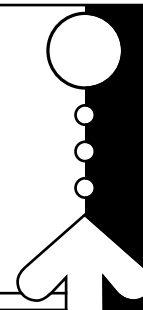


# UNIT 6 UNIT PLAN

## Flood disaster



### ○○○ Key question

How could we be better prepared next time?

### ○○○ About the unit

This unit focuses on the town of Tewkesbury, Gloucestershire and its experiences at the time of the 2007 flood. Pupils create a concept map of causes, effects and responses to flooding through the unit. At the end of the unit, they design a poster to help people to prepare for flooding.

The unit is expected to take about seven hours.

### ○○○ Key aspects

Through this unit pupils will increase their understanding of *Environmental interaction and sustainable development, Space and Physical and human processes*.

Pupils will:

- ask geographical questions
- use 1:50,000 OS map
- use aerial photographs and other secondary sources of evidence
- communicate their geographical knowledge and understanding through a concept map

### ○○○ Expectations

At the end of this unit, most pupils will be able to:

- identify causes, effects and responses for a flood
- create a concept map for the flood
- give advice on what to do in a flood
- list the damage a flood could cause in their home
- investigate flood risk on a 1:50,000 OS map
- list the factors that reduce the risk of flooding
- explain how the Environment Agency reduces flood risk
- interpret an aerial photo of flooding
- interpret a flood graph
- make recommendations to avoid problems of 2007 floods in the future

### ○○○ Prior learning

It is helpful if pupils have studied rivers in KS2. They may also have studied the water cycle and learnt how to interpret contour lines in Unit 3 *Survivor!*

### ○○○ Language for learning

Through the activities in this unit, pupils will be able to understand, use and spell correctly these words:

*flood climate change Environment Agency  
floodplain confluence permeable impermeable  
channel tributary river embankment*

*Reading*

Pupils will:

- read a newspaper account of the 2007 flood in Tewkesbury
- create a concept map based on text and data they read through the unit

*Writing*

Pupils will write a flood plan to give advice.

### ○○○ Resources

- *This is Geography 1* Unit 6
- Worksheets: 6.1–6.12
- Metre rules, scissors and glue
- Internet
- *eLearning Activities CD-ROM 1* Unit 6

### ○○○ Links

The activities in this unit link with:

- Unit 3 *Survivor!*, Book 3; Unit 5 *River risk*
- Mathematics – grid references, graph interpretation
- ICT – use flooding GIS on website, DTP to produce a flood warning poster

### ○○○ Future learning

Pupils will learn more about the risks associated with rivers and do their own fieldwork investigation on a river in Book 3.

# LESSON PLAN

## LESSON 1

### UNIT 6 Flood disaster

## How could we be better prepared next time?



#### LEARNING OBJECTIVE

- to be able to identify causes, effects and responses for a flood

#### PRIOR LEARNING

Pupils studied the water cycle in Unit 3. They may have studied rivers in KS2.

#### KEY WORDS

flood  
climate change

#### RESOURCES

- This is Geography 1 pp. 84–85
- Worksheet: 6.1 Flood in Tewkesbury
- Assess yourself sheet
- eLearning CD-ROM Activities: Video starter 6.1, 6.2, 6.3

#### LESSON STRUCTURE

##### Starter

Think of an everyday disaster for pupils in school (e.g. not bringing homework!). On the board, draw a concept map to show the causes, effects and responses for the disaster. Ask the pupils to suggest ideas and give an example of each (e.g. cause: 'the dog ate it', effect: 'detention', response: 'write homework in a diary'). The pupils think of ways to organise the ideas into groups (for example, human and natural causes).

##### Development

The pupils do activity 1 on p. 85. They read the newspaper article about the flood in Tewkesbury and identify causes, effects and responses. They can underline a copy of the article on Worksheet 6.1, or an alternative Word version on CD-ROM Activity 6.2 about Lewes, to highlight these.

The pupils do activity 2. They create a concept map in their book to show the causes, effects and responses for the flood. You can model this first using CD-ROM Activity 6.3. Tell the pupils that it is important to draw this large so that more ideas can be added through the unit (suggest they use pencil to start with).

##### Plenary

Ask pupils to contribute ideas of causes, effects and responses from their concept map. List them on the board. Now, ask the pupils to suggest ways to group the ideas. Some will have already done this. The pupils can choose the best way to group their own ideas. Emphasise that there is more than one way to draw their concept map – it is what makes sense to them.

Pupils read the Assess yourself sheet.

#### SUPPORT

The pupils learn from each other's ideas in the plenary.

Pupils reinforce their understanding of causes, effects and responses by completing screen 1 of CD-ROM Activity 6.2.

#### EXTENSION

The pupils sub-divide causes, effects and responses on their concept map, adding more groups.

#### HOMEWORK

The pupils could refine/redraw their concept map.

#### FUTURE LEARNING

The pupils will find more about the causes, effects and responses for a flood through the unit. At the end of the unit they will use their ideas to produce a flood warning poster.

# LESSON PLAN

## LESSON 2

## UNIT 6 Flood disaster

### A flood diary



#### LEARNING OBJECTIVE

- to know what to do before, during and after a flood

#### PRIOR LEARNING

Pupils read about the flood in Tewkesbury in lesson 1.

#### KEY WORDS

Environment Agency

#### RESOURCES

- This is Geography 1 pp. 86–87
- Worksheets: 6.2 Flood damage, 6.4 What to do in a flood
- eLearning CD-ROM Activities: 6.4, 6.5

#### LESSON STRUCTURE

##### Starter

The pupils work in pairs. Tell them to imagine that there is an imminent danger of a flood in the school. They have five minutes to prepare a flood plan. What would they do before the flood? What would they do during the flood to keep safe? What could they do after the flood? They show ideas.

##### Development

The pupils do activity 1. They read the flood diary on p. 86, or listen to the alternative one on CD-ROM Activity 6.4. They make a list of things to do before, during and after a flood and give reasons for doing them. They compare their advice with the EA advice on Worksheet 6.4 (or they can go to the EA Floodline website).

Show pupils photo B on p. 87 using CD-ROM Activity 6.5. The pupils do activity 2 on p. 87. They list the damage a flood could do in their home. They could use Worksheet 6.2 to help them. The pupils do activity 3. They explain how each item in a flood kit could be useful.

