# Ensuring the attainment of more advanced learners of English as an additional language (EAL)

# CPDM 6 Reading as a writer: exploring challenging texts

# Presenter's overview

## Aims

- To use active reading strategies to stimulate pupils' engagement with text.
- To match thinking skills to appropriate learning activities.

## Key messages

- Reading needs to be active and purposeful.
- Reading can support writing and help develop thinking skills.
- Pupils need to use skills of inference and deduction in order to extract meaning.
- *Active reading* is often collaborative.
- Pupils have to make decisions and so engage with the text.
- Outcome is not simply a rehash of original text.
- Scaffolding is planned through talk and text modification.

## Overview of training modules

| | |
|---|---|
| **CPDM 1**<br><br>Senior leader briefing: leading change for more advanced EAL learners | **CPDM 2**<br><br>Analysing writing: assessing the needs of more advanced learners |
| **CPDM 3**<br><br>Making sense of literacy targets: learning objectives and activities | **CPDM 4**<br><br>Talk as a tool for thinking: exploratory talk |
| **CPDM 5**<br><br>Bridging talk and text: formal talk | **CPDM 6**<br><br>Reading as a writer: exploring challenging texts |
| **CPDM 7**<br><br>Reading as a writer: understanding the writer's purpose | **CPDM 8**<br><br>Thinking and writing as a writer: the sequence for teaching writing |
| **CPDM 9**<br><br>EMA coordinators: developing a strategic approach | **CPDM 10**<br><br>Parents and community: supporting pupils' learning |

## Next steps for colleagues

- Ensure that active reading strategies are shared across all departments.
- Carry out an audit of the types of reading pupils are expected to do and ensure that the appropriate skills are taught explicitly.
- Carry out an audit of the texts used, particularly in view of the challenge they present, with a view to ensuring progression to more demanding texts.

**Notes**

- Session notes, including references from other useful publications, are provided to support presenters in ensuring that aims and key messages are covered.
- The activities provided are intended as examples. Presenters should select and adapt as necessary to fit local priorities.

## Resources and further reading

Search using the reference numbers listed below:

www.standards.dcsf.gov.uk/nationalstrategies

- *Ensuring the attainment of more advanced EAL learners – a guided resource* (Ref: 00045-2009)
- *Literacy across the Curriculum* – Active reading strategies (module 5)/Making notes (module 9) – delivered to all schools and local authorities in April 2001.
- *Literacy and Learning* (Ref: 0651-2004)
- *Literacy in Design and Technology* – Reading (pp.16–28) (Ref: 0256-2004)
- *Literacy in Geography* – Reading (pp.12–21) (Ref: 0253-2004)
- *Literacy in History* – Reading (pp.11–19) (Ref: 0252-2004)
- Literacy progress units – for whole-class teaching – Information retrieval (Ref: 0474-2001)
- Literacy progress units – for whole class teaching – Reading between the lines (Ref: 0476-2001)
- *Pedagogy and Practice*, Unit 11: Active engagement techniques (Ref: 0434-2004)
- *Pedagogy and Practice*, Unit 13: Developing reading (pp.10–20) (Ref: 0436-2004)
- *Training materials for the foundation subjects* – Module 13: Principles for teaching thinking (pp.260–62) (Ref: 0350-2002)

http://publications.teachernet.gov.uk

- *English Department Training 2001* – Module 8: Active reading (p.86) (Ref: 0234-2001)
- *Improving reading: a department handbook* – Reading for meaning strategies (pp.63–5) (Ref: 1523-2005)
- *Leading in Learning* – Thinking skills poster: Reading images (Ref: 0046-2005)

| Overview | Total time: 75 minutes | |
|---|---|---|
| **Timing** | **Activity** | **Resources** |
| 5min | Introduction/aims of the session | **Slide 1:** Title slide<br><br>**Slide 2:** Aims |
| 5min | Reading and thinking | **Slide 3:** Bloom's taxonomy<br><br>**Slide 4:** Bloom's revised taxonomy<br><br>**Handout 1:** Bloom's revised taxonomy |
| 5min | Principles of active reading | **Slide 5:** Active reading<br><br>**Slide 6:** Active engagement |
| 40min | Active reading tasks | **Slide 7:** Activity 1 – active reading tasks<br><br>**Resource 1:** Active reading and thinking<br><br>**Resources 2–10**: Active reading task materials |
| 20min | Plenary – feedback | **Slide 8:** Plenary<br><br>**Handout 2:** Active reading and thinking skills: a summary |

**Equipment required:** slide presentation, data projector, screen, laptop, flipchart.

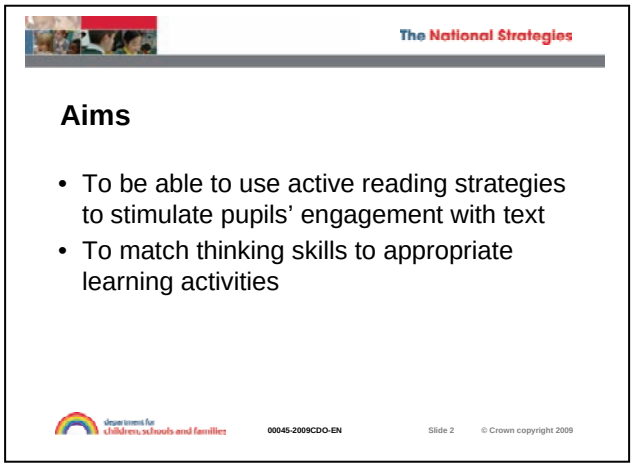
# CPDM 6 Reading as a writer: exploring challenging texts

**Audience**: All staff

## Introduction (5 minutes)

**Use slide 1** (title slide) to welcome colleagues and say that this session is aimed at developing active reading strategies across the curriculum.

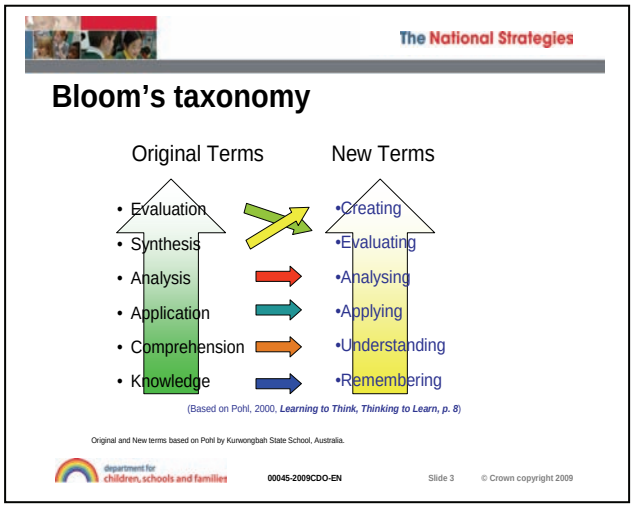
**Show slide 2** and share the aims for the session.




Make explicit the fact that we are considering reading in the context of developing thinking and writing skills.

