The National Strategies
Secondary

Functional Skills Support Programme

Developing functional skills in geography

department for children, schools and families

BIS Department for Business Innovation & Skills

LSIS Learning and Skills Improvement Service

Functional Skills Support Programme

Developing functional skills in geography

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Contents

00072-2010BKT-EN

Key to references

This booklet contains three contexts that highlight opportunities for pupils to develop and apply functional skills (FS), and personal, learning and thinking skills (PLTS). Coloured boxes indicate which specific skills are being developed. Within the boxes the following references have been used:

Reference	Explanation
FS.Eng.L1/SLC	Functional English level 1 – Speaking, listening and communication
FS.Eng.L1/R	Functional English level 1 – Reading
FS.Eng.L1/W	Functional English level 1 – Writing
FS.Ma. L1/	Functional mathematics level 1 followed by reference to one of the three interrelated process skills: representing, analysing and interpreting
FS.ICT.L1/UsingICT	Functional ICT level 1 – Using ICT
FS.ICT.L1/F&S	Functional ICT level 1 – Finding and selecting information
FS.ICT.L1/DP&CI	Functional ICT level 1 – Developing, presenting and communicating information
PLTS	Personal learning and thinking skills followed by reference to one of the six groups of skills

Developing functional skills in geography

What are functional skills?

> 'The study of geography stimulates an interest in and a sense of wonder about places. Geographical enquiry encourages questioning, investigation and critical thinking about issues affecting the world and people's lives, now and in the future. Geography inspires pupils to become global citizens by exploring their own place in the world, their values and their responsibilities to other people, to the environment and to the sustainability of the planet.'
>
> **The importance of geography, National Curriculum 2007**[1]

Functional skills underpin and complement many of the key processes in geography. They are the core elements of English, mathematics and ICT that enable pupils independently to:

- apply and adapt their knowledge and understanding to a range of contexts
- solve problems in familiar and unfamiliar situations
- gather, interpret and communicate information effectively and confidently.

Each of the three skills has a set of performance statements based on three key areas:

Functional English	Functional mathematics	Functional ICT
• Speaking, listening and communication • Reading • Writing	• Representing – selecting the mathematics and information required to model a situation • Analysing – processing and using mathematics • Interpreting and communicating the results of the analysis	• Using ICT • Finding and selecting information • Developing, presenting and communicating information

The skills are embedded through the programmes of study in the new secondary curriculum at both Key Stage 3 and Key Stage 4 and form an essential part of GCSE and new Diploma courses. Alongside the new Framework for personal, learning and thinking skills, functional skills are fundamental to learning across the curriculum and are key to success for pupils, both now and in their future.

For further information about the functional skills visit: www.ofqual.gov.uk/2578.aspx and www.qcda.gov.uk/6062.aspx

> 'Functional skills provide a fantastic opportunity to join up thinking. Our learners are happier and harder workers knowing that the skills they are learning will apply in real terms to their future.'
>
> **Subject leader**

1 The importance of geography, National Curriculum 2007 KS3 Programme of Study. © Qualifications and Curriculum Authority. Used with kind permission.

00072-2010BKT-EN

The curriculum opportunities in the programmes of study for all subjects, combined with many of the key processes, have been designed to ensure that pupils have **planned** opportunities to transfer the functional skills they are developing to as many varied and relevant situations as possible.

For more information relating to the role of functional skills in Foundation Learning, GCSEs, Diplomas and apprenticeships visit: www.dcsf.gov.uk/14-19/

What does this mean for learners?

Pupils who are able to apply functional skills effectively will make better progress in geography and in the rest of their studies. They will not only engage in the content of what is being taught but will become more actively involved in the learning process. They will understand the purpose of the English, mathematics and ICT skills they are transferring and securing and will take greater responsibility for furthering their own progress.

What does this mean for me as a geography teacher?

The diagram on page 8 captures the learning process that you will need to support in order to ensure that pupils secure their functional skills. This process is not linear but cyclical and should respond to the needs of the learners and inform their future learning.

Effective teaching will enhance the development of skills. Pupils need planned opportunities to 'have a go' – to select from and experiment with the skills they have learnt elsewhere in the curriculum, applying them with an increasing degree of independence to new and varied contexts. These should have both relevance to the learner and a real purpose in relation to the subject.

Through peer- and self-assessment and teacher feedback, pupils then need to reflect on the progress they are making and to identify particular aspects of their skills development that need further reinforcement.

What functional skills can be developed and applied to geography?

Geography-related contexts provide a rich opportunity for pupils to draw from and apply a range of functional skills. The increased emphasis on the development of geographical enquiry means that geography teachers will naturally be providing more open-ended, problem-solving tasks that require pupils to take greater ownership of their learning and to:

- devise and refine their own hypotheses
- plan and carry out appropriate investigations, including fieldwork and the use of Geographic Information System
- select and deploy evidence to reach and justify their conclusions, and present them to a range of audiences.

Pupils develop competence and confidence in using functional skills in an interrelated way. Their functionality develops over time as they learn to select and apply the skills needed to tackle particular tasks. Subject teachers can support this process by ensuring that pupils have access to the full range of skills. The following tables contain a few examples of ways in which functional skills can be deployed in geography.