Remind pupils to add more causes, effects and responses to their concept map.

##### Plenary

The pupils compare their advice with that given by the EA on Worksheet 6.4. What does the EA advise that they didn't think of? Why do the EA give that advice? Did they advise anything that the EA did not? How would they justify this advice?

#### SUPPORT

The pupils use Worksheet 6.2 to list the damage a flood can do.

#### EXTENSION

The pupils go to the EA Floodline website to find out what advice they give.

#### HOMEWORK

The pupils check their own home and make a flood plan (for pupils living in a flood risk area this will have a real-life application).

#### FUTURE LEARNING

Pupils will find out more about the role of the Environment Agency in lessons 4, 6 and 7.

# LESSON PLAN

## LESSON 3

### UNIT 6 Flood disaster

## Background to the flood



#### LEARNING OBJECTIVES

- to be able to investigate flood risk using an OS map

#### PRIOR LEARNING

Pupils have learnt to use grid references, scale and contours in Units 2 and 4. They may have used OS maps in KS2.

#### KEY WORDS

floodplain  
confluence

#### RESOURCES

- This is Geography 1 pp. 88–89
- Worksheets: 6.5 Tewkesbury Abbey, 6.6 Floodplain

#### LESSON STRUCTURE

##### Starter

The pupils look at photo C on p. 88 (or you could show it on the IWB using CD-ROM Activity 6.6). Invite the pupils to identify and label Tewkesbury Abbey, the River Avon, the river floodplain. Compare this photo with the photo on p. 84.

##### Development

The pupils do activity 1 on p. 88. They locate Tewkesbury Abbey on map D. They suggest why a town was built here and what the problem is with this site. They use Worksheet 6.5 to label the features on a drawing of photo C, and colour the areas that were flooded. The pupils do activity 2. Using the contour lines they work out if places on the map are at risk of flooding or not. Some pupils can use Worksheet 6.6 to help them to do this. They colour the rivers and floodplain onto a simplified version of the map.

Some pupils do activity 3. They explain why some of the main routes in and out of Tewkesbury flooded. Again, they can use Worksheet 6.6 to help them. Remind the pupils to add more causes, effects and responses to their concept map.

##### Plenary

Ask the pupils why Tewkesbury almost became an island during the 2007 floods. Can they work out any route into and out of the town that would not be flooded?

#### SUPPORT

The pupils use Worksheet 6.6 to help them to work out places that are at risk from flooding on map D.

#### EXTENSION

The pupils do activity 3. They explain why some of the main routes in and out of Tewkesbury flooded.

#### HOMEWORK

#### FUTURE LEARNING

The pupils will study the factors that affect flooding in lesson 4. They will see a photo of flooding around Tewkesbury in lesson 5.

# LESSON PLAN

## LESSON 4

# UNIT 6 Flood disaster

## Rivers and flooding



### LEARNING OBJECTIVES

- to know the factors that affect the risk of flooding
- to understand how flood risk can be reduced

### PRIOR LEARNING

Pupils looked at a photo and map of the rivers and floodplains around Tewkesbury in lesson 3.

### KEY WORDS

channel  
tributary  
river embankment  
permeable  
impermeable

### RESOURCES

- This is Geography 1 pp. 90–91
- Worksheets: 6.7 Factors that affect flooding, 6.8 Could my home be flooded?
- Scissors
- Computers (with internet access)
- eLearning CD-ROM Activities: 6.9, 6.12

### LESSON STRUCTURE

#### Starter

The pupils look at drawing E on p. 90. Ask pupils to spot the differences between the two sides of the drawing. What factors increase the risk of flooding? What factors reduce the risk? (Invite the pupils to add labels on the IWB using CD-ROM Activity 6.9.)

#### Development

The pupils do activity 1 on p. 91. They look at drawing E. They list the factors that reduce the risk of flooding and explain why this is the case. Some pupils use Worksheet 6.7. They cut out flood risk factors and place them on drawing D. They divide the factors into four groups and complete a table. The pupils do activity 2. They look at map F, the Environment Agency flood risk map for Tewkesbury. They find places on the map to work out the flood risk for each one. The pupils do activity 3. They explain four ways in which the Environment Agency helps to reduce the risk of flooding. Some pupils do activity 4. They find out if their home is at risk from flooding at the EA's Floodline website.

Remind the pupils to add more causes, effects and responses to their concept map.

#### Plenary

The pupils work in pairs. They take turns to think of a factor that increases the risk of flooding and their partner has to think of a corresponding way to reduce the risk. After a few minutes, ask the pupils which factors we can control, and which we have no control over? Is it ever possible to prevent flooding? Why?

### SUPPORT

The pupils use Worksheet 6.7 to place flood risk factors on drawing D.

### EXTENSION

The pupils do activity 4 to find out if their home is at risk from flooding. This can be completed using CD-ROM ICT Support Activity 6.12.

### HOMEWORK

The pupils use Worksheet 6.8 to find out if their home could be flooded. (They will need access to the internet on a computer.)

### FUTURE LEARNING

The pupils will see Tewkesbury under water in lesson 5.

# LESSON PLAN

## LESSON 5

### UNIT 6 Flood disaster

## Tewkesbury under water



#### LEARNING OBJECTIVES

- to be able to interpret an aerial photo of flooding
- to be able to interpret a flood graph

#### PRIOR LEARNING

Pupils learned about the factors that increase the risk of flooding in lesson 4.

#### KEY WORDS

flood warning  
flood watch  
severe flood warning

#### RESOURCES

- This is Geography 1 pp. 92–95
- Worksheet: 6.9 Living flood graph
- eLearning CD-ROM Activities: 6.11, 6.12

#### LESSON STRUCTURE

##### Starter

The pupils look at aerial photo G on p. 92. It shows Tewkesbury under water in July 2007. Ask the pupils if they can locate places and features in Tewkesbury on the photo.

##### Development

The pupils do activity 1 on p. 93. They match the numbers on aerial photo G with places in Tewkesbury.

The pupils do activity 2. They work out which direction the camera was pointing by comparing the photo with map D on p. 89. They describe the pattern of flooding around Tewkesbury.