## Reading and thinking (5 minutes)

**Show slide 3.**



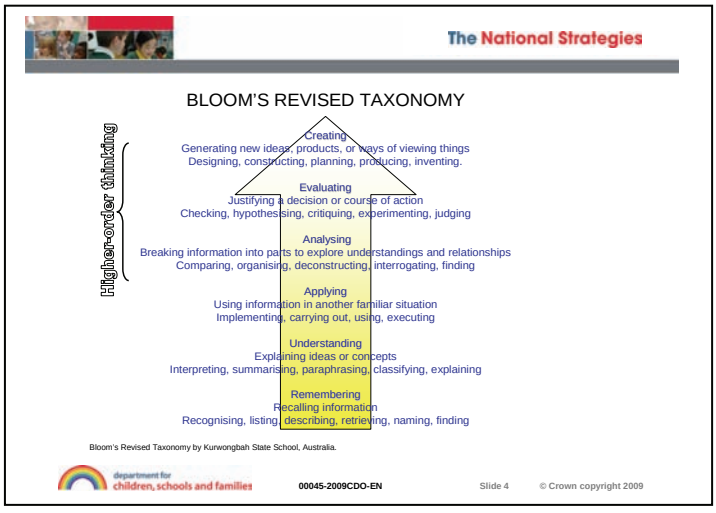

Original and New terms based on Pohl by Kurwongbah State School, Australia.

Introduce (or reintroduce if colleagues have already studied **CPDM 4: Talk as a tool for thinking**) Bloom's taxonomy shown in **slide 3** and remind colleagues that many reading activities in school are concerned with pupils remembering and understanding. If we are to use text to improve pupils' writing and thinking, we must focus on using text to stimulate analysis, evaluation and creativity.

Say that many colleagues might be familiar with Bloom's taxonomy of thinking skills but that **slide 4** shows an updating of Bloom's by Pohl (2000) which makes the following changes:

- The names of six major categories were changed from noun to verb forms.
- Verbs were seen as being more appropriate as the taxonomy reflects different *forms of thinking, and thinking is an active process.*
- The subcategories of the six major categories were also replaced by verbs.
- Some subcategories were reorganised.
- The knowledge category was renamed. Knowledge is a product of thinking and thus *inappropriately described as a category of thinking*. It was replaced with the word remembering instead.
- Comprehension became understanding and synthesis was renamed creating in order to better reflect the nature of the thinking described by each category.

**Show slide 4** and refer colleagues to **handout 1**.




Bloom's Revised Taxonomy by Kurwongbah State School, Australia

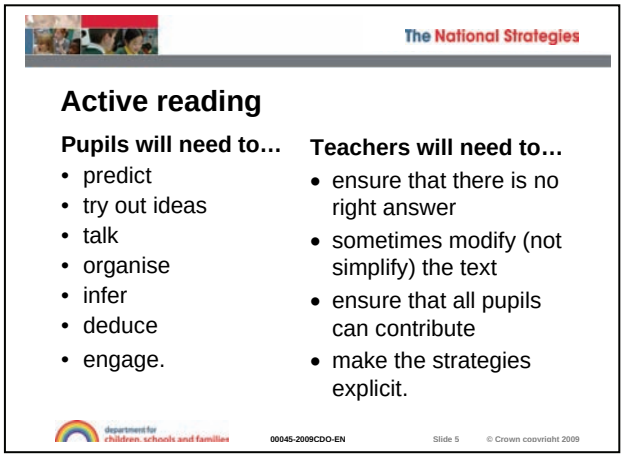
Give colleagues time to read the slide and to see what skills we need to ask pupils to use in reading in order that they reach the higher levels in examinations. It is useful to suggest that a simple analysis of the language used in the National Curriculum level descriptors for their subject will yield similar vocabulary.

Note that organising ideas using appropriate criteria, justifying, hypothesising, interrogating a graph or table are all higher-level skills.

## Principles of active reading (5 minutes)

**Show slide 5.**

Explain that if pupils are to comprehend, i.e. create meaning from text, they need to engage, make decisions, try out ideas, talk, organise, infer, deduce – approaches which are not included in traditional reading comprehension exercises. Engagement will involve a high level of challenge, collaboration, conversion of information from one form to another and metacognition; it might involve activating prior knowledge and thinking, and scaffolding**.**

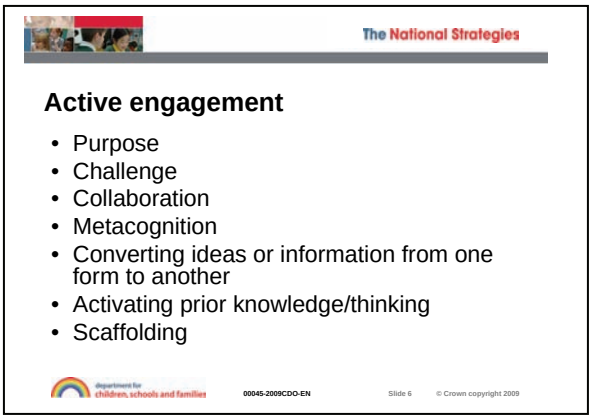



Tell colleagues that active reading strategies (including Directed Activities Related to Text – DARTs) are intended to help pupils make active use of a text, not simply remember, regurgitate or rehash it. This puts the onus on the teacher to ensure that:

- pupils need to use their skills (this will sometimes mean modifying a text – cutting it up, reordering it, leaving parts out)
- pupils have a real *reason to carry out the task* (such as solving a problem)
- there is a real *reason to collaborate* (such as having to come to a consensus)
- strategies to be used (skimming, scanning, close reading, organising, prioritising, justifying) are made explicit.

Above all, pupils need to actively engage with the topic and the text.

**Show slide 6.**




Explain that for pupils to become engaged, the reading task must:

- have a *purpose* (a real outcome that involves using the text and perhaps changing the form of information or ideas)
- be challenging (often the format in text books does all the hard work: organising the information, underlining key words, etc.)
- be *collaborative*: most of us work better and develop our thinking when we can try out ideas on others and receive feedback – this is *particularly true of EAL learners*
- involve metacognition: thinking about thinking – or considering the skills that were useful in carrying out the task. It is important to allow time for pupils to review the thinking skills they have used
- convert *ideas/information*: in order to take ownership, the pupils need to change the information into a form that suits the purpose.

It might also involve:

- activating prior knowledge or thinking: finding 'a way in', a picture to discuss, a thought shower, speculation *about one small part of the text*
- scaffolding: complex tasks such as problem solving make great demands on a novice.

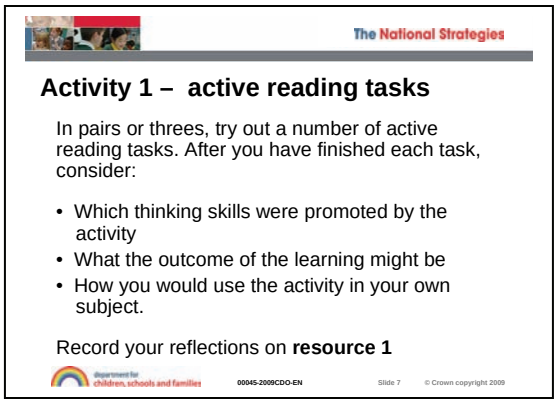
A grid, or pre-teaching of certain categories can help the pupils to focus on one thing at a time.

## Active reading tasks (40 minutes)

Tell colleagues that they are now going to try out a number of different active reading strategies (**resources 2–10**).

Remind them that active reading strategies do not stand alone and are part of a learning process. The active reading strategy must be carefully linked to the learning objectives and the kinds of thinking – or writing – they wish the pupils to develop.