Functional English

Learning through discussion from text and through writing is integral to functional English and to the activities that you will ask your pupils to complete as part of your geography syllabus. However, pupils will also need to deploy functional English skills such as those captured in the table below.

Functional English	Example of how applied in geography
Make relevant and extended contributions to discussions *(Speaking, listening and communication)*	When exploring controversial ideas such as the nature of migration of people
Read and understand texts in detail *(Reading)*	When researching an unfamiliar location, or preparing a management plan for a national park
Present information on complex subjects clearly and concisely *(Writing)*	When writing campaign literature on a topic linked to the availability of drinking water in particular global locations

Functional mathematics

Mathematical skills of **representing, analysing and interpreting** can be used and developed in a wide range of ways through geographical activities. For example:

Functional mathematics	Example of how applied in geography
Understand, use and calculate ratio and proportion *(Analysing)*	When considering how different scales of maps may be used for different purposes
Collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate *(Representing)*	When studying and calculating indices of development, which are then displayed appropriately
Extract and interpret information from tables, diagrams, charts and graphs *(Interpreting and communicating)*	When studying the geography of crime, and relating it to deprivation figures and social inequality data

Functional ICT

Geography offers numerous opportunities for pupils to communicate ideas and source information using ICT.

Functional ICT	Example of how applied in geography
Use collaborative tools appropriately *(Using ICT)*	When gathering fieldwork data
Recognise copyright and other constraints on use of information *(Finding and selecting information)*	When evaluating fitness for purpose of sourced images for presentations on human and physical processes
Combine different types of information for presentation in an appropriate format for audience and purpose *(Developing, presenting and communicating information)*	When composing a geographical report or analysis of a particular issue or process

How can I secure the development of functional skills within my lessons?

As a geography teacher you can support a cohesive and planned approach to the skills development of your pupils by:

- familiarising yourself with the functional skills criteria (see reference on page 3)
- talking to your colleagues, for example those in the English, mathematics and ICT departments, about how and when certain functional skills are being taught
- making clear from the beginning of a teaching sequence both the subject learning objectives that will need to be achieved and the functional skills that will be developed and applied
- referring at regular intervals in lessons to the objectives and to the functional skills that are being used, in order to encourage pupils to assess their progress and to inform where they need to focus next
- designing lesson activities based on real-world issues, and a 'living geography' approach that provides pupils with the opportunity to make choices about which functional skills they will use, individually and in combination, to seek solutions to challenges that are real, relevant and purposeful
- encouraging pupils to reflect on their learning, using probing questions that ask them to identify how they have used their functional skills and how they can transfer and apply these skills to other contexts within and beyond geography and the school.

What's in this booklet?

Three teaching sequences

The booklet contains three worked examples of teaching sequences that support how an organisation might embed and support the development of functional skills within geography as follows:

1. **Key Stage 3 teaching sequence:** Representing landscapes in literature
2. **Key Stage 3 teaching sequence:** Investigating social inequality
3. **Key Stage 4 teaching sequence:** Consumer choice and natural resources

Each teaching sequence exemplifies three key principles:

- Problem-solving needs to be at the core of planning for functional skills.
- Real, purposeful and relevant contexts are essential for engagement and applied learning.
- Supporting pupils to progress and use functional skills independently is the ultimate goal.

Functional skills focus

The teaching sequences support the development of a range of functional skills, for example speaking and listening as well as reading and writing. In mathematics pupils will usually deploy the skills of representing, analysing and interpreting in an integrated way to solve problems. Similarly, the functional skills of using ICT systems, finding and selecting information, developing, presenting and communicating information will also be used together.

However, within each sequence particular functional English, mathematics and ICT skills have been highlighted within the learning focus to show how they can be explicitly developed and applied. Geography teachers would need to consider how, over a period of time, teaching sequences support the development and application of a broad skills set.

00072-2010BKT-EN

Functional skills progression

In line with the English, mathematics and ICT programmes of study, functional skills have been mapped at level 1 to the Key Stage 3 examples and at level 2 to the Key Stage 4 example. However, it is important to note that these are target levels to be achieved **at the end of** each of these key stages and that some learners will be working towards securing their functional skills at lower levels, and some at higher. The teaching sequences can be tailored to the needs of your learners as appropriate.

A learner's **level of performance** in functional skills and the **level of demand** of a task depend on the interplay of four factors which are critical to success:

- the **complexity** of tasks and problems and the contexts in which they are embedded
- the **technical demand** of the content that might be applied in these contexts
- a learner's level of **familiarity** with the type of task or problem and context
- the level of **independence** required of the learner.

The need for **problem-solving** underpins all of them. The four factors are a key to reflection on **progress** in functional skills. For more detail see the diagram on page 8 and visit the Functional skills qualifications criteria on the Ofqual website.

Personal, learning and thinking skills

Functional skills and personal, learning and thinking skills work together to build independent, confident and successful learners. Therefore, references to opportunities to develop specific personal, learning and thinking skills have also been provided.

For more information relating to personal learning and thinking skills visit:
http://curriculum.qcda.gov.uk/key-stages-3-and-4/skills/plts/

How can I use this booklet?

