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In these materials icons, logos, software products and websites are used for contextual and practical reasons. Their use should not be interpreted as an endorsement of particular companies or their products.

The websites referred to in these materials existed at the time of going to print. Tutors should check all website references carefully to see if they have changed and substitute other references where appropriate.

Contents

About the ICT sample teaching units for Key Stage 3

This unit is one of a series illustrating how objectives from the *Framework for teaching ICT capability: Years 7, 8 and 9* can be taught.

There is no requirement to use the units. They contain sample lesson plans that you can amend to suit your local circumstances and the needs of your pupils. For example, you may decide to use different activities to teach objectives or to teach the unit to a different year group. Microsoft Word versions of the lesson plans are being published on the Key Stage 3 website at **www.standards.dfes.gov.uk/keystage3** so that if you wish you can download the plans to modify them.

The units contain plans for lessons of 60 minutes. Each activity in the lessons has a guide time. This will help you to fit activities into lessons that are longer or shorter than 60 minutes. For example, the activities in one of the unit's lessons could be taught over two of the school's lessons, with extra starter and plenary activities added.

The ICT Framework recommends that schools offer one hour each week, or 38 hours per year, for dedicated ICT lessons. The sample teaching units for a year, if taught without amendment, need less teaching time than 38 hours. This leaves time for lessons of your own design at suitable points. For example, you could revisit objectives to consolidate learning, use the time for informal assessment, or insert an extra skills-based lesson to teach particular aspects of more complex software.

The sample lesson plans are intentionally very detailed to give busy teachers a full picture of how each lesson might be taught. Teachers' own plans would probably be much less detailed.

Apart from sample teaching unit 7.1, which is an introductory unit for Year 7, the order in which the units for a year group are taught is not important.

About sample teaching unit 8.3

This is a unit for Year 8 about aspects of handling information. It helps you to review pupils' learning from Year 7 and to introduce some of the ICT Framework objectives for Year 8 in the theme 'Finding things out'. The unit focuses on using data and information sources, and searching for and selecting information on the Internet.

8.3

Information: reliability, validity and bias – unit overview

ICT Framework objectives

FINDING THINGS OUT

Using data and information sources

- Understand how the content and style of an information source affect its suitability for particular purposes, by considering:

  – its mix of fact, opinion and material designed to advertise, publicise or entertain;

  – the viewpoints it offers;

  – the clarity, accessibility and plausibility of the material.

- Devise and apply criteria to evaluate how well various information sources will support a task.

- Justify the use of particular information sources to support an investigation or presentation.

Searching and selecting

- Extend and refine search methods to be more efficient (e.g. using synonyms and AND, OR, NOT).

Timing

This unit is expected to take four lessons of 60 minutes. Each activity has a guide time so that you can alter the number and duration of lessons to suit your own timetable.

Task

In this unit, pupils will extend and refine search methods. They will explore the Internet as a source of information and consider the importance of evaluating the information they find in terms of its reliability, validity and possible bias. Finally, they will decide how well the information satisfies the reason for looking for it and the extent of its 'fitness for purpose'.

This unit is designed mainly for pupils working at level 5, with extension work for more advanced pupils. Adaptations and extra materials are suggested for less-experienced pupils or for pupils working at lower levels.

Resources

- Computer and large screen display

- Whiteboard or flipchart

- Printer

- Access to the Internet and an Internet browser, both for you and for pupils

- Software, such as Microsoft Office, for wordprocessing and presentations

- A CD-ROM of your choice for the demonstration in lesson 2, activity 2

- Teacher resources included on the CD-ROM accompanying the unit:

– HD vocab cards.doc	Flashcards of the key vocabulary used in this unit
– Teacher resource 1.ppt	A presentation of facts and opinions for lesson 1
– Teacher resource 2.doc	Possible key words for the text on whale sharks
– Teacher resource 3.ppt	A presentation for lesson 3
– Teacher resource 4.ppt	A presentation for lesson 4

- Pupil resources included on the CD-ROM accompanying the unit:

– Pupil resource 1.doc	Two tasks and recording sheets for lesson 1 Task 1: A list of websites to explore Task 2: A second list of websites and evaluation sheets
– Pupil resource 2.doc	Shape cards
– Pupil resource 3.doc	Text about whale sharks
– Pupil resource 4.doc	A list of areas to research
– Pupil resource 5.doc	*The basics of a Google search* from **http://www.google.com/help/basics.html**
– Pupil resource 6.doc	Key words for a search on travel between London and Paris
– Pupil resource 7.doc	A list of information to find or questions to answer and the URLs of appropriate search engines
– Pupil resource 8.doc	A homework task for lesson 3 on how to find information
– Pupil resource 9.doc	A recording grid in which to paste information and references

Prior learning

Pupils should already know how to:

- use a URL to connect to an Internet site from an intranet, from Favorites, from Bookmarks or by typing it in directly;

- copy, cut and paste text and graphics between applications.