**Show slide 7.**




Refer to **resource 1** – Active reading and thinking grid – and explain that they will spend 40 minutes working in pairs or threes. During this time they will do at least **three** of the activities and fill in the active reading and thinking grid for each using **resource 1** to reflect on:

- which thinking skills were promoted by the activity
- what the outcome of the learning might be (e.g. oral presentation, discursive essay, etc.)
- how they would use the activity in the context of their own subject.

**Note to presenters**

You may wish to choose the activities to suit the different groups in your audience. It would be advisable to give activities from outside their subject areas to teachers so that they engage with the content in the same way as pupils would. *As some* of the activities require more time than others, refer to the table below for a suggested way of allocating the tasks within the 40 minutes.

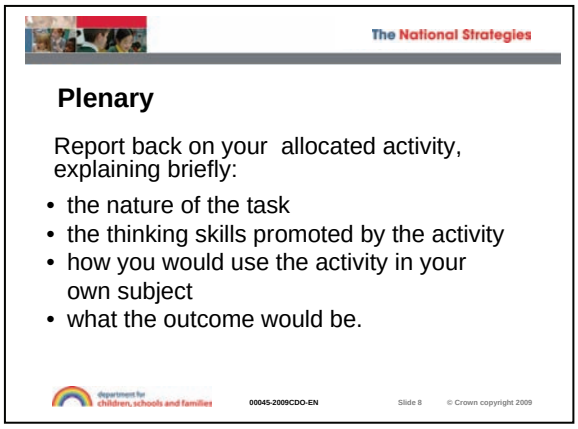
| Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Group 6 |
|---|---|---|---|---|---|
| Mystery 8b | Mystery 8c | Text marking 7 | Venn diagram 6 | Mapping 3 | Mystery 8b |
| Concept map 5b | Inference grid 10b | Concept map 5c | Inference grid 10c | Text marking 7 | Concept map 5b |
| Fortune lines 4 | Graphic organiser 2 | Mapping 3 | Sorting and classifying 9 | Fortune lines 4 | Text marking 7 |
| Venn diagram 6 | Sorting and classifying 9 | Mystery 8c | Graphic organiser 2 | Graphic organiser 2 | Sorting and classifying 9 |

Allocate one set of activities from the list to each group and tell them that they will need to identify someone to give feedback on their activities in the plenary session.

## Plenary: feedback (20 minutes)

**Show slide 8.**

Now ask a spokesperson from each group to spend three or four minutes giving feedback on their allocated activity to the whole group.




During the feedback, ensure that colleagues are clear that active reading tasks are part of a process and not an end in themselves, therefore they must be sure that the task is matched to the topic, purpose and type of thinking required.

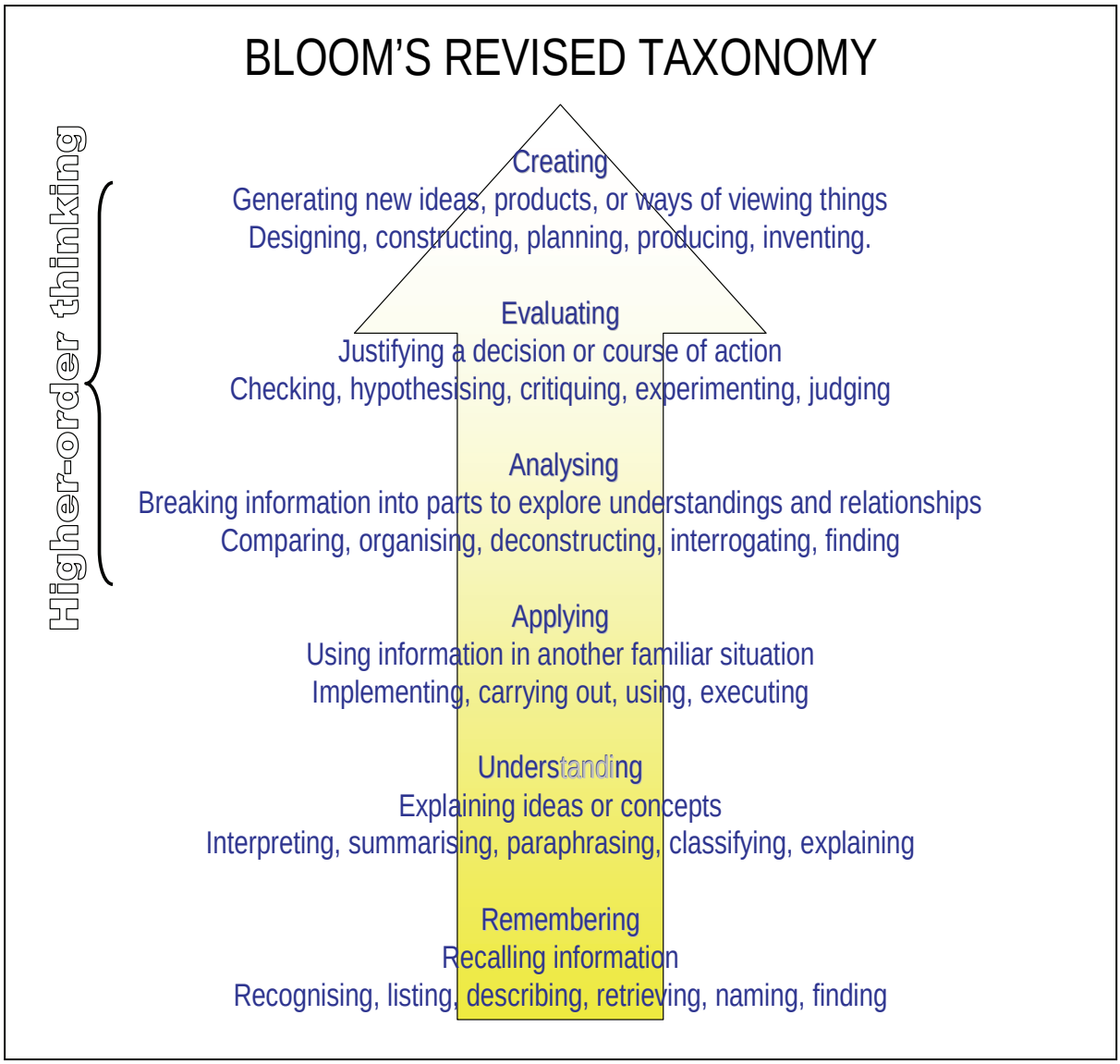
Finally, refer colleagues to **handout 2** (Active reading and thinking skills: a summary) and tell them that this table will be useful to them in considering:

- where the learning activities fit into their schemes of work
- higher-order thinking skills
- matching thinking with the literacy skills they wish to develop.

Also remind colleagues of *Ensuring the attainment of more advanced EAL learners – a guided resource* (Ref: 00045-2009DVD-EN) for additional materials, case studies and video footage.

## Bloom's revised taxonomy

**Handout 1**




Bloom's Revised Taxonomy by Kurwongbah State School, Australia.