The pupils study the graph I on pp. 94–95. The pupils do activities 1 and 2 on p. 95. They interpret the flood hydrograph to find the highest rainfall and river level each day.

The pupils do activity 3. They explain the connection between rainfall and river level. Some pupils use Worksheet 6.9 to place events on the graph. Other pupils do activity 4. They decide when flood warnings should be given.

Remind the pupils to add more causes, effect and responses to their mind map.

##### Plenary

Ask the pupils when each flood warning (Flood Watch, Flood Warning, Severe Flood Warning) should be given. Was the flood easy to predict? Why were people in Tewkesbury taken by surprise? (You could show the flood graph on IWB, building it bit by bit – first the rainfall, then the river level, then flood warning levels.)

#### SUPPORT

Pupils gradually examine a hydrograph using CD-ROM Activity 6.11.

The pupils use Worksheet 6.9 to place events on a flood hydrograph.

#### EXTENSION

The pupils do activity 4. They work out the timing of flood warnings.

#### HOMEWORK

#### FUTURE LEARNING

The pupils will learn about the wider context of flooding on the River Severn in lesson 6.

# LESSON PLAN

## LESSON 6

### UNIT 6 Flood disaster

## The big picture



#### LEARNING OBJECTIVES

- to relate the floods in Tewkesbury to wider flooding problems on the River Severn
- to make recommendations to avoid problems of 2007 floods in future

#### PRIOR LEARNING

*Pupils have studied the 2007 floods in and around Tewkesbury in detail. They learned about factors that increase and reduce the risk of flooding in lesson 4.*

#### KEY WORDS

#### RESOURCES

- This is Geography 1 pp. 96-97
- Worksheets: 6.10 Flooding on the River Severn, 6.11 2007 – Britain's wettest summer

#### LESSON STRUCTURE

##### **Starter**

*Many towns and cities in Britain are built on rivers, making them prone to flooding. If there have been recent floods you could ask pupils which towns were affected and which rivers flooded. Locate the places using an atlas. Do a quick class quiz, asking the pupils to name the rivers different towns and cities lie on. Start with easy ones like Stoke (on Trent) or Newcastle (upon Tyne). You could allow pupils to use an atlas to find the rivers so that they develop their atlas skills.*

##### **Development**

*The pupils do activity 1 on p. 96. They study map J, showing the River Severn from source to mouth. They suggest why Tewkesbury was so badly affected by floods in 2007. The pupils do activity 2. They identify some of the problems along the River Severn in 2007, and make recommendations about how these could be avoided in future. They can use Worksheet 6.10 to write their ideas. Some pupils can use Worksheet 6.11. They look at the rainfall pattern in summer 2007 to explain why the River Severn and other parts of central Britain were so badly affected by flooding.*

*The pupils do activity 3. They discuss whether it is worth trying to protect towns like Tewkesbury from flooding.*

*Remind the pupils to add more causes, effects and responses to their concept map.*

##### **Plenary**

*The pupils share their ideas with the class. They say whether or not they would try to protect towns like Tewkesbury. If climate change is going to lead to more floods in future, how should we adapt? More protection, or move to safer areas?*

#### SUPPORT

#### EXTENSION

*The pupils use Worksheet 6.11 to study the rainfall pattern in summer 2007 and relate this to the areas that flooded.*

#### HOMEWORK

*Pupils can find out whether floods affected their area in 2007 or if it has experienced flooding at any other time.*

#### FUTURE LEARNING

*The pupils complete their concept map to use in lesson 7.*

# LESSON PLAN

## LESSON 7

### UNIT 6 Flood disaster

## Learning lessons from the flood



#### LEARNING OBJECTIVES

- to review causes, effects and responses on a concept map
- to apply understanding of flooding to produce a flood warning poster

#### PRIOR LEARNING

Pupils refer back to all the work they have done in this unit.

#### KEY WORDS

#### RESOURCES

- This is Geography 1 pp. 98–99
- Worksheet: 6.12 Flood concept map
- eLearning CD-ROM Activity: Glossary – Match the words!

#### LESSON STRUCTURE

##### Starter

The pupils do activity on p. 98. They look at the concept map they have made and compare it to this one. (The same concept map is on Worksheet 6.12.) They check that they have included all causes, effects and responses, using page references. The pupils may want to add things they missed to their own concept map, but tell them not to change the way it is organised.

##### Development

The pupils design a flood warning poster. First they decide whether to focus on causes, effects or responses to a flood. Then, they narrow the focus to a specific cause, effect or response. (They could design the poster on a DTP package and download an image from the CD-ROM Image bank to incorporate in the poster.)

##### Plenary

The pupils mount posters on the wall. They can be grouped into those that focus on a cause, effect or response. Which group did most posters fall into? Who were the posters aimed at? Which would be most effective? Why?

Finally, the pupils look again at the Assess yourself sheet. They complete the sheet.

#### SUPPORT

The pupils use Worksheet 6.12 to help them to check their flood concept map.

Use the CD-ROM Glossary game to test pupils on the key words for this unit.

#### EXTENSION

Designing a flood warning poster will allow more able pupils to show more extensive understanding of flooding.

#### HOMEWORK

#### FUTURE LEARNING

The pupils will study other natural hazards and human/physical interactions in Books 2 and 3.

# FLOOD DISASTER ASSESS YOURSELF

Pupil's Book pages 84–99

Name: \_\_\_\_\_

**AT THE START**

Read this sheet. Find out what you will be expected to do by the end of this unit.

**AT THE END**

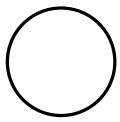
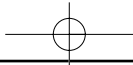
Check back through your work. Fill in this chart to show how well you can do each of these things.

I am able to ...	Very well	Quite well	With help	Not at all
Identify causes, effects and responses for a flood				
Create a concept map for the flood				
Write advice about what to do in a flood				
List the damage a flood could cause in your home				
Investigate flood risk on a 1:50,000 OS map				
List the factors that reduce flood risk				
Explain how the Environment Agency reduces flood risk				
Interpret an aerial photo of flooding				
Interpret a flood graph				
Make recommendations to avoid problems of 2007 floods in future				

- The work I most enjoyed in this unit was \_\_\_\_\_  
because \_\_\_\_\_
- The work I found most difficult was \_\_\_\_\_  
because \_\_\_\_\_
- My best piece of work was \_\_\_\_\_  
because \_\_\_\_\_  
\_\_\_\_\_



How are you doing?