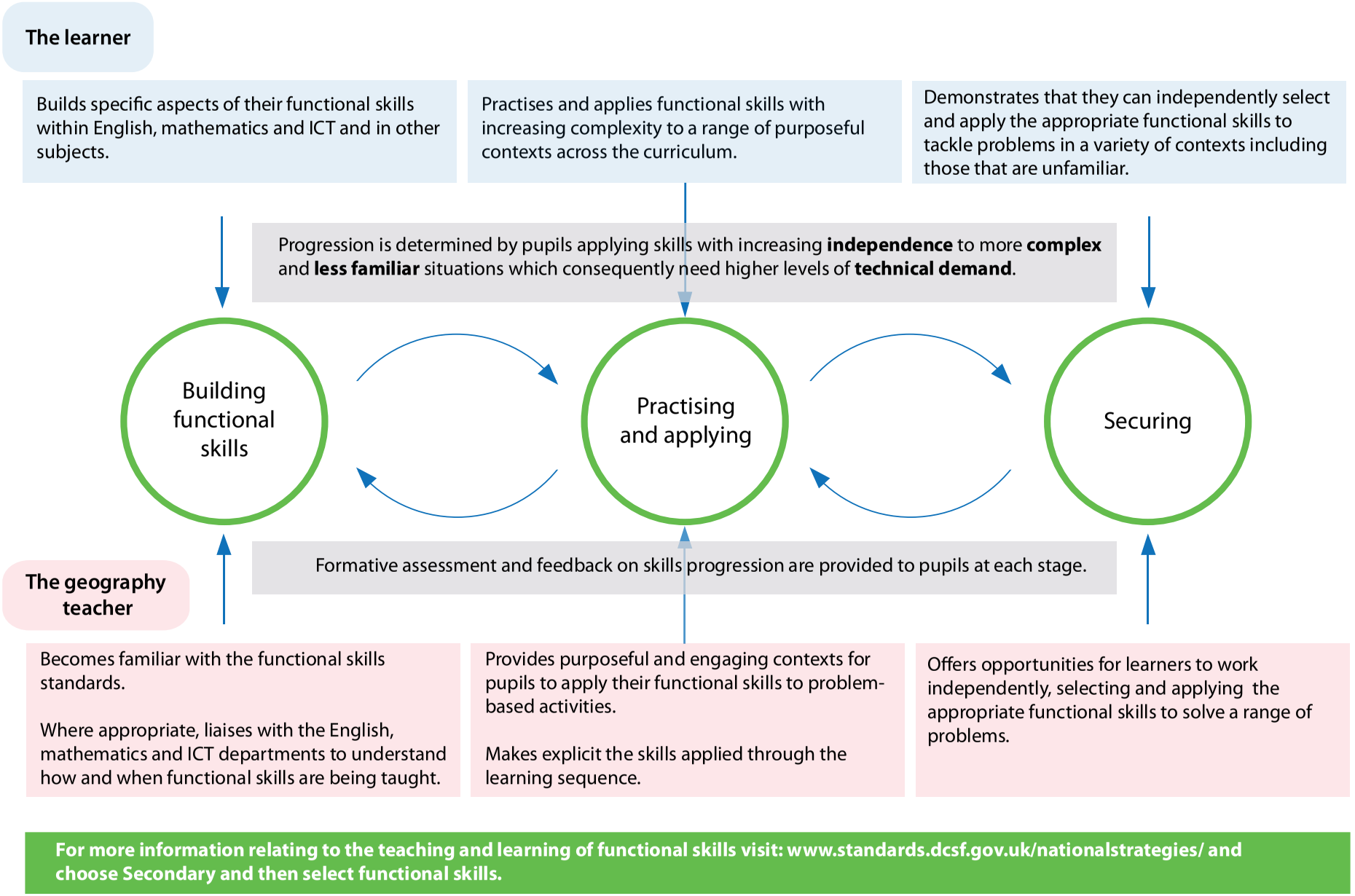
You can use the examples that follow, plus the additional information contained within this booklet, to:

- provide ideas that will inform your own planning (see planning tool on page 18)
- open a dialogue with teachers in your school who have the primary responsibility for delivering functional skills to find out more
- begin a discussion with other colleagues within your department about how to enhance functional skills development within geography lessons
- raise challenges and opportunities concerning working within and between subjects in your organisation.

For the key to the functional skills references that have been used in each context please see the grid on page 2.

00072-2010BKT-EN

Developing and securing functional skills



For more information relating to the teaching and learning of functional skills visit: www.standards.dcsf.gov.uk/nationalstrategies/ and choose Secondary and then select functional skills.

00072-2010BKT-EN

Context 1: Key Stage 3 – Representing landscapes in literature

Aims and overview

This module will enable learners to select from a range of functional skills to use texts, source materials and selected images to describe physical landscapes. The use of different forms of language and writing will be explored, and pupils will produce a personal response to local landscapes, accompanied by a range of appropriate images sourced by themselves.

The big question

What are your views on the local landscape?

Learning focus – geography

Pupils should be able to:

- understand the concept of landscape in geography
- explore the depiction of landscapes in different forms of text-based material, and produce some depictions of their own
- consider the sources of images that could be used to support the text
- explore the idea of geography as a way of 'seeing' their surroundings and communicate their views and perspectives to others.