Subject knowledge needed by teachers

To teach this unit, teachers will need to know how to:

- load and save work in a shared area;

- use a large display, such as an interactive whiteboard;

- use presentation and wordprocessing software;

- use the Internet to access and download information, to copy, cut and paste text and graphics with due attention to copyright restrictions, and to make selective searches.

Lesson outlines

LESSON 1

Criteria for evaluating information

1 Starter: Distinguishing between fact and opinion

2 Evaluating validity

3 Criteria for considering reliability

4 Plenary: Evaluating clarity and accessibility

   Homework: Comparing information features

LESSON 2

Using searches

1 Starter: Using AND/OR/NOT

2 Searching a website and a CD-ROM

3 Key word searches

4 Full text searches

5 Internet search engines

6 Plenary: Evaluating search engines

   Homework: Research task

LESSON 3

Extending and refining search methods

1 Starter: Using the advanced search facility

2 Using precise strings and synonyms to refine a search

3 Using search engines and Boolean operators

4 Plenary: Summary

   Homework: Describing how to make Internet searches

LESSON 4

Independent application of new learning: searching and evaluating

1 Starter: Purpose and audience

2 Finding information for a report

3 Selecting information

4 Plenary: Review of learning

   Homework: How to search effectively *or* preparing for the next unit

1

Criteria for evaluating information

ICT Framework objectives

FINDING THINGS OUT

Using data and information sources

- Understand how the content and style of an information source affect its suitability for particular purposes, by considering:

  – its mix of fact, opinion and material designed to advertise, publicise or entertain;

  – the viewpoints it offers;

  – the clarity, accessibility and plausibility of the material.

Key vocabulary

From Year 6: accurate

From Year 7: opinion, reliable, search engine, URL, viewpoint

From Year 8: appraise, authentic, bias, plausible

Other: accessible, valid

Preparation and planning

- Make sure that Internet access is available. If necessary, prepare and make available some guidance to help pupils to use the Internet browser.

- Check that all websites to be used during the lesson are available; if necessary, identify suitable substitutes.

- Make enough copies of Pupil resource 1.doc, which provides lists of websites and an evaluation sheet, for every pair of pupils to have one of each. Alternatively, make your own lists of selected websites.

- Prepare a sheet describing the homework task (optional).

- Create a wall display of key vocabulary for the unit, which can be added to each week. If you wish, you could create a complete set of flashcards from the file HD vocab cards.doc.

- Display the lesson's objectives in a prominent position, phrased in a way that pupils can understand.

Resources

- Computer and large display
- Whiteboard or flipchart
- Printer
- Access to the Internet and an Internet browser, both for you and for pupils
- Software for wordprocessing and presentations
- Teacher resources from the CD-ROM for the unit:

  – HD vocab cards.doc   Flashcards of the key vocabulary used in this unit

  – Teacher resource 1.ppt   A presentation of facts and opinions for lesson 1

- Pupil resources from the CD-ROM for the unit:

  – Pupil resource 1.doc   Two tasks and recording sheets for lesson 1
  Task 1: A list of websites to explore
  Task 2: A second list of websites and evaluation sheets

Lesson outline   60 minutes

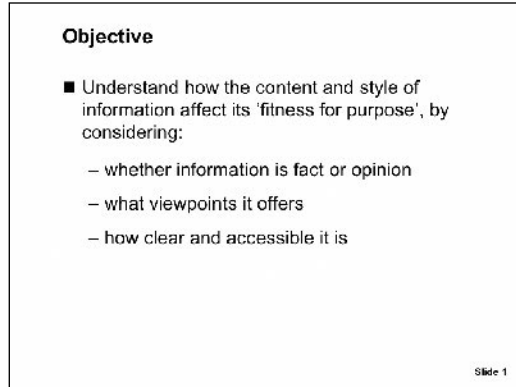|			
1	**Starter: Distinguishing between fact and opinion**	Whole-class discussion	10 minutes
2	**Evaluating validity**	Activity and discussion Paired work and whole class	15 minutes
3	**Criteria for considering reliability**	Presentation and activity Whole-class and paired work	25 minutes
4	**Plenary: Evaluating clarity and accessibility**	Whole-class discussion Summary of lesson	10 minutes
	Homework: Comparing information features	Individual work	

Activities

<table>
<tr>
<td>10 minutes</td>
<td>

1 Starter: Distinguishing between fact and opinion

Before the lesson, load **Teacher resource 1.ppt** and display **slide 1**, the objective for the lesson, simply phrased.