# FLOOD DISASTER DICTIONARY

Pupil's Book pages 84–99

Name: \_\_\_\_\_

flood

---

climate change

---

Environment Agency

---

floodplain

---

confluence

---

permeable

---

impermeable

---

channel

---

tributary

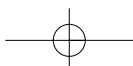
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river embankment

---

evacuate

---



# FLOOD DISASTER

Pupil's Book pages 84-85

## 6.1 FLOOD IN TEWKESBURY

Name: \_\_\_\_\_

### **task...**

Read the newspaper article carefully. Identify:

- causes of the flood
- effects of the flood
- responses to the flood.

Underline the article using three colours to highlight causes, effects and responses.

## FLOOD MISERY IN GLOUCESTERSHIRE

**Monday 23rd July, 2007**

Britain's worst summer floods in living memory have forced hundreds of families in Gloucestershire to leave their homes, and have caused chaos throughout the region. Roads have been closed, railway services suspended and, despite being surrounded by water, thousands of people have no drinking water.

More than a month's worth of rain fell in a few hours last Friday. Since then, river levels in central England have been rising, flooding parts of Worcestershire and Gloucestershire up to depths of two metres.

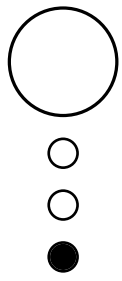
Tewkesbury, one of the worst hit towns, where the River Severn and River Avon meet, has been virtually cut off by floodwater. Water poured into the town, flooding over five

hundred homes and shops. Dozens of families were evacuated. Last night across Gloucestershire, more than two thousand people were sleeping in temporary shelters.

Emergency services were busy through the weekend, rescuing people from their homes by boat. RAF helicopters were called into action to lift people stranded in outlying farms.

A water treatment works on the River Severn, near Tewkesbury, has been flooded, cutting off water supplies to 150,000 people in the region. It is too early to say what the eventual cost of the floods will be, but insurance companies are predicting that claims will run into £ billions.





# FLOOD DISASTER

## 6.2 FLOOD DAMAGE

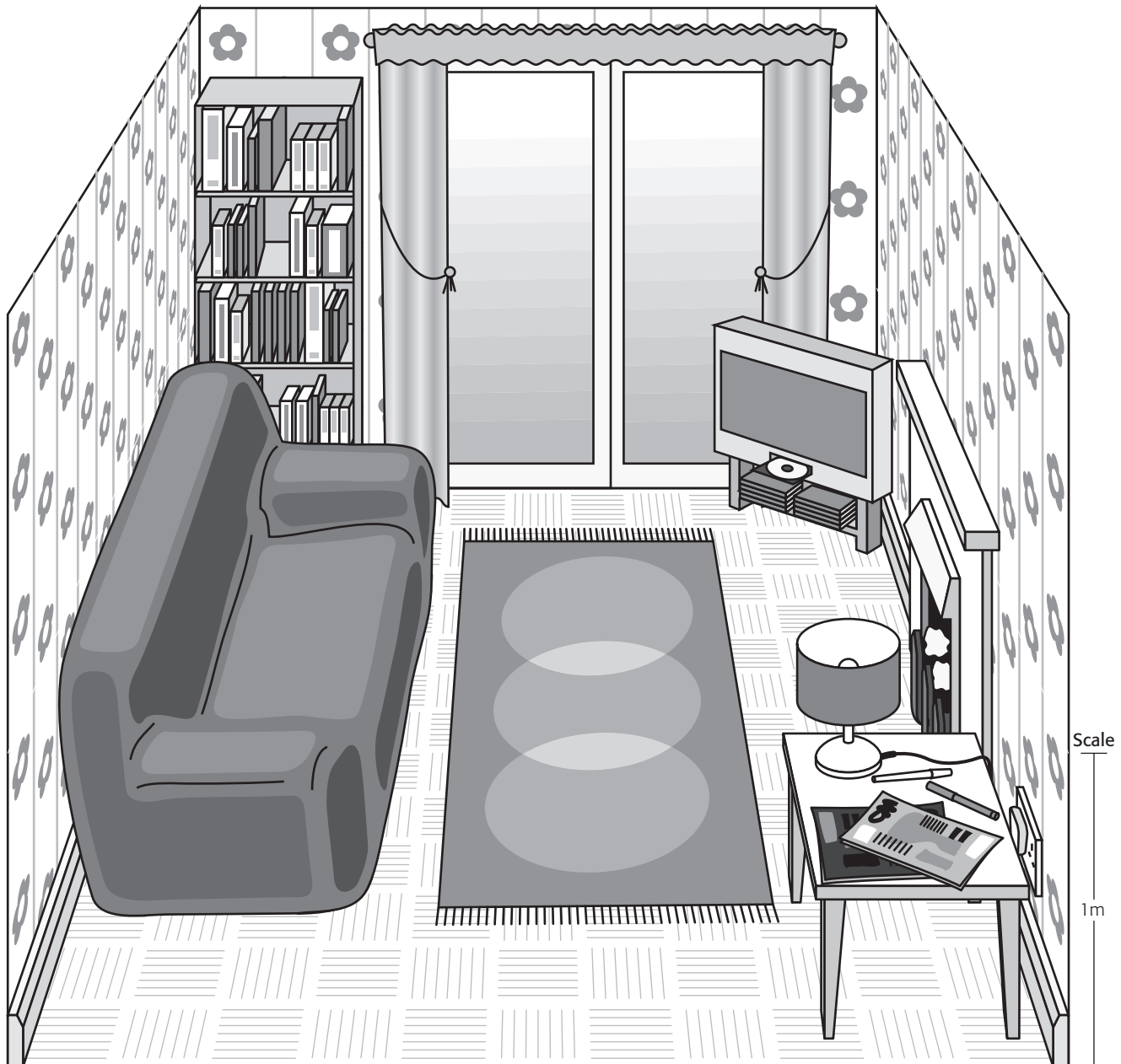
Pupil's Book page 87

Name: \_\_\_\_\_

### **task...**

Look at this living room. What damage or problems would be caused if it was flooded to a depth of one metre?