Learning focus – functional skills target: level 1

This teaching sequence supports the development of a range of functional skills. However, particular functional English, mathematics and ICT skills have been highlighted and annotated below to model for illustrative purposes how they can be explicitly developed and applied.

English	**Mathematics**	**ICT**
Speaking, listening and communication, reading and writing	Representing, analysing and interpreting	Using ICT, finding and selecting information, developing, presenting and communicating information
Reading: Read and understand a range of straightforward texts.	*Representing*: Identify and obtain necessary information to tackle the problem.	*Developing, presenting and communicating information:* Enter, develop and refine information using appropriate software to meet the requirements of straightforward tasks.

Stage and focus	Learning outcomes
Stage 1 – The context In advance of the sequence of work, prepare or ask pupils to source images of the local area, whether photographs or artworks, and also ensure that Ordnance Survey maps of the area being studied are available. Introduce the term 'landscape' to pupils. Ask them to consider the different ways in which a landscape can be 'described'. For example, can it be defined in terms of written language alone? Images? Maps? What different characteristics does each provide? By using map skills, what can you learn about the local landscape (e.g. locating features using 4- (and 6-) figure grid references, and exploring the use of scale, symbols and co-ordinates to represent them)? Would this be of any use for a tourist programme on local landscape or would other representations be more productive? • Elicit from pupils the elements that make up a typical landscape. For example, what are the important features that you find in most/any landscape (e.g. rural features: fields, hedges, vegetation; urban features: roads and railways, buildings, commercial properties)? • Ask pupils to consider what makes a landscape valued. Is it its scenic function – to look 'beautiful'? Is its compatibility with its history important (e.g. retaining old textile mills in Yorkshire)? Others' judgements about landscape can be sourced via the web, literature or new media, and appropriate images shown. • Pupils' comments could be captured and shared using a web tool or sticky notes, or be annotated on an image of a local landscape using an interactive whiteboard.	Pupils will be able to explain what typical elements make up a landscape, and explore the relative 'value' of these elements. Pupils will understand and use grid references to identify features on a map.
Stage 2 – Research and exploration Provide a range of short written extracts which describe the local landscape. These should be from a range of texts, and include styles such as: narrative, report, explanation, persuasive, personal views, etc. Pupils work in groups to analyse the extracts and identify references to landscape. They highlight any specific landscape features mentioned in the extract, and any adjectives or other descriptors which are applied to them (e.g. *huge burial-mound, extensive motorway network, steep incline which ascends onto a plateau*). They also identify what – if any – factual information is contained within the extract (e.g. two bridges over the railway line, three miles south of the high street) and what opinions about the place being described are included in the extract. Now ask pupil groups to suggest: • in which type of publication the extract might be found (e.g. brochure, book, magazine, travel piece, information leaflet) • who the intended audience for the extract (or source publication) is. Students feed back conclusions on the way that landscape has been represented in their extracts: Do they all give a similar view ? Are some landscapes thought of as hostile, welcoming, valuable, evolving, unchanged?	Through detailed analysis of text extracts, explore attitudes to landscape and ways of describing it.

FS.Ma.L1/ Representing Choose to organise and represent information in different ways.

PLTS Active participators

FS.Eng.L1/R Read and understand texts in detail.

FS.Eng.L1/R Identify the main points and ideas and how they are presented in texts.

Stage and focus	Learning outcomes
Stage 3 – Deploying ideas and information Now that pupils have seen the value of images and text, explain that they will combine both by story-boarding a video which describes the local landscape for a regional news programme. If possible, watch a similar programme and analyse particular moments within the programme when references to landscape are made, and note the accompanying images. Use the original images provided of the local landscape to produce voice-over descriptions suitable for a three-minute segment of a programme set in the local area, and story board the segment, using appropriate software or a blank story board template.	Through composing a story board and voice-over, pupils construct perspectives on the landscape.
Stage 4 – Consolidating and reflecting (moving towards FS level 2) Once the voice-over has been scripted, pupils either present it 'live' with the still images, or record it using suitable software. Ask pupils to reflect on the particular perspectives of the local landscape presented: • Were they positive/negative? Why/why not? • How did the voice-overs work with/against the images; did the software or media used enhance the presentation and/or restrict it in any particular ways? • To what extent were the presentations a realistic reflection of the local landscape?	Through reflecting on the presentations/ story boards, pupils understand that views on landscape differ.
Extending • Walk for five minutes in each direction (north, south, east and west) from the school and take a representative image – discuss the impressions these images give of the school's location, then submit them to an image site, and compare with other submitted images. • Produce a dictionary of physical terms, which students should become familiar with over the course of the unit, and which should be added to. This could take the form of a collaborative web document. • Groups of students could take the story boards produced as part of the sequence and source some appropriate sounds that might be added to the story board. Finally, the movie could actually be made, perhaps using small hand-held video cameras, and shared with an audience of peer reviewers.	

FS.ICT.L1/DP&CI Apply editing, formatting and layout techniques to meet needs, including text, tables, graphics, records, numbers, charts, graphs or other digital content.

PLTS Self-managers

FS.ICT.L1/DP&CI Combine information within a publication for a familiar audience and purpose.