Slide 1

Talk pupils through the objective. Ask them to think back to what they have learned previously about the differences between fact and opinion. Tell pupils that you are going to show them some statements. Their task is to identify each of these statements as fact or opinion. Remind pupils of the clues they should be looking for.

- Facts are often communicated as simple statements.

  For example, the Atlantic Ocean lies between the UK and the USA; dogs are more intelligent than cats.

- A statement of opinion can be presented as a fact if it is backed up by evidence to support it. Advertisements sometimes use this technique. It is up to the reader or listener to assess how well founded the evidence is. Even when evidence is provided, whether the statement is a fact or is opinion may still be debatable.

- When a fact is obviously debatable, the statement will sometimes include 'safety clauses' such as 'possibly' or 'probably'.
  For example, Italy is possibly the most attractive country in Europe.

- Where an opinion or viewpoint is not deliberately presented as a fact, there are clues to look out for. The use of conditionals (*could, might, would*) and signals of opinion (*believe, opinion, think*) are indicators that an opinion is being offered.

  For example, school uniform is not important, but that's just my opinion; a low-fat diet is believed to be a healthy one; solar power could be the answer to national power shortages.

Show **slides 2 to 10** of Teacher resource 1.ppt. After each slide, invite all pupils, or ask specific pupils, to identify whether the slide shows a statement of fact or an opinion. In each case, ask pupils to give their reasons.

</td>
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</table>

Slide 2	Fact or opinion? We are in a school. Slide 3	A fact.
Slide 3	Fact or opinion? I think that classical music is boring. Slide 3	*'I think'* is the clue that this statement is being proposed as an opinion and not as a fact. Opinions can masquerade as facts if they are communicated as statements.
Slide 4	Fact or opinion? August follows July every year. Slide 4	A fact.
Slide 5	Fact or opinion? 16-year-olds should be eligible to vote in a general election. Slide 5	Even when many people share an opinion, this does not make it a fact. Even if every pupil in the class agrees with the statement, it will always be an opinion while someone else disagrees.
Slide 6	Fact or opinion? Orange juice seems much tastier than apple juice. Slide 6	*'Seems'* is the clue to an opinion.

Slide 7

> **Fact or opinion?**
>
> Sunderland is a better football team than Newcastle.
>
> Slide 7

This depends on the author of the statement, and the audience. Sunderland might be higher in the league table; if so, it could be a statement of fact. But the statement could be from a Sunderland fan, who could be biased and might always think this, regardless of the facts.

Slide 8

> **Fact or opinion?**
>
> It is a long way from here to Germany.
>
> Slide 8

Some pupils may identify this statement as a fact but it could be argued that it is an opinion. Someone who travels regularly between England and Australia may consider that Germany is quite close to England. Even some factual statements have to be considered in relation to the viewpoint of the person making them.

Slide 9

> **Fact or opinion?**
>
> It's a wonderful day!
>
> Slide 9

This appears to be a simple statement of fact but it is an opinion. Adjectives that signal a personal, subjective judgement about the quality of things (*wonderful, great, terrific, the best, superb, delicious, gorgeous, enjoyable, delightful*) are often clues to an opinion masquerading as a fact.

Slide 10

> **Fact or opinion?**
>
> Earth is a planet, not a star.
>
> Slide 10

This slide is slightly different in that it includes two statements in one sentence. (*Earth is a planet. Earth is not a star.*) In this case, they are both facts.

Now show **slides 11 and 12** of Teacher resource 1.ppt.