You should spot at least eight things. Make a list.



# FLOOD DISASTER

## 6.3 FLOOD DIARY

Pupil's Book pages 86–87

Name: \_\_\_\_\_

Use this copy of the flood diary to do activity 3a) on page 87.

### **task...**

Read the diary. Underline in one colour the effects of the flood. In another colour, underline peoples' responses to the flood. You can use the ideas on your concept map.

#### **Friday, 8.00p.m.**

I made it to Evesham, which is surrounded by floodwater. They're stopping traffic a mile down the main road. I set off down the smaller roads at no more than ten m.p.h. As long as I could see the road verges above the water, I was ok.

#### **10.00p.m.**

Finally made it to Tewkesbury, but abandoned the car 300 yards from home. I tried to get across the river bridge on foot. As long as I gripped a fence, wall or lamppost I was safe.

#### **2.00a.m.**

A helicopter with a searchlight is hovering over our house, near the river. The bridge wall has collapsed and cars are floating away! We go to bed with the house still four feet above water level.

#### **Saturday, 7.00a.m.**

Floodwaters are now only two feet from the house. Go to town to buy bread and milk. Everyone says it's never been like this before, but we feel reasonably certain that this is the worst of it.

#### **6.00p.m.**

It's getting worse! A fire engine is parked outside the house. We're told that this is the last chance to evacuate; after that it will be by boat or helicopter, and only in an emergency.

#### **2.00a.m., 4.00a.m., 6.00a.m.**

I get up at two-hourly intervals to check the water level. It's still rising and we've got about six inches safety margin before the garage floods.

#### **Sunday, 8.00a.m.**

Bleary-eyed and beleaguered. Water everywhere. The sun is shining and it's almost pleasant, except for the water level, which creeps closer. There are helicopters galore – some TV news, some rescue. Our house is always on TV.

#### **12.00p.m.**

Sam and I go into town. It's very quiet. All shops are closed except for Marks and Spencer's. No bread, milk or water, of course. We help at the flooded abbey by carting a ton of sandbags to the doors. The vicar tells us we've earned our place in heaven!

#### **10.00p.m.**

Water level hasn't changed all day.

#### **Monday, 8.00a.m.**

Water level still hasn't changed. Bottled water is delivered to the bridge, and we pick some up.

#### **4.00p.m.**

We have been told that we could lose power and the phone line at any time. We're out of bread, baked beans, and are low on milk.

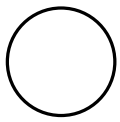
There's no way of knowing how long we'll need to make the food last.

#### **6.00p.m.**

We've been to the town centre. It's very sad to see the shops and houses flooded. I saw a sad chap sitting on his doorstep. A couple of inches of water in the house and it was ruined.

#### **10.00p.m.**

TV news likes to talk it up; words like 'pandemonium' are just nonsense. People here are very calm – swapping gossip, news and encouragement. People take food to neighbours, others help with sandbags. The tap water has given up the ghost. Fortunately, we still have heat and power.



## FLOOD DISASTER

Pupil's Book page 87

# 6.4 WHAT TO DO IN A FLOOD

Name: \_\_\_\_\_

This is a summary of the advice given by the Environment Agency about what to do before, during and after a flood. You can use it to do activity 3d) on page 87.

## FLOODING

### Before a flood

- Listen for warnings on radio and TV, and phone Floodline 0845 988 1188 for more information.
- Move pets, vehicles, valuables and other items to safety.
- Alert your neighbours, particularly the elderly.
- Block doorways with sandbags or flood boards.
- Switch off electricity and gas.
- Do as much as you can in daylight. It will be much harder in the dark, especially without electricity.

### During a flood

- Floods can kill. Don't try to walk or drive through floodwater. 15 cm of fast-flowing water can knock you over. 60 cm of water is enough to float your car.
- Never try to swim through fast-flowing water. You may be swept away or struck by an object.
- Avoid contact with floodwater. It may be contaminated with sewage.

### After a flood

- Call your insurance company for advice about your claim and how to get back to normal.
- Open doors and windows to ventilate the house. A brick dries out at about 2 cm per month.
- Contact your electricity and gas companies. Check it is safe to turn the power back on.
- Throw away food which may have been in contact with floodwater.
- Wash taps and turn them on for a few minutes before use.