# Active reading and thinking skills: a summary (1 of 2) Handout 2

This grid shows a summary of the active reading activities used in **resources 2–11** in addition to other thinking skills activities which could be used as pre-reading activities. Those marked with an asterisk (*) are in **CPDM 4 Exploratory talk**.

| Activity | Thinking skills developed | Possible follow-up |
|---|---|---|
| PMI grid<br>(Plus, Minus, Interesting) | Recognise that there are several ways of understanding a problem<br>Think creatively to solve a problem<br>Practise consciously thinking in different ways | Writing short paragraph including connectives such as 'on the one hand…on the other hand', although, etc. |
| Concept map | Moves learner from simple recall to making connections between facts<br>Thinking is externalised<br>Seeing relationships can be related to how the brain uses connections to remember things | A pre-reading activity – a way into new learning, showing knowledge, thinking and misconceptions |
| Diamond ranking | Understanding how to set priorities<br>Recognising diverse opinions, justifying, reasoning, negotiating, clarifying and compromising | Use as a PEE (Point, Evidence, Explanation) activity |
| Fortune line | Interpreting, sequencing, explaining, justifying<br>Organising information, checking and refining | Use as a visual revision tool |
| Mapping | Identifying key concepts<br>Making meaningful patterns<br>Shape, organise and communicate thinking | Preparation for an essay – introduction, then paragraph headings, followed by detail |
| Mysteries | Sorting and classifying<br>Speculating to form hypotheses<br>Using key language<br>Checking and refining | Short piece of justification writing, using connectives such as so, because, if…then, etc. |
| Graphic organiser | Prioritising<br>Communicating ideas<br>Reformulating ideas<br>Making notes | Writing or discussion around reasoning |

## Active reading and thinking skills: a summary (2 of 2) Handout 2

| Activity | Thinking skills developed | Possible follow-up |
|---|---|---|
| Sorting and classifying | Understanding properties and defining attributes<br>Justifying | Organising paragraphs and detail for writing |
| Opinion lines/corner | Building own conceptual understanding<br>Teacher acts as mediator<br>Opinions valued and recognised as learning opportunities | Writing short paragraph including connectives such as 'on the one hand…on the other hand', although, etc. |
| Inference grid | Making connections<br>Taking risks<br>Speculating<br>Defining routes of learning and research | A pre-reading activity |
| Text marking | Scanning<br>Organising information<br>Recognising key vocabulary | Organising information before reformulating as own piece of writing |
| Venn diagram | Identifying key attributes<br>Comparing and contrasting | Clarifying ideas before writing a compare and contrast essay |

## Active reading and thinking Resource 1

| Activity | Notes/comments about the activity | What kind of activity is it? What thinking skills does it promote? | How could it be used in my subject area? |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## Graphic organisers Resource 2a

### Instructions for activity using a graphic organiser.

Once you have read the short article about the eagle, decide in pairs which four parts of the eagle you think are essential to its survival.

Once you have chosen four parts, discuss with your partner what would happen if the eagle did not have these. Write the conclusions in the boxes on **resource 2b**.

**The eagle**

What an amazing hunting machine is the eagle! It has a huge wingspan of up to four metres, enabling it to glide high up on air currents, but fly swiftly when it spots its prey. And its eyes! The eagle has amazing sight so that it can spot a small animal at up to a kilometre away and fly quickly and silently to catch it.

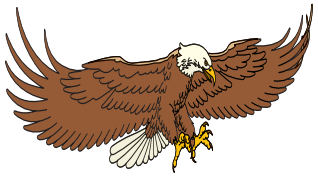
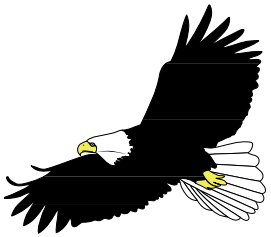
The eagle also has an amazingly powerful body, being able to lift between two fifths and a half of its body weight. This enables eagles to attack even quite large prey.

Some types of eagle have as many as 7,000 feathers. Feathers, like hair and nails, are made of keratin. Feathers consist of interlocking microscopic structures that are light, but very strong. Layers of feathers trap air to insulate birds against cold and protect them from rain.

When it attacks, it grabs its prey with its huge talons which are so effective that no matter how much its prey struggles, it will not escape. The talons also help the eagle to perch on the highest and most dangerous rocks and mountains.

Then the talons and the huge hooked beak will work together to rip apart its prey, making it easier to eat both for the adult eagle and the eaglets high up in its nest.

# Graphic organiser for 'The eagle'
## Resource 2b

**Name the four parts you think are most important**

| | | | |
|---|---|---|---|
| | | | |

**What if that part did not exist?**

| | | | |
|---|---|---|---|
| | | | |

# Mapping Resource 3a

## Instructions for the mapping activity – 'Why was the Roman Empire so successful?'

Read all the phrases and statements about the Roman Empire in **resource 3b**. Decide which four phrases or statements are the most important and could be used as paragraph headings.

Then decide which remaining statements are sub-statements of your first group and place them underneath. If there is a third level of statements, do the same for those, although the third level would normally be for the pupils to find their own evidence from previous lessons.

**Here is an example:**

Paragraph headings:

**Strong army**

Sub-statements:

**Superior training and organisation**

**Very good weapons**

Evidence or example:

**For example, the Romans developed the 'Hedgehog', a formation which used their shields to protect a whole group of soldiers, with swords thrust between the shields to attack the enemy.**

00045-2009DOM-EN

# Mapping – 'Why was the Roman Empire so successful?' Resource 3b

**Cut these statements up and place them in an envelope with resource 3a.**

| | | |
|---|---|---|
| Good at assimilating people they conquered | Good system of public health | Strong army |
| Superior training and organisation | Fresh food could be brought to town easily | Built excellent roads |
| Soldiers trained and had to serve 30 years | Professional army | Very good weapons |
| e.g. the short sword for close fighting | e.g. the 'hedgehog' formation | Developed sophisticated heating systems |
| Fresh water brought to towns in aqueducts | They built public baths | Good transport links |
| Trade with Mediterranean nations was easy | Were a sea-faring nation | Army could travel quickly |
| They did not impose their own religion | They integrated local gods | Latin became the language of government |
| Local words were used and added to Latin | They recruited local chieftains to rule | They respected local customs |
| Local people could become Roman citizens | They brought new technologies | |

# Fortune lines Resource 4a

## Instructions for fortune lines activity: the story of Adam and Eve

After reading the story of Adam and Eve, create a fortune line for Adam using the statements below and the blank fortune line graph (**resource 4b**).

The horizontal line represents the number of the statement; the vertical line represents Adam's emotions.

Put a small cross on the line coming from each statement against how you think Adam was feeling at the time.

When you have agreed as a group/pair, draw a line through all the points to create a graph.

Now do the same in a different colour for the serpent's emotions.

1. God decides that it is not good for Adam to be alone, so he creates Eve.
2. Adam and Eve are told that they must not eat the fruit from the Tree of Knowledge of Good and Evil.
3. Adam and Eve live in peace in the Garden of Eden.
4. The Serpent tempts Eve to eat from the Tree. She thinks that if she does she will die. The serpent says that she won't.
5. Eve gives in to temptation and eats from the Tree.
6. She does not die.
7. Eve offers the fruit to Adam.
8. Adam tastes the fruit and suddenly realises that they are naked.
9. Adam and Eve hide from God.
10. God, seeing what has happened, banishes them from the Garden.

*Fortune Lines,* Northumberland County Council.

## Adam and Eve fortune line

**Resource 4b**

**Very happy**

**Emotions**

**Very unhappy**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**Statements**

*Adam & Eve Fortune Line,* Northumberland County Council.