Slide 11

> **How accurate and reliable?**
>
> 'In 10 to 20 years' time, we will be able to build new organs artificially and replace an organ with something synthetic.'
>
> Dr Tom Okarma, President and Chief Executive, Geron Corporation, California
>
> Slide 11

Slide 12

> **How accurate and reliable?**
>
> 'There will be a permanent lunar base and a manned exploration of Mars some time this century.'
>
> Martin Rees, Royal Society Astronomer, Cambridge
>
> Slide 12

Ask the class:

- Are these opinions or facts?
- How do you decide whether or not to accept what these people are saying?
- Does the fact that a statement is a quote, with its author named, change your view of the likely *accuracy* of the statement?
- Do you consider a statement to be more reliable if the author happens to be an authority in their field?

Note:
The statements on slides 11 and 12 are both quotes from experts interviewed by the *Observer News Service*. They can be found in an article: 'What the future holds in store' in the 4 January 2001 edition of the *Science Tribune* (online version), part of the *India Tribune* (**http://www.tribuneindia.com**).

Show **slides 13 and 14** of Teacher resource 1.ppt.

Slide 13

> **Authoritative statements**
>
> 'I think there is a world market for maybe five computers.'
>
> Thomas Watson, Chairman of IBM, 1943
>
> Slide 13

Slide 14

> **Authoritative statements**
>
> 'The world potential market for copying machines is 5000 at most.'
>
> Response from IBM to the founders of Xerox, 1959
>
> Slide 14

Tell pupils that these are quotes from statements made by people who were respected as authorities in their fields. They were made at times when all the information they had led people to believe that the statements were factually correct. Even some statements made by experts have been proved to be wrong, especially in science and technology when developments change what we know over time.

Remind pupils that the evaluation skills they have already learned to apply to texts apply equally to electronic sources such as CD-ROMs and the Internet. They will need to recognise the difference between *fact* and *opinion* if they are going to decide whether or not information might be biased towards one particular viewpoint. They will also need to take account of the context in which the information is provided: for example, whether it is there to advertise, publicise or entertain, or merely to inform.

Show **slide 15** of Teacher resource 1.ppt.

**Slide 15**

> fact?
>
> opinion?　　⟶　bias
>
> Slide 15

Explain that there are some issues that are specific to electronic sources of information and tell pupils that they will be considering what these are during this lesson and the rest of the unit.

2 Evaluating validity

Tell pupils that there are several other aspects of the quality of information that they will usually need to consider when handling data.

Show **slide 16** of Teacher resource 1.ppt.

Slide 16

fact?

opinion? → bias

accuracy?

reliability? → validity

Slide 16
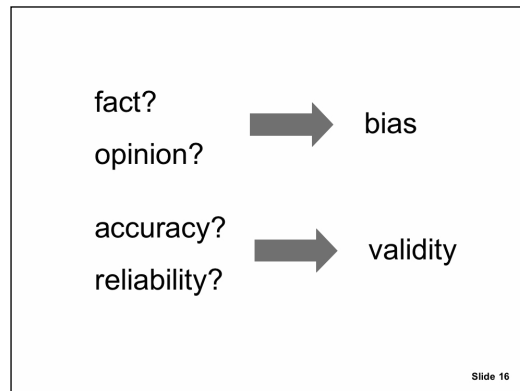
Explain that information should be both *accurate* and *reliable* if it is going to be considered *valid* for any investigation.

Ask pupils to work in pairs. Tell them to load their Internet browser. Hand out copies of **Pupil resource 1**.

Pupil resource 1

Name(s) ....   Date ....

Websites to explore

Task 1

Work with a partner. Look at the information on each websites listed in the table below. Consider how re how accurate the information is on each page.

When you have done this, use the letters A to five pages in order of their reliability an against the website that you think accurate. Put E against the o reliable and accurate.

Website
htt

Ask pupils to do task 1 and to access the websites listed, which are:

http://www.natwest.com/frontpage/dhtml/index.htm

http://www.open.gov.uk/

http://www.dlclothing.co.uk/

http://www.uk.ciao.com/

http://www.guardian.co.uk/

Alternatively, ask them to access those web pages you have selected.

Pupils should consider how reliable and how accurate the information on each website page is, then rank the pages in order of reliability and accuracy, from 1 for the most reliable and accurate to 5 for the least. They should use the clues that you have discussed earlier in the lesson to help them. Allow 5 minutes for the task.

Organise pairs so that pupils who may need help are working together. This will allow you to provide support, and to group together two or more pairs for the discussion.

Discuss responses with the whole class. Encourage pupils to use the words *accurate*, *reliable*, *valid*. Ask several pairs to answer these questions.

• Which website did you judge to be the most reliable? Give your reasons. Do others agree?