PLTS Reflective learners

FS.ICT.L1/DP&CI Evaluate own use of ICT tools.

Useful resources

http://scenic.mysociety.org This website collects judgements from users on the scenic qualities of landscapes.

www.flickr.com This photo-sharing site is a good source of Creative Commons licensed images.

Audacity, Vocaroo or Movie-maker could be used for recording a voice-over for the programme in stage 4.

www.wallwisher.com This site allows the creation of an interactive wall, where pupils' comments appear as sticky-note type additions.

www.geograph.org.uk/ This is a collection of user-submitted images from around the British Isles.

www.xinsight.ca/tools/storyboard.html This site provides a range of blank story boards.

Context 2: Key Stage 3 – Investigating social inequality

Aims and overview

This module will enable learners to focus on the use of web tools and to explore the important concept of 'social inequality' at the scale of their own town. Using a range of functional skills, pupils will research and present an analysis of a deceptively simple question which has wider geographical implications. As part of the work, pupils will plan a presentation for a local councillor or MP, requesting support for an area needing further development.

The big question

How does the place people live make a difference to their lives?

Learning focus – geography

Pupils should be able to:

- understand the concept of 'social inequality'
- develop their 'visual literacy' or graphicacy using a range of visualisation tools
- prepare for the controlled assessment element of GCSE specifications by following an enquiry sequence which will practise important skills in advance of the formal assessments
- develop an appreciation of the importance of their own personal 'place' and how it might be 'improved'.

Learning focus – functional skills target: level 1

This teaching sequence supports the development of a range of functional skills. However, particular functional English, mathematics and ICT skills have been highlighted and annotated below to model for illustrative purposes how they can be explicitly developed and applied.

English	**Mathematics**	**ICT**
Speaking, listening and communication, reading and writing	Representing, analysing and interpreting	Using ICT, finding and selecting information, developing, presenting and communicating information
Speaking/Listening: Take full part in formal/informal discussions and exchanges that include unfamiliar subjects.	*Interpreting*: Interpreting and communicating solutions to practical problems.	*Using ICT:* Interact with and use ICT systems to meet the requirements of a straightforward task in a familiar context.

Stage and focus	Learning outcomes
Stage 1 – The context Display an image which shows two contrasting areas side by side – one rich and one poor – and ask pupils to discuss in groups their impressions of what can be seen, and to identify common thoughts. An effective way of doing this is to use word-cloud software, where the size of the word in the generated cloud is proportional to its frequency; alternatively, add sticky notes to an enlarged version of the selected image or annotate it using an interactive whiteboard. Discuss how useful this word-tagging might be for exploring other text-based material, and the value of the image produced. Elicit and suggest a wider range of geographical vocabulary that could be used for such analysis. Ask pupils to talk about the inequalities that might be seen if the scale was widened to a region, country, or continent.	Pupils use a wider vocabulary to describe the social and geographical environment when exploring this topic.
Stage 2 – Research and exploration Explain to pupils that they will be making a presentation to a local MP or councillor, arguing for increased funding in specific ways for their local town or area. They will request a budget for the changes they believe are needed. This activity is based on the idea that social inequality is an issue that needs addressing, and the presentation will target ways of addressing it. Pupils should briefly consider what makes a good presentation and how they can make it appropriately informative, explaining their viewpoints clearly. For example, a limited number of images would not, on their own, provide sufficient evidence for pupils' presentation of local needs. In groups, pupils should consider what additional or alternative data or information about the place where they live might support, and be used in, their presentation. This may include government statistics (e.g. census data, crime figures, education, unemployment figures, environmental problems and local newspaper reporting). Pupils carry out the research, bearing in mind that if there are differences in the levels of provision of key services within an area, this is known as 'social inequality.' (This will need to be approached sensitively for obvious reasons.) Are there key factors in addressing inequality (e.g. better health provision equalling better job prospects)? Part of the research may also involve researching and considering indicative costs for particular development and change (e.g. how much does it cost to build a small youth centre?).	
Stage 3 – Deploying ideas and information Groups decide on key priorities for reducing inequality. What are some possible developments for their area? How much do they think these will cost, and how might they work this out? What would be the priorities for their spending? What changes would have the biggest impact? This may require students to appreciate connections between some factors (e.g. unemployment and poor health). Pupils decide on three areas within their groups and then vote for the measure that they most want to support, providing justification. They then prepare their presentation on the selected priority area, considering the resources they will deploy and the evidence/data they will use.	Pupils plan and utilise a range of resources, demonstrating understanding of the wider geographical concepts of scale and graphical representation.

FS.Eng.L1/SLC
Make relevant and extended contributions to discussions, allowing for, and responding to, others' input.

FS.ICT.L1/Using ICT
Recognise and use interface features effectively to meet needs.

FS.Ma.L1/ Interpreting
Collect and record discrete data and organise and represent information in different ways; extract and interpret information from tables, diagrams, charts and graphs.

FS.Eng.L1/SLC
Make different kinds of contributions to discussions.