# FLOOD DISASTER

## 6.5 TEWKESBURY ABBEY

Pupil's Book page 88

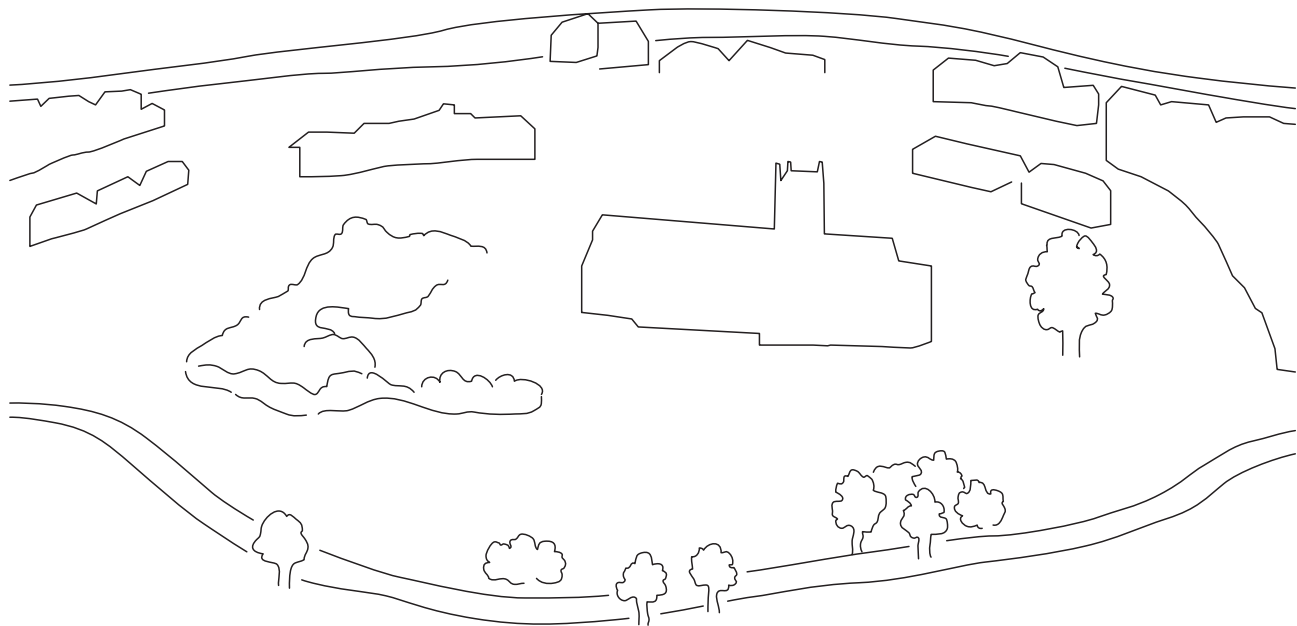
Name: \_\_\_\_\_

### **task...**

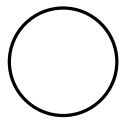
1 Look at photo C on p. 88. Identify the following features in the photo:

- Tewksbury Abbey
- the town
- the River Avon
- the river's floodplain (above the river in the photo)
- the River Swilgate (a small tributary of the River Avon marked by a line of bushes below the abbey).

Label the features on the outline drawing below.



2 Now, compare photo C with the photo on p. 84. It shows the same place during the floods. Shade the areas that are flooded with a blue pencil on the drawing above.



# FLOOD DISASTER

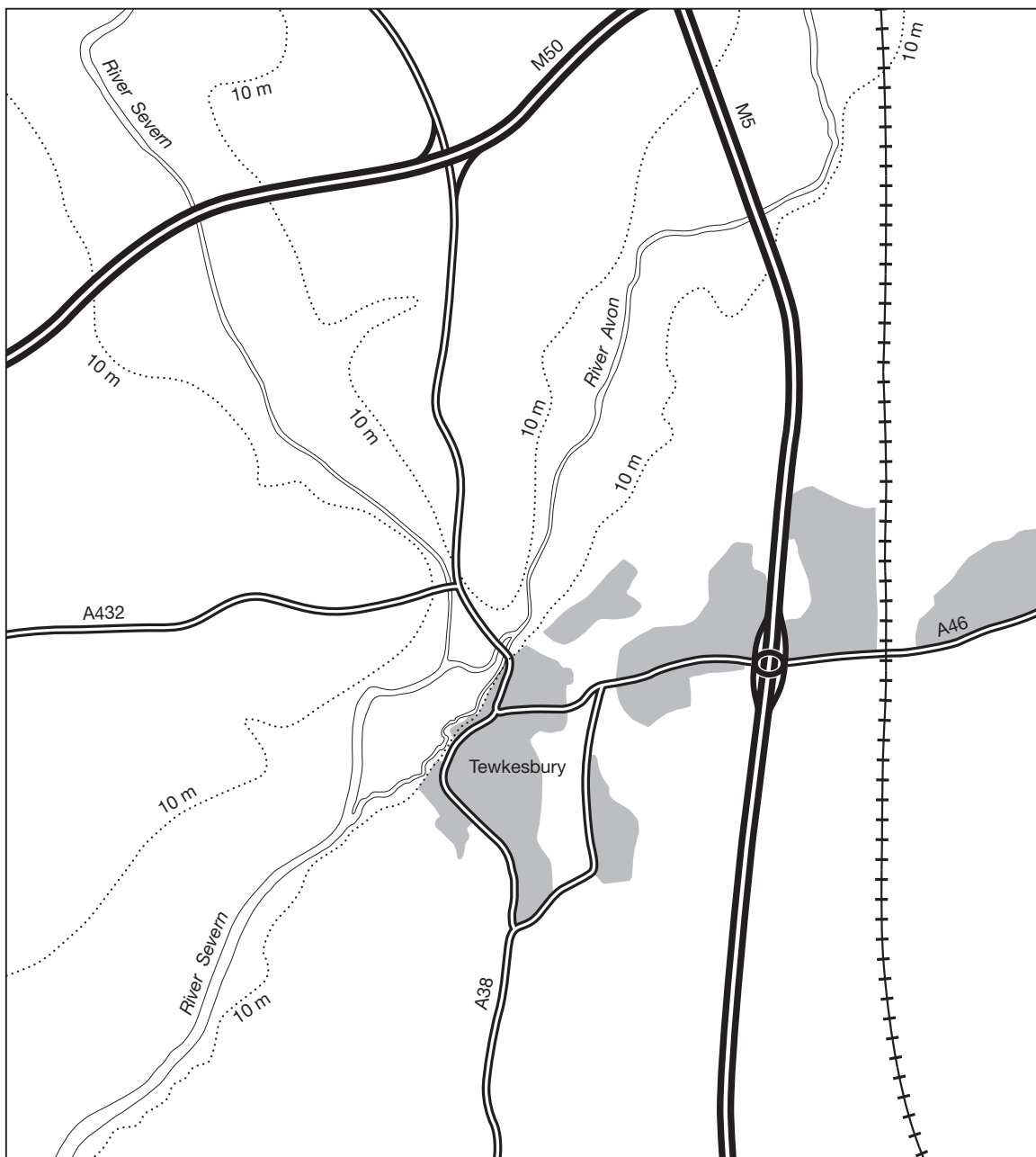
## 6.6 FLOODPLAIN

Pupil's Book page 89

Name: \_\_\_\_\_

### **task...**

Here is a simplified version of map D from p. 89 of the Pupil's Book. It shows the Rivers Severn and Avon, and the main transport routes around Tewkesbury. It also shows the 10m contour line.



- Colour the rivers *blue*.
- Colour the area between the rivers and the 10m contour line *light blue*. This shows the floodplain.

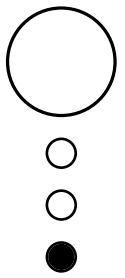
Use the map to help you to do activities 2 and 3 on p. 88.