# Concept map

# Resource 5a

## Instructions for concept map activity.

**Resource 5b** and **5c** have words and pictures linked to a topic. Select one resource and, in pairs, discuss how two or more of these words and pictures are connected. Join up the words with a line and write along that line the justification for your connection.

Try to use all the words. The focus is on justifying links, not on whether the links are right or wrong.

# World War II Concept map
## Resource 5b

Chamberlain

1933


**"Fight with us in the German East" a poster claiming German ownership of other territories.**

reparations

1938

poverty

Jews

League of Nations

1919

**World War II**

Britain

Hitler


1939


Treaty of Versailles

Churchill

Clockwise from top left: © Hulton-Deutsch Collection / Corbis; Public Domain; © Bettmann / Corbis
© History on the Net; © Egmont Strigl / Photolibrary; © KPA / ZUMA / Corbis

## Jupiter Concept map

**Resource 5c**

16

87%

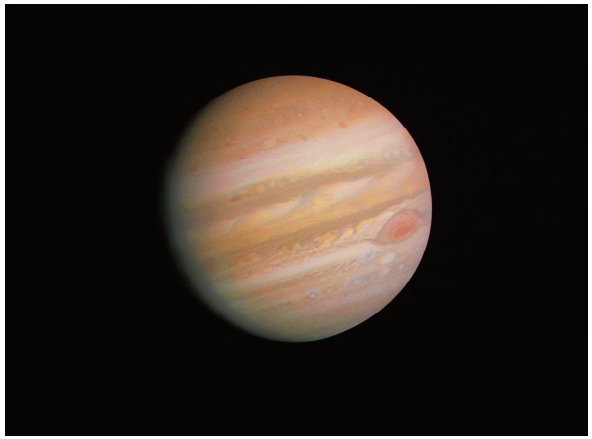
Io

The Sun

hydrogen

moons

9.9 hours



helium

night

compass

south

13%



-50ºC

**Jupiter**

orbit

11.9 Earth

day

Gods

17ºC

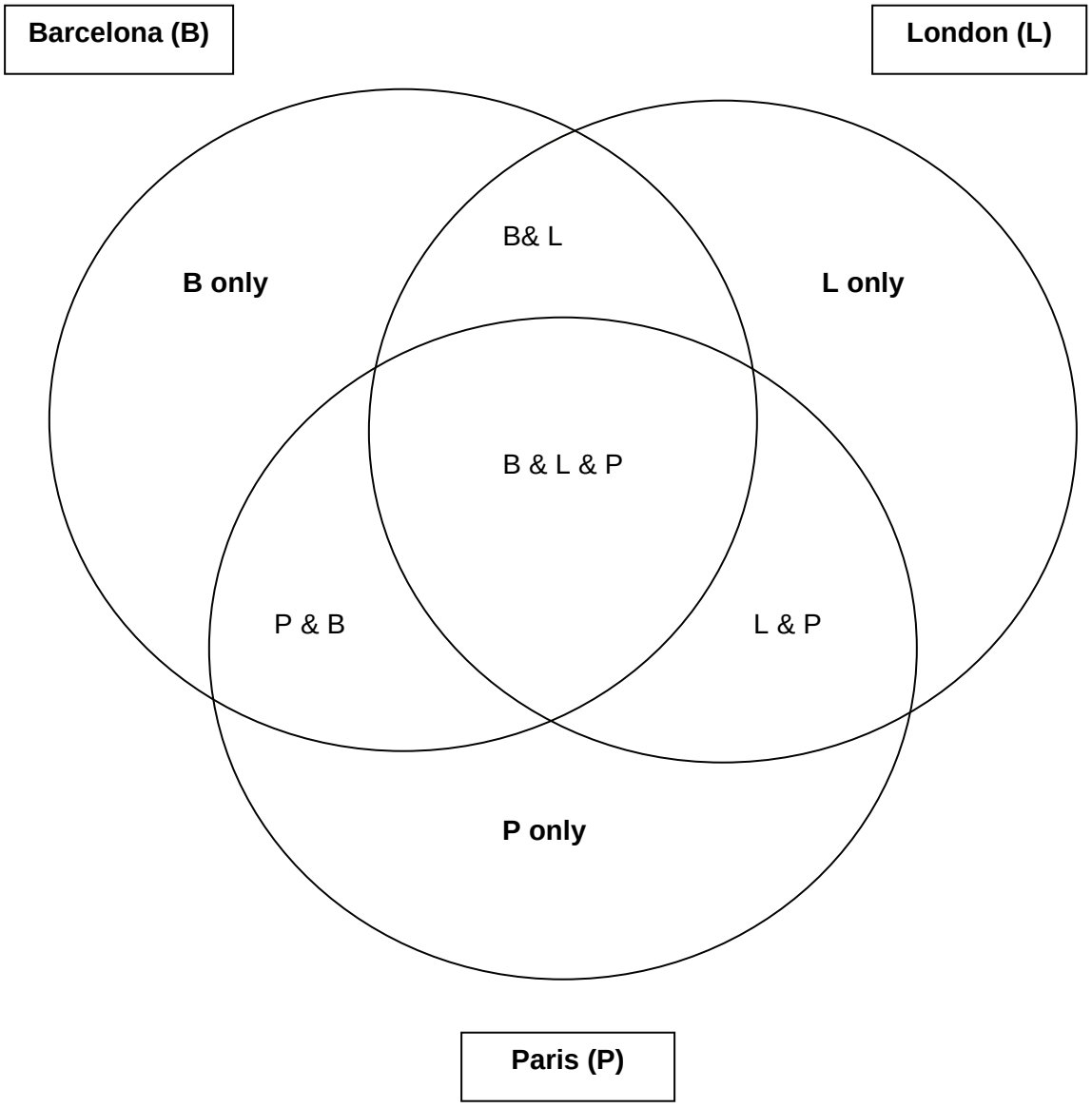
Ganymede

## Venn diagrams Resource 6a

### Instructions for Venn diagram activity.

In pairs or small groups, read the short travel articles (**resource 6b**), then decide what the three cities have in common and what is distinctive about each.

Use the Venn diagram (**resource 6c**) to group your ideas in this way:



## Travel articles for Venn diagram activity Resource 6b

**Barcelona** is for many the perfect holiday destination. During the summer the weather is hot and dry (August average 28°C and less than 10mm of rainfall). For those who love the cultural experience, there are museums, cathedrals, theatres and cinemas. Just remember that everything closes between 1pm and 5pm for the siesta! Many people enjoy walking in the historic streets – especially the Ramblas, with its shops, cafes, restaurants and market stalls. The Olympic stadium is well worth a visit. Transport is excellent and cheap – frequent buses and underground trains are complemented by an excellent yellow taxi service.

There is also something for those who prefer the beach: the old port area has been completely redesigned and millions of tons of sand brought in to give the real Mediterranean beach experience.

Catalan is the main language, although everyone speaks Spanish as well. English is spoken in most shops and tourist attractions. The restaurants serve excellent food and are often very cheap. Bars are very popular as the alcohol is so cheap.

The currency used is the Euro.

**London** is the holiday destination of choice for those who want the complete cultural experience. Imagine the tourist attractions – the London Eye, the Tower of London, the British Museum…open all day all through the summer.

There are no beaches, but there are many large and pleasant parks where people wander or sit and read or have their afternoon cup of tea.