• Did you think that the most reliable websites were also the most accurate?

• What clues did you use to help you to judge?

    For example, comparing different sources on the same subject;
    using own knowledge;
    considering the likely reliability of the publisher of the information;
    considering how the information was collected;
    finding out if other sites, known to be reliable, have links to it.

• Which of the websites focused on advertising?

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25 minutes

3 Criteria for considering reliability

Show **slide 17** of Teacher resource 1.ppt which lists some of the clues that pupils can use to judge the reliability of a website.

Slide 17


```
When you consider the reliability of a
website, think about:

■ the URL, for example:
  .gov, .ac, .ed, .org, .co, .com, .sch

■ endorsements, e.g. NgFL

■ the date of the last update

■ advertisements

■ links to and from the website

                                    Slide 17
```

Discuss the merits of each type of URL briefly. Discuss the level of reliability as you move through the list. Make sure pupils know what 'endorsements' are.

Notes

• .gov is a government website.

• .ac is an academic website.

• .ed is an educational website.

• .org is a charity or organisation.

• .co or .com is probably a commercial site and may be reliable but will usually have a commercial interest.

• .sch is a school website in the UK. (Pupils could check how up to date the information is.)

• Updates: the most recent update of the site can be found in the site information or from clues in the text, such as dated news items.

- Advertisements: the number of adverts and their level of prominence can reveal how much the site depends on income from advertising. Pupils should remember that some sites sell advertising space as a means of maintaining their presence on the web. Some charities do the same but their prime objective may be to publicise their charity and to raise money.

- Links: Show pupils how to use the links facility if you have not done so before.

Tell pupils that some search engines will allow them to find out which websites link to the site they are using. Explain that they can use this information as a guide to the accuracy and reliability of a site since reputable, reliable sites are most likely to have links from other reliable sites.

Go to **www.google.com** and show this home page on the large display.

Type 'link: **www.becta.org.uk**' into the query box and click on 'Google Search' or press 'Enter'.

Google will show the first page of a list of links to the BECTa website. Point out to pupils that the search has returned over 3500 links. The first ten are displayed.


Explain that a site owner such as BECTa has no control over who links to their site so the link information can only be used as a guide. However, if a government site links to a site that pupils are examining, this is a good indicator that someone has checked its reliability.

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Show **slide 18** of Teacher resource 1.ppt. This shows the links to a website. Ask pupils to look for clues about reliability and accuracy in the links that are identified, for example, a link from a government website.

Slide 18
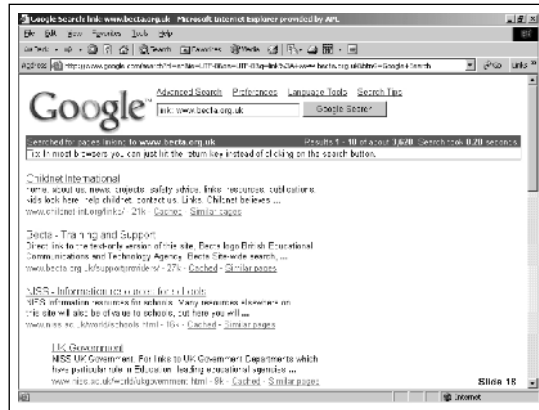
Ask pupils to look at task 2 on Pupil resource 1, which lists these websites (or direct them to the alternatives that you have provided):

http://www.amazon.co.uk/

http://www.naace.org/

http://www.statistics.gov.uk/

http://www.pavilion.co.uk/

http://www.hearing-dogs.co.uk/

http://www.blackwell.com/

Ask pupils to visit each website and to write their evaluation of it as brief notes in one of the comments boxes on Pupil resource 1. They should also make a judgement about the website's reliability and give it a grade from 1 to 5: 1 for very reliable and 5 for not at all reliable. Allow about 12 minutes for them to do this.

Collect pupils' sheets and use them to check their understanding.

4 Plenary: Evaluating clarity and accessibility

Show **www.worldnews.com** on the large display and look at some of the information on the site. Ask pupils:

• How easy is this site to navigate?

    For example, it's always possible to get back to the main menu;
    the menu options are clear and stay on the screen;
    the system moves quickly from one selection to another;
    drop-down menus help you to make choices, e.g. by date or by word.

• How clear is the information that is provided?

    For example, material is well presented and not too busy;
    the news stories are fairly easy to read;
    photographs help to portray words;
    scroll-down buttons help you to continue reading.

