Syllabus ref.	Learning objectives	Suggested teaching activities
		Weather and climate: **www.geography.learnontheinternet.co.uk/topics/weather.html**
	Make calculations using information from weather instruments	Learners either use data that they have collected themselves or secondary data provided by the teacher about elements of the weather. Work in pairs to analyse the data (describe trends) and make calculations such as annual total, daily total, mean, median, mode, range, maximum, minimum, etc.
	Use and interpret graphs and other diagrams showing weather and climate data	Learners use either their own data or secondary data to draw graphs and diagrams of weather data. Describe what each graph shows – looking for trends, giving evidence, identifying anomalies. Include graphs/diagrams such as bar graphs, line graphs, scattergraphs, wind rose, dispersion graph, isolines maps, radial graphs, etc. **(I)** Scattergraphs can be used to show relationships between different types of weather – for example, precipitation and air pressure – learners describe the relationship. Introduce the term 'climate' and update key word glossary – ensure learners can state the difference between weather and climate. Introduce the skill of constructing a climate graph – learners produce an accurate climate graph using climate data for the place where they live. **(I)** Follow up with questions to analyse – for example, minimum and maximum, annual total, range, annual distribution of rainfall and temperature, etc. **(I)** – this could be done as a true/false activity (see Appendix: True/False) for assessment for learning. Living graph activity – learners place labels at points on the climate graph to test their understanding.
2.5 Climate and natural vegetation	Describe and explain the characteristics of two climates: equatorial and hot desert. Describe and explain the characteristics of tropical rainforest and hot desert ecosystems.	Learners name hot deserts on a map using an atlas. **(I)** Describe the distribution of hot deserts from the map. Provide climate data – learners use this to draw and analyse a climate graph for a case study area of hot desert. **(I)** Whole class presentation to explain the factors affecting the hot desert climate (i) in general (ii) highlight those specific to case study region – learners write up as a report with appropriate labelled diagrams. Introduce the term 'ecosystem' and associated key words (see: **www.geography.learnontheinternet.co.uk/topics/ecosystem.html** and **www.s–cool.co.uk/gcse/geography/ecosystems**). Learners label a food web for a hot desert – answer questions to explain the links between different parts of the food web. **(I)** Link to case study region. Provide a simple soil profile – learners explain the link between the soil type and the ecosystem. Learners work in pairs to analyse photographs to identity how vegetation and animals have adapted to the hot desert climate and produce annotated sketches to explain how the adaptation helps them to survive. Explain the limitations of desert soil for plant

Syllabus ref.	Learning objectives	Suggested teaching activities
		growth as part of this. Link to case study region.
		Extension activity: learners design their own plant or animal and explain how it is adapted to desert conditions.
		The following links will be useful here: Ecosystems – the living world: **www.bbc.co.uk/schools/gcsebitesize/geography/ecosystems/**
		Ecosystems – the living world (video): **www.bbc.co.uk/schools/gcsebitesize/geography/video/ecosystems/**
2.5 Case study	Know a case study of an area of hot desert and a tropical rainforest	Learners should know a case study of an area of hot desert. This can be covered through this section by naming and locating (sketch map) a specific area, ensuring that the climate data matches this area and that learners can identify the specific factors that have influenced the hot desert climate for their case study area. Food web – named species of plants and animals, soils and adaptations. Ensure place-specific reference. Learners mark areas of tropical rainforest onto a world map using an atlas and describe the distribution. Learners produce and analyse a climate graph and research the factors that have affected the climate. Show as a short presentation to their peers – include labelled diagrams to support. **(I)** Climate graph for named area to match case study. Learners match cards to layers of the rainforest to name each layer and describe – annotate a diagram to show the layers of the rainforest – name and describe each layer. Learners can include photographs to illustrate. Learners answer questions to explain the structure of the rainforest. Annotate a diagram in pairs to show nutrient cycling in the rainforest to explain the relationships between vegetation and the soil. Introduce a simple soil profile for learners to label and make the link to the ecosystem. Learners use photographs to identify how the vegetation has adapted to the climate. Link to case study region. Write up as a short report with labelled sketches as appropriate to describe and explain each adaptation. **(I)** Learners independently find an example of a typical food chain or food web in the rainforest and answer questions to explain the links between each level. Introduce the concept of 'biodiversity' and update key word glossary. **(I)** Link to case study. Learners should know a case study of an area of tropical rainforest. Use the climate data appropriate to the area being studied for the case study. Locate case study area – sketch map and description. Food web example – named species of plants and animals, soils and adaptations. Ensure place-specific reference.