Stage and focus	Learning outcomes
Stage 4 – Consolidating and reflecting Groups present their ideas to the teacher, who takes the role of MP or councillor (or to the actual person, if available). They follow this up with a report – oral or written – for the school's website or virtual learning environment, in which they explain the object of the activity, what they did, and what the outcome was. This should be clearly designed to be accessible to the wider school audience. Ask pupils to reflect on the following questions: What is the nature of social inequality and how does it affect the lives of everybody? How easy (or otherwise) is it to address this issue at a local level?	

FS.ICT.L1/Using ICT Select and use software applications to meet needs and solve straightforward problems.

PLTS Creative thinkers

FS.ICT.L1/Using ICT Select and use software applications to meet needs and solve straightforward problems.

Extending (targeting functional skills level 2)

- Pupils communicate with another school in another town or area, and discuss the social inequalities that exist in their respective locations.
- Pupils contact a local radio station and offer to do an interview on their ideas for improving their local area.
- Pupils gather together descriptions of different parts of a town, record them, then produce an annotated map using appropriate software so that the map can then be made available to people elsewhere.
- This additional work that has been produced can be uploaded to the school website or virtual learning environment, if appropriate (level 1 ICT skill).

Useful resources

- **www.wordle.org/** This site can be used to create word-tag clouds where the size of the word (e.g. 'poor', 'slum', etc.) is proportional to its frequency.
- **www.neighbourhood.statistics.gov.uk/** Enter your postcode to find data about your local area.
- **www.maps.police.uk/** This site provides information on crime and antisocial behaviour in particular places.
- **www.upmystreet.com/** This site provides more general information about people's neighbourhoods.
- **www.gapminder.org/** Gapminder is a sophisticated web tool which allows for the analysis of development data for numerous countries over a period of time. Changes that occur in countries can be tracked, and choices made on pairs of variables to use for comparisons – a simple user guide to Gapminder, produced by geography Advanced Skills Teacher Noel Jenkins, is available at: **www.juicygeography.co.uk/downloads/Word/gapminder.doc**

Context 3: Key Stage 4 – Consumer choice and natural resources

Aims and overview

This Key Stage 4 module will enable learners to select from a range of functional skills with which to explore some key issues surrounding the topic of water supply, a common theme on all GCSE specifications. Pupils will explore the issue of bottled water and the environmental, social and economic consequences of its purchase. They will produce a campaign to persuade people to think differently about water, and consider the wider implications of its purchase in this form.

The big question

Should we continue to buy bottled water?

Learning focus – geography

Pupils should be able to:

- critically examine and reflect on current usage of water, using a range of research skills
- research the scale of the bottled water industry and produce an appropriate graphic
- connect personal choice and the wider world issues related to water politics
- produce and evaluate an advertising campaign with a geographical focus, aimed at a particular target audience.

Learning focus – functional skills target: level 2

This teaching sequence supports the development of a range of functional skills. However, particular functional English, mathematics and ICT skills have been highlighted and annotated below to model for illustrative purposes how they can be explicitly developed and applied.

English	**Mathematics**	**ICT**
Speaking, listening and communication, reading and writing	Representing, analysing and interpreting	Using ICT, finding and selecting information, developing, presenting and communicating information
Writing: Write a range of texts, including extended written documents, communicating information, ideas and opinions, effectively and persuasively.	*Interpreting*: Draw conclusions and provide mathematical justifications.	*Finding and selecting information:* Use appropriate search techniques to locate and select relevant information.

Stage and focus	Learning outcomes
Stage 1 – The context Start by pouring a glass of water from a plastic bottle and drinking it. Identify the geographical connections that 'ripple out' from the glass – these might include: sources, quality, scarcity, waste, transportation, cost and climate change. Produce a list of prompts to support the discussion as appropriate. Bring attention to the plastic bottle that was used to pour the original glass of water. Discuss the environmental, social and economic implications of buying water in this form. Ask pupils how much they would pay for the glass of water you poured at the start. Ask pupils to research costs of some bottled waters. Encourage them to consider how mathematics might help in making fair comparisons (e.g. choosing to use cost per 100 ml rather than per bottle). Explore the costs involved in transporting water and additional costs in restaurants, etc. How justified are the prices charged for a resource many think should be 'free'? Do they have a view on what is a reasonable price to pay or is any purchase of bottled water unjustified?	Pupils explore relationships and links between ideas by using a variety of formats to capture and represent a discussion. Pupils carry out calculations in practical contexts.
Stage 2 – Research and exploration Pupils now work in pairs or groups to consider the scale of the industry, for example by listing bottled water brands or through a visual 'quiz', matching labels to brands, and identifying the source of the water in the bottles. Find/research recent articles on the bottled water industry in UK newspapers. Pupils should access local and national stories through efficient web searches. Pupils consider the information presented in the articles, discuss the 'facts' and 'opinions' presented, and feed back on what has been discovered to other pairs or groups. Groups should collate and present a range of viewpoints and feelings on the purchase of bottled water, possibly using a word-cloud tool. *Further research* Pairs or individuals carry out some market research, perhaps questioning pupils who are seen with bottled water. Older students from the sixth form could form the sample for this process (if appropriate). Develop appropriate questions with pupils, and a suitable format for carrying out the market research. Discuss what is being researched and how the nature of questions can change both what is being investigated, and the answers that are given. For example, if the purpose of the survey is to show bottled water as an 'unnecessary purchase' then the questions may be set up to elicit this response. Pupils individually produce a graphic representation of the bottled water industry and its impact, adding in the results of the market research, using appropriate technology to 'graph' or visualise the results of the survey. Each pair or individual should complete some statistical analysis of the results, ensuring that at least three key bulleted 'outcomes' form part of the final outcome (e.g. brand loyalties and preferences, frequency of purchase, gender differences, reasons for purchase, method of disposal of bottle).	Pupils explain particular viewpoints on a geographical topic in an article and how facts and language have been deployed for a particular purpose. Pupils select appropriate questions to match the purpose of their research.