Many see London as one of the shopping capitals of the world: Oxford Street especially for clothes, music and films, Tottenham Court Road for electrical and electronic goods and Bond Street for jewellery. But beware! London might be a shopping capital, but it is also expensive: not only for goods in the shops, but drinks in pubs and food in restaurants.

English is the main – and often only – language. The weather is not always reliable (August average 21°C and 35mm of rain), but there are many things to do when it rains. Transport is expensive – especially the trains and tube – and not especially reliable. Buses are better now for moving around the centre.

The currency used is the pound sterling, although bigger shops will accept Euros.

## Travel articles for Venn diagram activity Resource 6b

**(Page 2 of 2)**

**Paris** is generally thought of as the place to go in the spring, but it is worth trying in summer as well.

There are many beautiful museums, art galleries, churches and building of special architectural interest. There are many unusual and high quality shops and food is high quality and relatively cheap. But beware! August is the holiday month for many Parisians, so many restaurants and shops (and even museums) close for the whole of August.

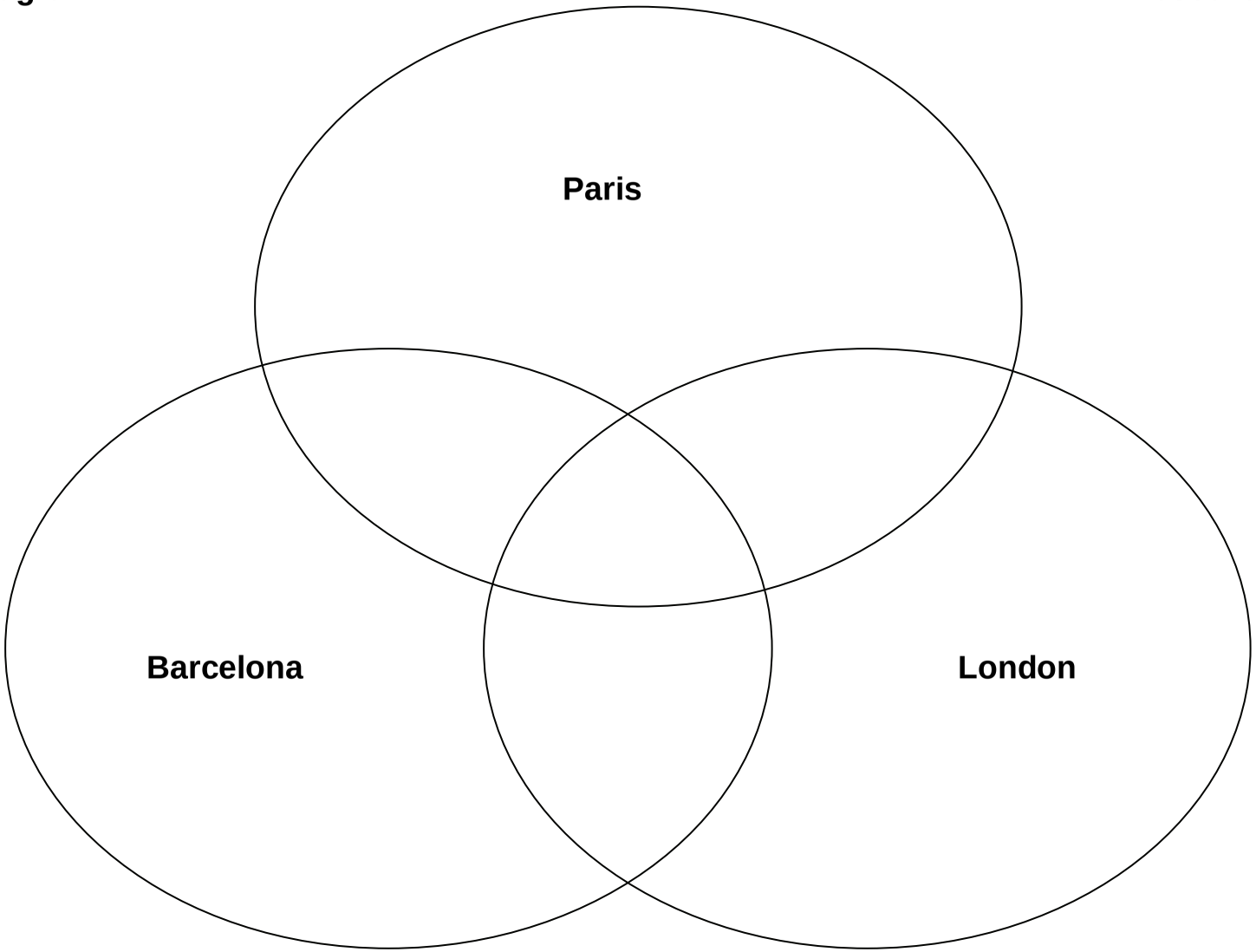
Paris is not on the sea, but every summer the mayor imports tons of sand to spread on the banks of the river Seine so that Parisians can have their own beach.

The weather is normally reliable (August average 25°C, 25 mm of rain), but there's plenty to do if the weather is poor. The transport system is also excellent – cheap and reliable, especially the metro (underground).

The language is French, although many people can speak English.

## Venn diagram

**Resource 6c**



# Text marking – How fresh is fresh? Resource 7a

## Instructions for text marking activity

Work in pairs. Read the article 'How fresh is fresh?' (**resource 7b**). During the first reading:

- highlight in red those things that happen as the apple ripens
- then read the text again and
- highlight in blue ways of preventing ripening.

Use the information you have highlighted to complete the analysis grid (**resource 7c**).

## How fresh is fresh? Resource 7b

You may have noticed that supermarkets sell apples and other fruits all year round. Apples ripen in England in the autumn. Once ripe, they last up to a week or two. Apples are imported from other countries such as New Zealand to extend the season, but this alone will not make sure that you can have an apple at any time of the year. Many apples are picked just before they are ripe and are then stored in a controlled environment. When stored carefully, some varieties of apple can last up to 12 months. So the apple you buy could be a year old.

How can you store an apple so that it will stay fresh? As apples ripen, the minerals and other chemicals in the cells that make up the apple tissue change. Starches in the cells change to sugars and the cell walls begin to break down, so when you bite into the apple it tastes sweet and juicy. If you want to keep an apple for longer, you need to make sure it does not ripen too soon. You do this by picking the apple at the right time and then by storing it so that it ages slowly.

You can check how close apples in an orchard are to being ripe by testing one or two to see how much of minerals such as phosphorus, magnesium and potassium they contain. Cell walls need some of these minerals to maintain their rigidity. As the apple ripens, so the amount of each mineral in the fleshy part changes. By tracking the changes you can tell how ripe an apple is. Picking the apple at just the right time makes sure it will last longer.

Once picked, the apple will continue to ripen, so this process needs slowing down. An apple is living and each of its cells continues to respire. This means that they continue to absorb oxygen from the air and give off carbon dioxide. As each cell respires, some of the stored food is converted to energy. The apple also gives off a gas called ethylene that helps to ripen the fruit. Controlling the atmosphere in the store can slow down the respiration rate in the apple cells. A slow-turning fan can keep the air circulating and blow away the ethylene as it is formed. If you decrease the level of oxygen and increase the level of carbon dioxide, cell respiration slows.