Syllabus ref.	Learning objectives	Suggested teaching activities
		For each case study: analysis of both climates to include: mean temperature of hottest month, mean temperature of coolest month, annual range and the amount and seasonal distribution of rainfall. Ensure the link is made between vegetation and the type of climate and soil in each ecosystem.
2.5 Climate and natural vegetation	Describe the causes and effects of deforestation of the tropical rainforest.	Learners analyse headlines and other resources such as photographs, statistics, clips and other sources to mind map the causes of rainforest destruction in case study area. Write a short newspaper report which includes maps, clearance rates, photographs and reasons for clearance in the case study area. Provide place-specific reference. Discuss the reasons why the deforestation continues. **(I)** Whole class discussion on any other reasons for clearance not covered by the case study. Learners revisit the nutrient cycling diagram that they produced in the previous section and work in pairs to redraw the diagram after rainforest clearance. Learners work in small groups to analyse each other's diagrams and add details/ideas. Provide a card sorting activity on the effects of clearance which learners' first need to sort into local and global effects and then into those that affect people and those that affect the environment. Follow up: learners write a letter to explain why rainforest clearance should stop in their case study area. **(I)** Rainforest role-play: viewpoints of how the clearance will affect different groups of people. Could also follow up with a whole class debate. Link to 3.7 – how deforestation causes soil erosion. Deforestation as a cause of enhanced global warming (see: **http://kids.mongabay.com/lesson_plans/lisa_algee/deforestation.html**). Link to 3.7 – solutions to enhance global warming – reducing deforestation and afforestation. It is helpful to select a case study that includes the full range of local and global effects as this section is predominantly taught through the case study. Please ensure stimulus material provides appropriate place-specific reference. Links to 3.7 – demonstrate the need for sustainable development and management. Learners' research and mind map ways to manage rainforests and write up as a report for a geographical journal. Include examples and photographs to illustrate. The following links will be useful here: Using tropical rural areas:

Syllabus ref.	Learning objectives	Suggested teaching activities
		www.bbc.co.uk/schools/gcsebitesize/geography/rural_environments/using_tropical_rural_areas_rev1.shtml

Sustainable uses of environments:
www.bbc.co.uk/schools/gcsebitesize/geography/sustainability/sustainable_uses_environments_rev1.shtml

Forests: www.wwf.org.uk/what_we_do/forests/ |
| 2.5 Case study | Know a case study of an area of tropical rainforest and an area of hot desert | Learners should know a case study of:
• a an area of tropical rainforest
• an area of hot desert.

This has been covered in the previous section. Please ensure case study area is named and located and at an appropriate scale. Specific information needs to be available to learners to provide place-specific reference.

Amazon rainforest: http://handygeography.wordpress.com/tag/rainforest/ |

Past and specimen papers

Past/specimen papers and mark schemes are available to download at **https://teachers.cie.org.uk (F)**

2.4 Weather
Jun 2013 Paper 13 Q3a
Nov 2013 Paper 12 Q3a

2.5 Climate and natural vegetation
Jun 2013 Paper 13 Q3b
Jun 2013 Paper 12 Q3a and 3b
Nov 2012 Paper 11 Q4
Nov 2012 Paper 13 Q3a and 3b
Nov 2012 Paper 13 Q4ai, ii, iii, 4b
Nov 2012 Paper 13 Q3c
Nov 2012 Paper 13 Q4c