FS.Ma.L2/ Interpreting
Understand, use and calculate ratio and proportion.

FS.ICT.L2/F&SI
Search engines, queries and AND/ NOT/ OR, >,<,>=,<=, contains, begins with, use of wild cards

FS.ICT.L2/F&SI
Search engines, queries and AND/ NOT/ OR, >,<,>=,<=, contains, begins with, use of wild cards

FS.ICT.L2/F&SI
Evaluate fitness for purpose of information.

PLTS
Active participators
Team workers

PLTS
Self-managers

FS.Ma.L2/ Interpreting
Use and interpret statistical measures using ICT where appropriate.

Stage and focus	Learning outcomes
Stage 3 – Deploying ideas and information The focus for the final section is to produce one visual for an advertising campaign. The 'objective' for pairs of students is to persuade the school community to drink more tap water and less bottled water. If a water cooler is installed in the staffroom, the focus might be on exploring reasons for its removal or retention. (Alternatively, a pro-bottled water campaign can be prepared by two–three groups to 'balance' the debate.) Pupils should consider what makes for an effective advertising campaign before they begin, perhaps using some examples. Each pupil should prepare a piece of written campaign literature (e.g. posters, leaflets, press release, letters, etc.). The various conventions and features of each type of literature should be established and secured before pupils begin.	Pupils demonstrate via the campaign literature an understanding of the issues, as presented from particular perspectives.
Stage 4 – Consolidating and reflecting (moving towards functional skills level 2) Pupils reflect on how effective their campaigns are, as well as what they have learned more broadly. For example: • Did they draw on a range of data and research to support their message? How well-crafted were the campaign materials? What were the responses to the campaign from the target audience? • What has changed about their own views on the water industry, water as a global issue, and the geographical connections? Follow up a month or two later to discover what personal changes (if any) pupils have made in their consumption habits, and why.	

FS.Eng.L2/W Present information/ ideas concisely, logically, and persuasively.

FS.Eng.L2/W Use a range of writing styles for different purposes.

PLTS Reflective learners

Extending

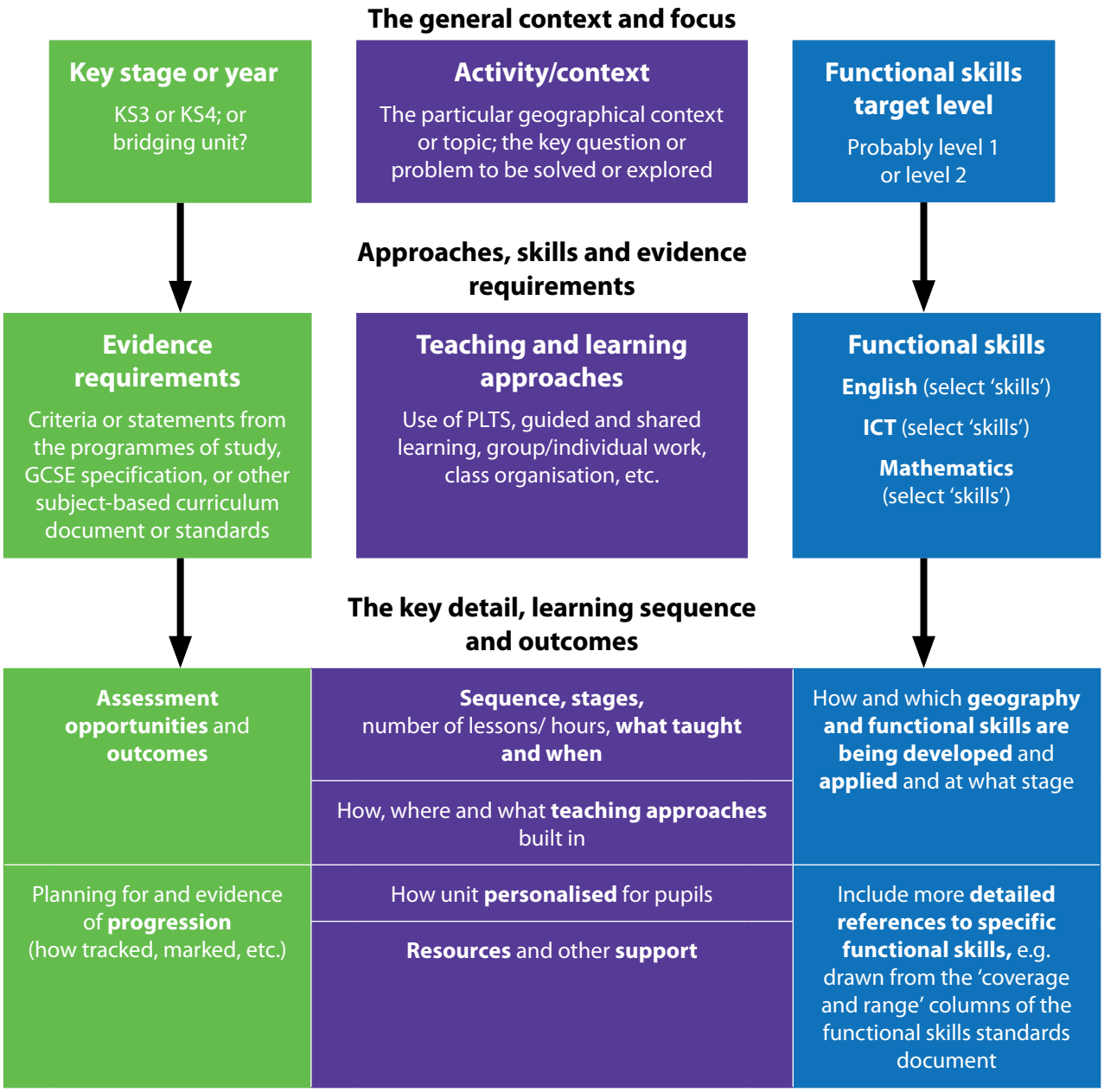
- Pupils present their campaigns as part of a year assembly, with some feedback on which was the 'favourite' presentation. Alternatively, a different, unfamiliar focus group could be invited into the classroom to view the finished campaign materials, and assess their impact.
- Pupils prepare a report for a local newspaper, outlining the work that was carried out, and trying to extend the reach of their campaign beyond the school community.
- The school might connect with a school in a part of the world where water is scarce, and pupils could compare water usage between the two schools, or set a target for reduction in water usage by the school.
- Eco Schools or Doorways to Sustainable Schools applications require some action on improved sustainability – how could this work form part of evidence-gathering in this area?
- Link with a local recycling initiative, and produce a resource based on bottle recycling.
- Work with science/technology departments to explore alternative packaging for water, or consider wider aspects of the industry: the full 'life cycle' of products.
- Explore the 'hidden' water that is stored in a range of foodstuffs and discuss the ethical issues surrounding, for example, the importing of salad crops from areas where there are water shortages.