Point out that all judgements about the clarity of information and ease of navigation will depend ultimately on audience or user, and on factors such as the screen resolution and text size.

Draw the lesson to a close by summarising what pupils have learned: the importance of evaluating any information used and the strategies to do so. Point out on the wall display the key vocabulary used in this lesson, such as *authentic, valid, reliable, clear, relevant,* stressing that these words and concepts will be just as important when pupils are evaluating information in other subjects.

Homework: Comparing information features

Ask pupils to choose two versions of the same news story: a paper-based version (for example, in a newspaper or magazine) and an electronic version (for example, on the Internet, on television, on radio). They should:

• make notes about the differences and similarities between the two versions;

• state which special features are available to the producers of electronic news stories that are not available to producers of paper-based news stories: *for example, a news item on an Internet site could include video and interactive still images but a newspaper report could not;*

• describe how these special features could contribute to a reader's or listener's judgement about the reliability and accuracy of information.

2

Using searches

ICT Framework objectives for the lesson

FINDING THINGS OUT

Searching and selecting
- Extend and refine search methods to be more efficient
  (e.g. using AND, OR, NOT).

Key vocabulary

From Year 6: Internet, key word, web page, website, World Wide Web

From Year 7: AND, information source, locate, OR, query, search engine, search method

From Year 8: Boolean connector, navigate, NOT

Other: relevant

Preparation and planning

- Copy Pupil resource 2.doc onto thin card. Cut out enough individual cards for pupils to have one each.

- Prepare the file Pupil resource 3.doc, text about whale sharks, for pupils to load.

- Copy Pupil resource 4.doc, a list of areas to research, one for each pupil for homework.

- Choose a suitable CD-ROM for the demonstration of a search in activity 2.

- Make sure that Internet access is available. If necessary, have ready some guidance to help pupils to use the Internet browser.

- Check that all websites to be used during the lesson are available, or identify substitutes.

- Before the lesson, write a list of search engines on the whiteboard or flipchart, for activity 5. You could choose from the following list, adding search engines to which you subscribe as a school or those that you use frequently within the school:

  http://www.google.com/

  http://www.yahoo.com/

  http://www.lycos.co.uk/

  http://www.excite.com/

  http://www.search.com/

- Add new vocabulary to the wall display.

- Display the lesson's objectives in a prominent position, phrased in a way that pupils can understand.

Resources

- Computer and large display
- Whiteboard or flipchart
- Printer
- Access to the Internet and an Internet browser, both for you and for pupils
- Software for wordprocessing
- A CD-ROM of your choice for the demonstration in activity 2
- Teacher resources from the CD-ROM for the unit:
    - HD vocab cards.doc   Flashcards of the key vocabulary used in this unit
    - Teacher resource 2.doc   Possible key words for the text on whale sharks
- Pupil resources from the CD-ROM for the unit:
    - Pupil resource 2.doc   Shape cards
    - Pupil resource 3.doc   Text about whale sharks
    - Pupil resource 4.doc   A list of areas to research

## Lesson outline   60 minutes

1	**Starter: Using AND/OR/NOT**	Activity Whole-class	10 minutes
2	**Searching a website and a CD-ROM**	Whole-class Demonstration	10 minutes
3	**Key word searches**	Activity Paired work	10 minutes
4	**Full text searches**	Activity Paired work	5 minutes
5	**Internet search engines**	Explanation and activity Whole-class and paired work	20 minutes
6	**Plenary: Evaluating search engines**	Whole-class questioning Summary of lesson	5 minutes
	Homework: Research task	Individual work	

Activities

1 Starter: using AND/OR/NOT

Distribute the shape cards prepared from **Pupil resource 2**, giving one card to each pupil. Aim for different numbers of each kind of card.
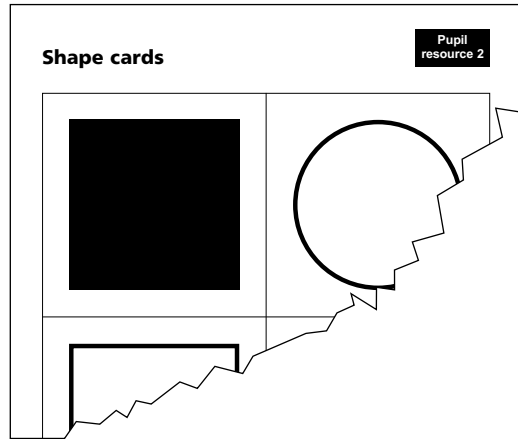
Tell pupils that you are going to give them some instructions. These will be very simple but pupils will have to think quickly. They should listen carefully to each instruction and remember how they used words such as 'AND' and 'OR' when they were searching data or using the Internet in previous years. They should stand up if the instruction applies to them, or sit down if it does not.