Some varieties of apple will tolerate high levels of carbon dioxide in the atmosphere. For instance, Cox apples will tolerate 9% of carbon dioxide. These varieties can be stored for longer. Apples such as the Worcester will tolerate less, so cannot be stored for long periods.

The apple store is also cooled. This makes sure that any chemical reactions, such as respiration, will take place at a slower rate than normal.

Fruit such as apples cannot be frozen without becoming softer and mushy. This is because, as the water in the cytoplasm freezes, sharp crystals of ice form that burst the cell membranes and cell walls. As water freezes to form ice it expands, and this will also cause the cell walls and cell membranes to burst.

Growing and selling apples and other fruits is big business, so it is in the interests of many to extend the shelf life of these products as long as possible. But do they taste the same as freshly picked apples? The industry claims they do. If you are lucky enough to live in an apple-growing area you could try your own experiment, but you may have to wait until next autumn.

Extract from *Literacy in Science* DCSF reference 0560-2002

## Text marking – Analysis grid Resource 7c

Look at the article 'How fresh is fresh?'

Skim read the article then:

- highlight in red those things that happen as the apple ripens
- highlight in blue ways of preventing ripening
- after completing the highlighting, complete the grid below.

| How can ripening be slowed? | What process does this stop? |
|---|---|
| | |

## Mysteries Resource 8a

Choose one of the two mystery activities below. Colleagues are expected to sort and prioritise information to form a hypothesis. No answer is wrong so long as it is justified by the evidence!

Mysteries – The corner shop mystery

Read all the statements from your envelope (**resource 8b**). Organise the statements into groups, including a group of those which you think are irrelevant.

Once you have done this, formulate a hypothesis for the mystery:

***Why have Mr and Mrs Ready left the corner shop?***

*The corner shop mystery,* Northumberland County Council.

Mysteries – Where does Pebbles live?

Read all the statements from your envelope (**resource 8c**). Organise the statements into groups, including a group of those which you think are irrelevant.

Once you have done this, formulate a hypothesis for the mystery:

***Where does Pebbles live?***

*Where does Pebbles live?,* Northumberland County Council.

## The corner shop mystery Resource 8b

Cut up these cards for use with the mystery activity (**resource 8a**).

| | | |
|---|---|---|
| Most families with children have their child allowance paid into their bank accounts. | A farm shop opened one mile away three years ago selling organic vegetables, meat and wholefoods. | The village shop has insurance against theft. |
| The village shop was broken into six months ago. £3000 was stolen from the safe and £1000 of cigarettes and alcohol. | Car ownership has increased in the village by 20% in the last 15 years. However, 30% of households do not own a car. | The council has put double yellow lines outside the shop. |
| Prices are 20% cheaper at the superstore. | The village hall has a large car park 70 metres from the shop. | The Environmental Health Officer inspected the shop two months ago. |
| In 1970 there were 62 people in the village working in agriculture. By 2005 there were only 14. | The garage on the main road half a mile away plans to stock basic items of grocery. | Two years ago the shop owners Mr and Mrs Ready had a serious row with the Taits, who keep the village pub, about who was responsible for litter on the green. |
| There is a voluntary prescription service run through the village shop. | Most of the old people in the village get their pensions from the post office. | Half the council houses in the village have been bought by their tenants. |
| The farm shop closed down after a year. | Inflation is at 10%. | The shop passed the EHO inspection. |
| Mrs Ready has worked out that the shop has only made £100 per week profit in the last year. | There is no bank in Hensford. A superstore opened on the edge of the town, six miles away, one year ago. | The village has won 'Best Kept Village' competition twice in the last ten years. |
| Mr Ready is 60, Mrs Ready is 62 and has arthritis. | The village school started selling Sunday papers six months ago. | The village bus service has been cut from one a day to two a week. |

*The corner shop mystery,* Northumberland County Council.

## Where does Pebbles live? Resource 8c

Cut up these cards for use with the mystery activity (**resource 8a**).

| | |
|---|---|
| It is very cold at night in the Windy Mountains. | There are bears in the Windy Mountains. |
| Pebbles' mother was eaten by a bear. | There are no bears in the Funky Forest. |
| There are coniferous trees in the Windy Mountains. | The dense undergrowth muffles sound in the Funky Forest. |
| Pebbles eats nuts and berries. | The soil in the Funky Forest is full of very sharp stones. |
| There are deciduous trees in the Funky Forest. They lose their leaves in the winter. | In the Windy Mountains there are clearings between the trees where the ground is soft. |
| Bears cannot climb trees. | Pebbles has fleas. |
| Pebbles never goes more than 200m from his home. | Loud sounds make an echo in the Windy Mountains. |
| People go swimming in the lake at the Funky Forest in the summer when it is hot. | Pebbles lives in a hole in the ground that he dug with his strong paws. |
| Pebbles communicates with his friends by loud shrieks. | In autumn, people go blackberry picking in the Funky Forest. |
| Pebbles has a thick fur coat. | WHERE DOES PEBBLES LIVE? |

*Where does Pebbles live?,* Northumberland County Council.

## Sorting and classifying Resource 9a

Instructions for activity:

Sorting and classifying – Acid rain

In pairs or small groups, read all the cards (**resource 9b**) about acid rain and sort them into four groups. You must decide in your group how they are classified.

When you have finished this task, fill in the accompanying grid with notes under each of the headings.

## Acid rain cards (Page 1 of 2) Resource 9b

Cut up these cards for sorting.

When elements burn in oxygen, they form **oxides**

**Sulphur + Oxygen** → **Sulphur dioxide**

**Oxides** of non-metals are acids

**Sulphur dioxide + water** → **Sulphuric acid**

**Sulphur dioxide** and **Nitrogen oxides** are acidic

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Acid** ← → **Alkali**

Acids have a **pH** of less than 7

**Using more efficient electrical appliances such as long life light bulbs helps to cut pollution**

**Catalytic converters** in cars make the exhaust gases less harmful

Using cars less will cut down on the amount of acid gases in the air

Using alternative energy sources like **solar cells** and **wind turbines** does less harm to the environment

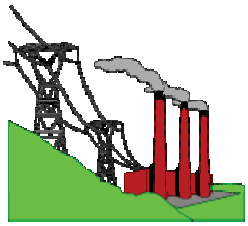
Clockwise from top left: Public Domain; Mark Henley / Photolibrary; Public Domain; Gravesham Borough Council; © Image 100 / Photolibrary

## Acid rain cards (Page 2 of 2) Resource 9b

Cut up these cards for sorting.