Useful resources

- **www.slideshare.net/jbrenman/thirst** 'Thirst' is a powerful presentation on water issues.
- **www.wordle.org/** This site can be used to produce word-tag clouds where the size of a word is proportional to its frequency.
- **www.spezify.com** Spezify is a visual search engine.

Functional skills in geography: A planning process

The planning diagram below provides a structure for planning a geography activity or topic that integrates functional skills. Note that it starts from the geography activity or topic and that the functional skills are an integral part in the successful completion of the activity. It is a mistake to distort a geography activity simply to ensure that it includes functional skills; however, the inclusion of functional skills may well allow for a greater degree of independent learning and skills application. A cross-curricular model would look different insofar as the focus would be on more than one subject area.



Resources

Literacy and learning in geography DfES 0672-2004G

The purpose of this booklet is to help geography teachers support the development of:

- learning through talk
- learning from text
- learning through writing.

Leading in learning: Exemplification in geography DfES 0054-2005 G

The purpose of the booklet is to demonstrate how geography teachers can contribute to the development of pupils' learning and thinking skills. It provides examples of the 10 teaching strategies contained in the Leading in learning teachers' handbooks for Key Stage 3 Ref: DfES 0035-2005 G and Key Stage 4 Ref: 2111-2006DWO-EN, which are the main source of guidance for Leading in learning.

ICT across the curriculum: ICT in geography DfES 0194-2004G

The **ICT across the curriculum** (ICTAC) pack is a set of materials designed to promote the use of ICT across all subjects in schools. The ICT in geography guide is designed to raise awareness of how ICT can be applied and developed in geography, analyse the opportunities that exist in geography for developing and applying ICT and consider how ICT can enhance the teaching and learning of geography.

Pedagogy and practice: Teaching and learning in Secondary schools DfES 0423-2004G

The **Pedagogy and practice** materials consist of a suite of 20 study guides supported by a series of video sequences on DVD. All the guides are helpful in the development of functional skills and independence, but those with particular relevance include: Teaching models; Group work; Guided learning; Active engagement techniques; Developing reading; Developing writing; Using ICT to enhance learning; Developing effective learners.

All of the materials listed are available for download from the National Strategies web area, along with the 10 other subject booklets in this series and a suite of e-learning modules.

Visit: **www.standards.dcsf.gov.uk/nationalstrategies**

A dedicated website for the Functional Skills Support Programme (FSSP) provides a first point of contact for all functional skills support. It includes the Learning and Skills Improvement Service (LSIS) training modules for functional skills for the post-16 sector and a series of booklets to support teaching functional skills in diplomas. The FSSP website can be accessed at: **www.fssupport.org**

For case studies and further guidance about planning for functional skills, visit: **http://curriculum.qcda.gov.uk/key-stages-3-and-4/skills** and select functional skills.

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