Instructions

- Stand up if your shape is a square.
- Stand up if your shape is black.
- Stand up if your shape is a square **AND** black.
- Stand up if your shape is a circle.
- Stand up if your shape is a circle **AND** white.
- Stand up if your shape is a square **OR** a circle.
- Stand up if your shape is a square **OR** black.
- Stand up if your shape is a square **OR** a circle, **AND** black.

Use this activity to check pupils' understanding of the Boolean connectors **AND** and **OR**. Repeat these two instructions:

- Stand up if your shape is a square **OR** black.
- Stand up if your shape is a square **AND** black.

Stress that 'square **AND** black' is a much smaller group that includes only those cards with both properties.

Tell pupils that you are going to introduce the word **NOT**, so they will have to listen even more carefully.

Instructions continued

- Stand up if your shape is a square **AND** is **NOT** black.

- Stand up if your shape is **NOT** a square **AND** is **NOT** black.

- Stand up if your shape is black **AND** is **NOT** a square.

Remind pupils that they can sometimes get the same result by using different questions. For example, with this set of cards, 'Stand up if your shape is a square **AND** is black,' achieves the same result as 'Stand up if your shape is **NOT** a circle **AND** is **NOT** white.'

Pupils who are interested may like to research George Boole, who pioneered a branch of mathematics called Boolean algebra, based on mathematics and logic. This has many important applications, in particular, in switching devices, which form the basis of modern telephone systems and, of course, computers.

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10 minutes

2 Searching a website and a CD-ROM

Refer pupils to the objective for this lesson. Tell them that a search can only be carried out if there is a subject to search for. The more carefully designed the query, the more relevant and precise the search results are likely to be.

Explain that many websites have a built-in search facility so that people using them can search through the material on the site to find the information that best meets their needs.

Use the large display to demonstrate how to search within a site. Access **http://www.bbc.co.uk/weather/index.shtml**. Tell pupils that this is the BBC's own weather website. Show them the 'Fastfind' facility on the right-hand side, which allows readers to go quickly to areas of the site which deal with particular features such as 'Extreme weather'.

Input the school's postcode to demonstrate how to search for a five-day weather forecast for a particular area. Tell pupils that these two search facilities only search the BBC's own weather website, not the World Wide Web.

Explain that search facilities are useful once you have found the most suitable website for your query. The same is true of a CD-ROM. The first task is to choose a suitable CD-ROM by considering the title. Tell pupils the title of the CD-ROM you have chosen to use in this lesson.

Now demonstrate how to search the CD-ROM by using its contents page or its search facility. Explain that this process is much the same as finding and using a reference book, except that the search facility offers a much more powerful means of finding the information.

Conclude by telling pupils that once they have found a suitable source of information, such as a CD-ROM or a website, they should apply the same research skills they have learned for books, and use the contents list or index, if they exist.

3 Key word searches

Tell pupils that most search facilities use the principle of 'key words'. The information has associated with it a list of key words that can be searched easily.

A key word doesn't necessarily appear in the text itself, although it might be used to find the text. *For example, in a text about a wildlife park in Africa, the word 'safari' might not appear anywhere but it could be an important key word if you were searching for a place to visit to see lions, rhinos and elephants in the wild.*

Ask pupils to load **Pupil resource 3.doc**, text about whale sharks.

Pupil resource 3

Name(s) .... Date ....

Identifying key words

Read this text. Identify eight possible key words. Write them in the below.

The whale shark is the largest fish in the world. This gentle gia grows up to 12 metres in length. It is believed that some sharks even reach 18 metres. They may look fierce, but wh are no real danger to humans. They eat small crustace fish by filtering them through the screens in their gil

The shark is easily recognisable. It is dark grey grey in colour and has a broad, flat head and spots on its back. Its underbo ridges on its sides. Whale shar that they can filter their teeth, but the tearing f

Give pupils time to read the text, then ask:

- What is the main topic of this piece of text?

- What information does it give?

- Is this information fact or opinion?

- What other things does the text make you think about?

- Is the place important?