# FLOOD DISASTER

Pupil's Book pages 90-91

## 6.7 FACTORS THAT AFFECT FLOODING

Name: \_\_\_\_\_



### **task...**

- 1 At the bottom of the page is a list of factors that affect the risk of flooding. Some increase the risk, while some reduce the risk.
  - a) Cut out the factors and place them in the correct place on drawing D on page 90.
    - The factors that increase the risk of flooding are on the right hand drawing (they are already labelled).
    - The factors that reduce the risk of flooding are on the left hand drawing.
  - b) Divide the factors on each side into two groups: physical factors (due to nature) and human factors (due to people).
- 2 You should now have four groups of factors. Draw a large table like this in your book (or cut and stick it into your book). Write, or stick, the factors in the correct boxes.

	Physical factors	Human factors
Factors that reduce the risk of flooding		
Factors that increase the risk of flooding		

dry, sunny weather	few tributaries	permeable rock	built-up area
steep slopes	wet weather	build embankments	impermeable rock
gentle slopes	plant trees	natural area	many tributaries
no embankments	chop down trees	grow crops	grazing animals

# FLOOD DISASTER

Pupil's Book pages 90-91

## 6.8 COULD MY HOME BE FLOODED?

Name: \_\_\_\_\_

The Environment Agency's Floodline can help you to find out if your home is at risk from flooding.

### Step 1

Log onto the internet. Type the web address for the Environment Agency's Floodline.

[www.environment-agency.gov.uk/flood](http://www.environment-agency.gov.uk/flood)

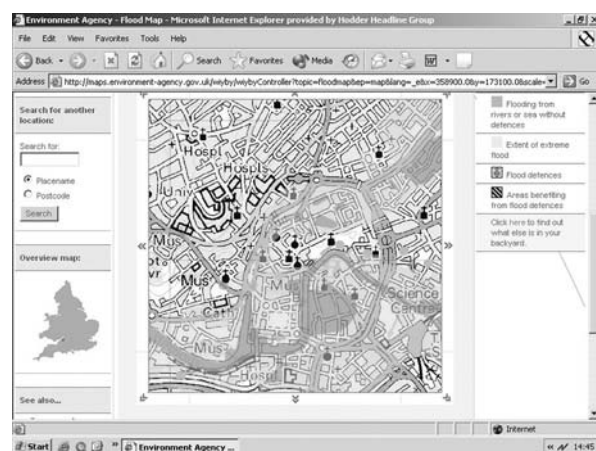
### Step 2

A page entitled 'Flooding' will appear on the screen. At the right of the page, under the heading 'Flood Map' is a space for you to write in your postcode or place name. Enter your full postcode (e.g. BS32 4UD) or place name (e.g. Bristol).



### Step 3

This brings up a page entitled 'Maps'. Check you have the right place. Click on 'View map of these results'.



### Step 4

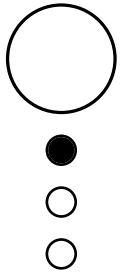
A map of your area should appear. To show the area at risk from flooding click on 'Flood Maps' on the right of the page. It will highlight areas at risk from flooding in blue. You can zoom in or out on the map to see more detail or a wider area.

# FLOOD DISASTER

## 6.9 LIVING FLOOD GRAPH

Pupil's Book pages 92-95

Name: \_\_\_\_\_



Water is lapping around the door of the abbey. It has never been so high before.

The Met Office is forecasting heavy rains for tomorrow.

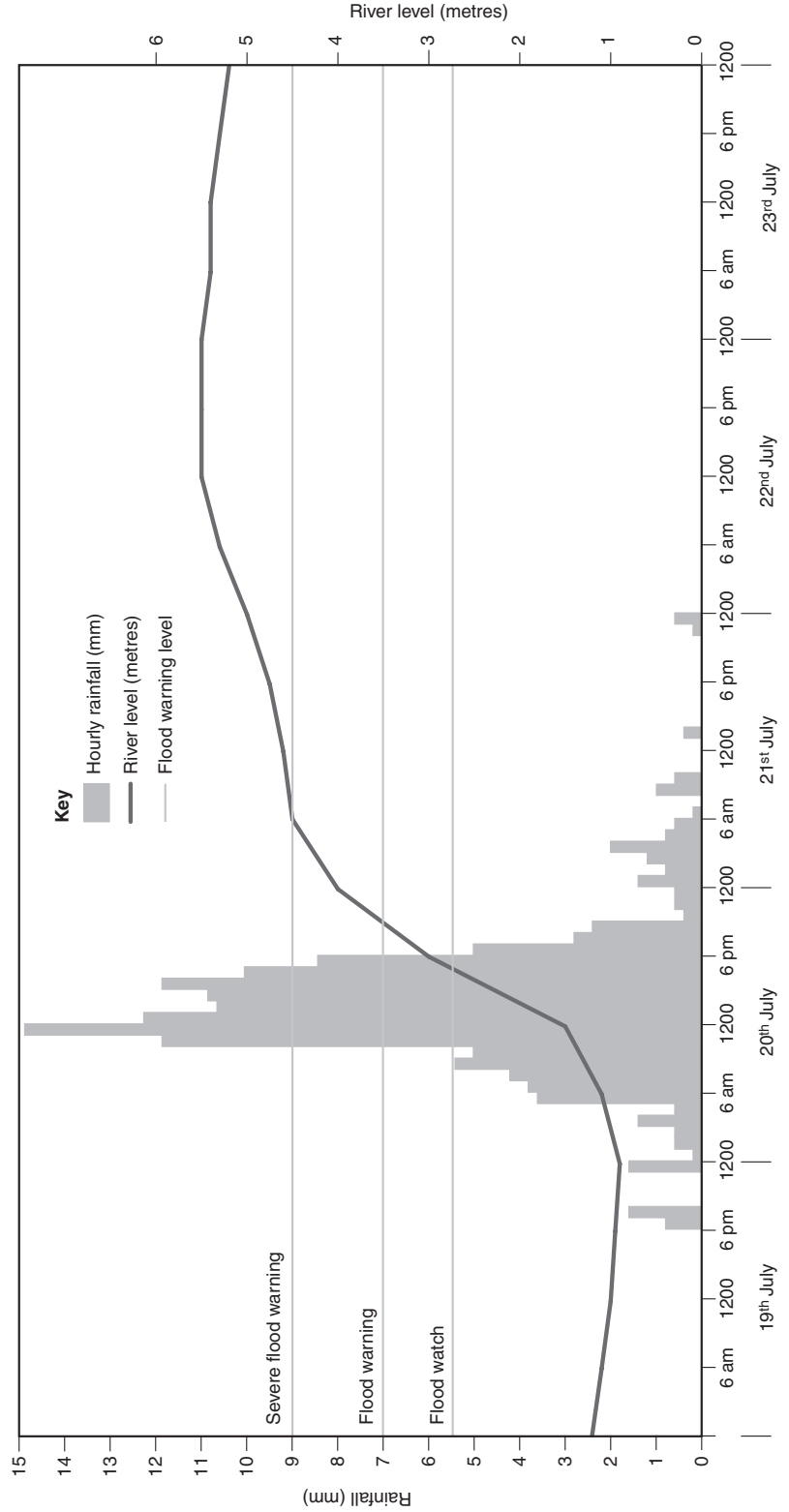
School breaks up for the summer holiday today – and it rains all morning!