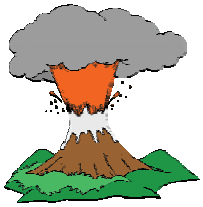
Car exhausts pump out poisonous smoke and fumes

Power stations which burn fossil fuels give out gases like **sulphur dioxide**



Smoke from factories contains **carbon dioxide** gas

When a volcano erupts, it causes air pollution



Acid rain eats away some types of stone and destroys buildings

Acid rain kills fish and plants in rivers and lakes

Acid rain kills trees in forests

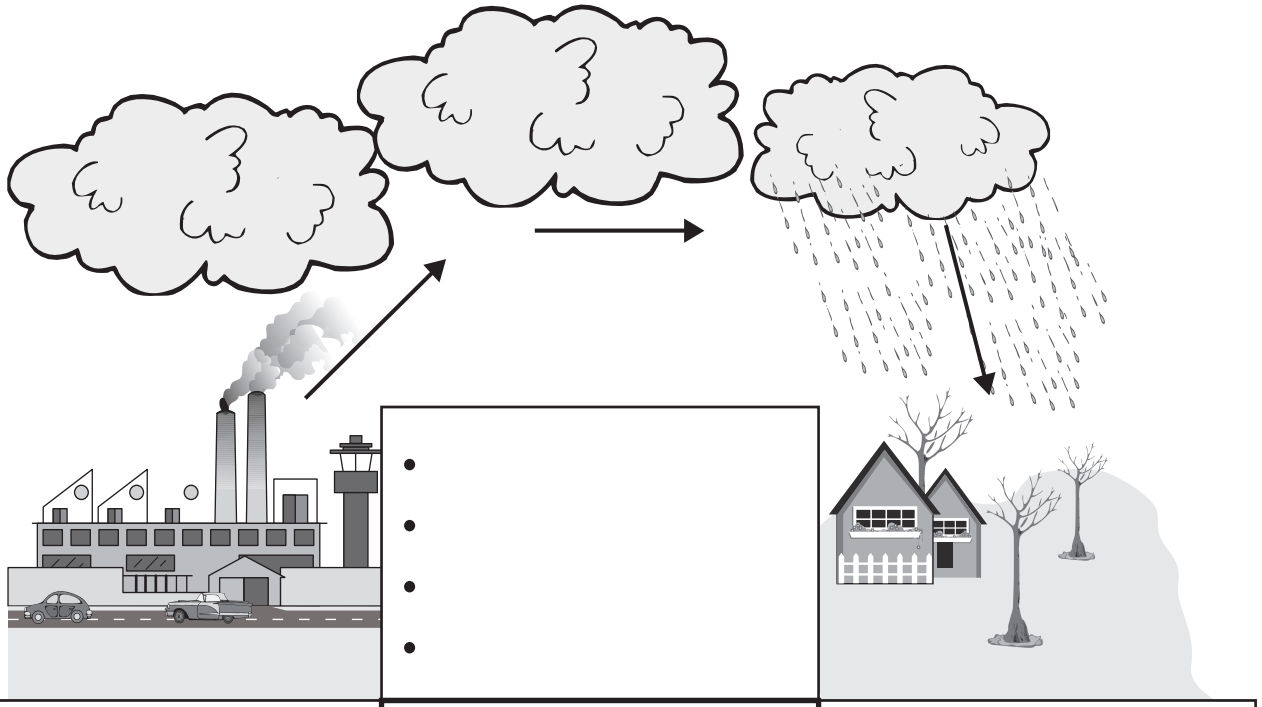
Acid rain reacts with some metals


Clockwise from top left: © Greenpeace / Karsten Smid; © Art Explosion; © Art Explosion
© Age Fotostock / SuperStock; GNU Free Documentation License; © Pixtal / Superstock
GNU Free Documentation License; Martin Bond / Still Pictures

## Acid rain notes grid

**Resource 9c**

When you have sorted your cards into four groups, decide on a title for each group then note down the main points in each group.



Acid Rain

00045-2009DOM-EN

## Inference grids

## Resource 10a

Instructions for inference grid activity.

In pairs or small groups, look at the pictures or read the text in the centre of the rectangles (**resources 10b** or **10c**). Write down everything you can see or all the main points of the text.

Then move on to the next rectangle. Try to make inferences or guesses about how the pictures or texts fit together into a story.

In the outer rectangle, write down what you need to find out to get the whole story.

# Inference grid – Acid rain

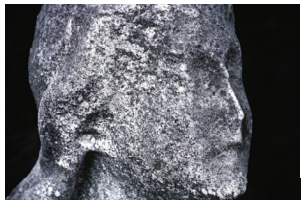
**Resource 10b**

What other questions do I need to ask?

What guesses can I make by putting the information together?

What can I infer?

What do these images tell me?



From left to right: © Hartmut Schwarzbach / Argus / Still Pictures; © Mark Edwards / Still Pictures; © Ray Pfortner / Still Pictures; © Martin Bond / Still Pictures

00045-2009DOM-EN

## Inference grid – History sources

**Resource 10c**

Fill in the inference grid by using the sources in **resource 10d**.

What other questions do I need to ask?

What guesses can I make by putting the information together?

What can I infer?

What do these sources tell me?

00045-2009DOM-EN

# History sources for inference grid

**Resource 10d**

Sources for use with inference grid in **resource 10c**.

**Source 1:**

**'Neither physicians nor medicines were effective. Whether because these illnesses were previously unknown or because physicians had not previously studied them, there seemed to be no cure. There was such a fear that no one seemed to know what to do. When it took hold in a house it often happened that no one remained who had not died. The symptoms were the following: a bubo in the groin, where the thigh meets the trunk; or a small swelling under the armpit; sudden fever; spitting blood and saliva (and no one who spit blood survived it). It was such a frightful thing that when it got into a house, as was said, no one remained. Frightened people abandoned the house and fled to another.'**

**Marchione di Coppo Stefani, 1667**

**Source 2:**

**'Realising what a deadly disaster had come to them the people quickly drove the Italians from their city. However, the disease remained, and soon death was every where. Fathers abandoned their sick sons. Lawyers refused to come and make out wills for the dying. Friars and nuns were left to care for the sick, and monasteries and convents were soon deserted, as they were stricken, too. Bodies were left in empty houses, and there was no one to give them a Christian burial.'**

**Anonymous, 1685**

00045-2009DOM-EN

00045-2009DOM-EN

# CPDM 6 – Reading as a writer

## Acknowledgements

*Bloom's Revised Taxonomy & Original and New terms* based on Pohl, Kurwongbah State School, Australia. Used with kind permission.

Photograph of *Neville Chamberlain At Heston Airport* © Hulton-Deutsch Collection / Corbis. Used with kind permission.

Image of *A German Propaganda poster*, Public Domain.

Photograph of *Winston Churchill Waving* © Bettmann / Corbis. Used with kind permission.

Image of *The Sudetenland* © History on the Net, historyonthenet.com. Used with kind permission.

Image of *The Star of David* © Egmont Strigl / Photolibrary. Used with kind permission.

Photograph of *Adolf Hitler* © KPA / ZUMA / Corbis. Used with kind permission.

Photograph of *Jupiter from Voyager 1* © NASA / Science Photo Library. Used with kind permission.

Photograph of *Steam rising from cooling towers* © Martin Bond / Still Pictures. Used with kind permission.

Photograph of *A Mausoleum Sculpture* © Ray Pfortner / Still Pictures. Used with kind permission.

Photograph of *Trees killed by acid rain* © Mark Edwards / Still Pictures. Used with kind permission.

Photograph of *Exhaust fumes from cars* © Hartmut Schwarzbach / Argus / Still Pictures. Used with kind permission.

Graphic of *Dangerous Acids*, Public Domain.

Photograph of *Exhaust Fumes from a Car* © Mark Henley / Photolibrary. Used with kind permission.

Image of *A Wind Turbine*, Public Domain.

Image of *A Power Plant* © Art Explosion. Used with kind permission.

Image of *A Volcano* © Art Explosion. Used with kind permission.

Photograph of *A Dead Red Salmon* © Age Fotostock / SuperStock. Used with kind permission.

Graphic of Corrosive Substances, Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later