduct or decisions to make, learners must be able to plan their time, organise their work and meet deadlines effectively. This is a key skill for learners both in geography when faced with decision making exercises, fieldwork investigations and revision for example, and in the wider world as a part of their future life and work. Below are some examples of how Planning and Organisation can be embedded into teaching and learning:		
Planning and Organisation	*Specification Reference*	*Amplification*	*Example*
	Throughout Unit 2	*Learners are required to plan and organise throughout Unit 2. Every aspect of the enquiry (apart from when collecting data) should be individual and therefore time management will be important*	As the geographical enquiry is an individual piece of work it is vital that learners know how to plan and organise their time and work. It is expected that geographical enquiry submissions are presented in order of the six stages, and all are complete, therefore time management is key. Support to learners could include: • giving learners set times to complete each stage of the enquiry to ensure that all are completed in the seven hours' time limit • when teaching section 2.1.1 ensure learners understand the six-stage process and what is required at each stage.
	2.1	*Planning an enquiry* *(Learners are required to plan their own individual enquiry)*	
	2.2.1	*Selecting locations and sampling* *(Learners are expected to plan how they will use sampling effectively)*	When completing the planning stage, learners should plan for: • risk management

	2.3.2	*Selecting and using appropriate presentation methods for quantitative and qualitative data* *(Learners will plan how to organise and present their data most effectively)*	• data collection strategies • data processing strategies • data presentation strategies. Learners should know the impact that different sample sizes can have on the outcomes of an enquiry and the importance of balancing time with gaining a representative and inclusive sample. Learners can experience this by: • Put all learners standing in a line and ask one learner to select ten people through opportunistic, random, stratified and systematic sampling. The learners could also be lined up in age/height to add greater understanding to stratified sampling. This activity could also be used to illustrate the impact of different sample sizes on outcomes. • Learners to give the advantages and disadvantages of the four methods of sampling. Learners are required to submit their work digitally and therefore this needs to be included into their planning.

	There are many opportunities to include Personal Effectiveness in GCSE Geography. These opportunities are important to Learners because all four purposes of the Curriculum for Wales combine to increase and improve personal effectiveness for the learner. Being organised and digitally literate, with strong literacy and numeracy skills, a critical thinker and innovator with knowledge of human rights and diversity, sustainability and issues at a range of scales will help learners to become ethical and informed citizens, ambitious and capable learners, healthy, confident individuals and enterprising and creative contributors to society. **Below are some examples of how Personal Effectiveness can be embedded into teaching and learning:**		
Personal Effectiveness	*Specification Reference*	*Amplification*	*Example*
	Throughout Unit 2	*Learners will carry out an individual investigation*	The whole of Unit 2 requires learners to plan, carry out and draw conclusions to an individual investigation. All stages (except for data collection) are required to be carried out individually. Therefore, full understanding of the enquiry process is essential for all learners. • See GA: Geography.org.uk. Learners are required to be reflective throughout the enquiry and to understand how decisions made in one stage will influence future stages. Guidance on writing evaluations in fieldwork can be found at: • Field Studies Council: https://www.field-studies-council.org/resources/16-18-geography/route-to-enquiry/evaluation/
	2.6	*Evaluating techniques* *(Learners will evaluate their outcomes throughout the enquiry)*	• Geographical Association: https://geography.org.uk/wp-content/uploads/2023/05/NEA_Geographical_investigations_split_to_A4.01.pdf

Glossary for Unit 2

Term	Definition
Continuity and change	The study of if and how places change over time.
Ethical considerations	Giving consideration and respect to the people and environments involved in the study.
Four figure grid reference	A way of pinpointing a location to within a grid square.
Geographical enquiry	A learner centred approach which actively engages them in investigating them in geographical questions and issues.
Geographical hypothesis	An idea or explanation of a geographical concept that can be tested through study and experimentation.
Geographical Information Systems (GIS)	A computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface.
Opportunistic sampling	When sampling decisions are taken as the data is being collected.
Ordnance Survey maps	A map produced by the UK's national mapping agency which are highly accurate and detailed.
Primary data	Information that you collect yourself e.g. pedestrian count, sketch maps.
Qualitative data	Data that is descriptive, often based on a person's feelings and opinions and is often more subjective.
Quantitative data	Data that is collected in numerical form and can easily be transformed into statistics.
Random sampling	Selecting a person or site to study at random e.g. using a random number generator.
Representative sample	A small set of data (sample) which accurately reflects the larger population.
Secondary data	Information that someone else has collected previously, e.g. census data, previous year's fieldwork data.

Six figure grid reference	A way of accurately pinpointing a location inside a grid square.
Stratified sampling	A method of dividing sampling into groups e.g. four people from each age grouping.
Systematic sampling	Collecting data in an ordered or regular way.
Wider geographical concepts	Geographical theories that fieldwork can be measured against.