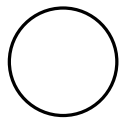
Simon breathes a sigh of relief when he realises the house will not flood.

Helicopters are busy through the night, rescuing people stuck in their cars.

**task...**

- 1 Read the sentences on the right. They describe events that happened in Tewkesbury between 20 and 23 July 2007. Cut out the sentences and place them on the graph.
- 2 Cut out the graph and stick it in your book.
- 3 Work out when each event happened by moving them around your graph.
- 4 When you are sure you have found the right points on the graph, stick the sentences around the graph to label it.





## FLOOD DISASTER

Pupil's Book pages 96–97

# 6.10 FLOODING ON THE RIVER SEVERN

Name: \_\_\_\_\_

### **task...**

Study map J on pp 96–97. It shows some of the causes, effects and responses to flooding on the River Severn.

- a) Use the information on the map to complete columns one and two in the table below. Name the places missing in the table, and describe the problems that are missing.
- b) Make recommendations to avoid the problems happening again in column three. One is done for you.

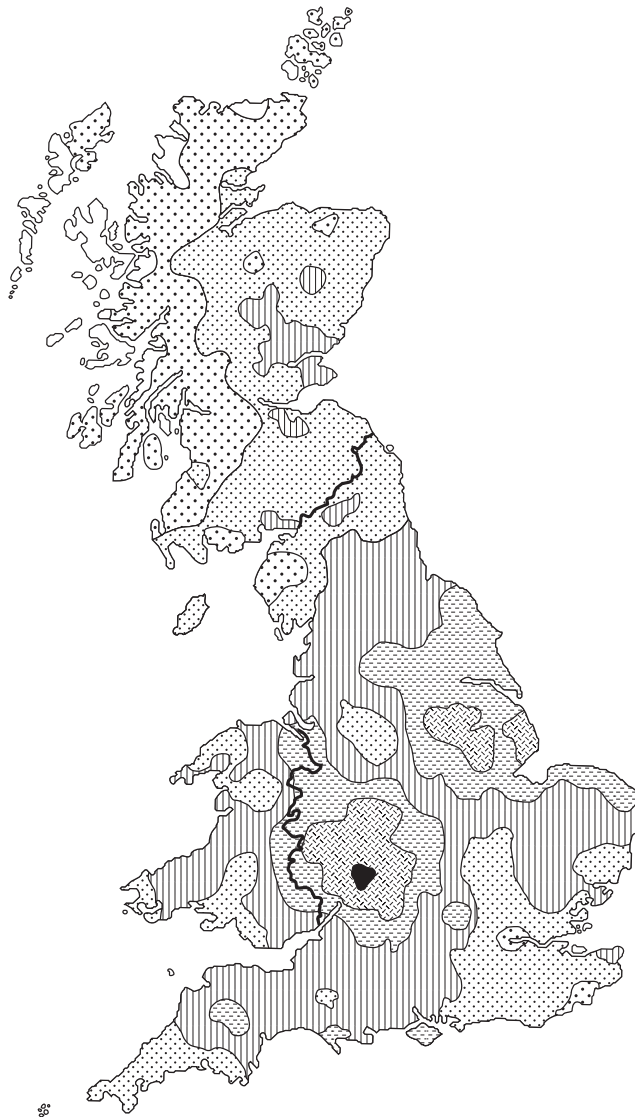
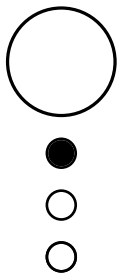
Place	Problem	Recommendation
Source of the River Severn		Trees could be replanted to slow down the rate at which rainfall reaches the river
	150 homes flooded and the county cricket ground was metres deep in water for a week	
	Mythe Water Treatment Works closed for a week	
Upton-upon-Severn		
	One electricity sub-station flooded and another one was only just saved	
Mouth of the River Severn		

# FLOOD DISASTER

Pupil's Book pages 96-97

## 6.11 2007 – BRITAIN'S WETTEST SUMMER

Name: \_\_\_\_\_



### **task...**

1 Which part of Britain had over three times the average summer rainfall in 2007?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2 Which was the only part of Britain to have about average summer rainfall in 2007?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3 Locate Tewkesbury on the map. What do you notice?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4 Why do you think towns on the River Severn and River Avon were so badly affected by flooding in 2007?

\_\_\_\_\_








\_\_\_\_\_

\_\_\_\_\_

### Key

Rainfall in summer 2007 compared with the average summer rainfall  
 More than 320% of average (over three times average)

### Key

-  More than 320% average
-  280-320%
-  240-280%
-  200-240%
-  160-200%
-  120-160%
-  80-120%

# FLOOD DISASTER

## 6.12 FLOOD CONCEPT MAP

Name: \_\_\_\_\_

Use this sheet to do the activity on page 98.

### task...

Look at the concept map that you have made through the unit. Compare it with this one. There are lots of ways to organise the information. Yours may be just as good. Check that you have included all the causes, effects and responses on your concept map. Use the page numbers to go back and find them for yourself.