Now ask pupils to think of eight suitable key words and type them in the space below the text. Stress that their key words don't necessarily have to appear within the text.

Allow 5 minutes, then record their suggestions on the whiteboard or flipchart. Discuss which key words are most appropriate, and why. Note any obvious key words that pupils have not suggested.

Possible key words, both within the text and not included in the text, are listed in **Teacher resource 2.doc**.

Teacher resource 2

Text on whale sharks, with possible key words

The whale shark: *Rhincodon typus*

The **whale shark** is the **largest fish** in the world. This gentle grows up to 12 metres in length. It is believed that some even reach 18 metres. They may look fierce, but whale sha real danger to humans. They eat small crustaceans, squ filtering them through the screens in their gills.

The **shark** is easily recognisable. It is dark gr grey in colour and has a broad, flat hea spots on its back. Its underbody i its sides. Whale sharks sw filter their food as t are tiny and

Oc

Differentiation

Some pupils may need some extra help for this activity because they may find it difficult to select key words in a text. They may find it easier to suggest key words for a search for information, as this depends on general understanding of the text rather than detailed reading strategies.

You could edit the text of Pupil resource 3.doc for some pupils, to lower its readability level. You can do this by shortening or simplifying sentences, removing some text, enlarging the font and increasing spacing between lines to make the text appear less dense. Some pupils may find the task easier if they work on a printed copy of the text so that they can use a marker pen to highlight key words.

---

5 minutes

4 Full text searches

Tell pupils that some CD-ROMs and Internet sites offer or use 'full text' searches. Explain that this means that the computer will search the whole text of every document, looking for occurrences of the string of letters or numbers used for the search.

Ask pupils to return to Pupil resource 3.doc, the document on their screens. Give the following instructions, one by one, modifying them if pupils are using a wordprocessor other than Microsoft Word.

- Select 'Edit' and then 'Find' from the menu bar.
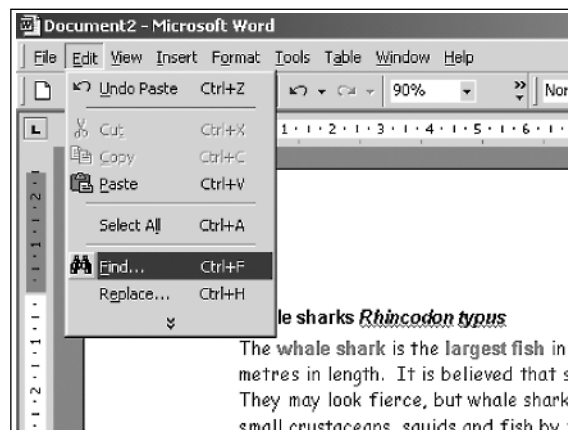
- This will offer a dialogue box (as below). Type 'fin' into the dialogue box and then click on 'Find Next'.
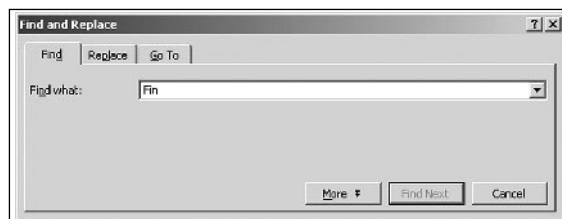

  Word will then highlight the first occurrence of the string of letters 'fin'.

- Click on 'Find Next' to find the next occurrence of the letters. This time they form part of the word 'find'. Tell pupils that the 'Find' facility is looking for a particular string of characters and does not understand that they form a word.

- Tell pupils that to find just the whole word 'fin' they have to instruct the 'Find' facility to do this. Select 'More' at the bottom of the dialogue box.
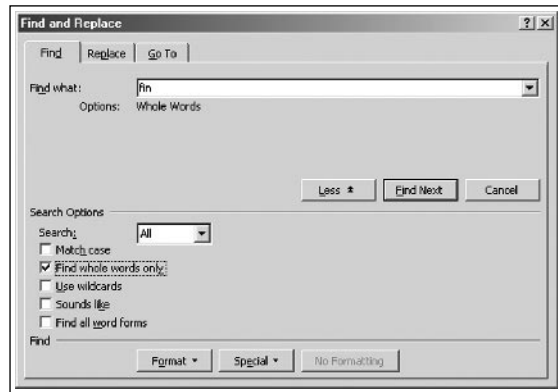
- Click in the box marked 'Find whole words only'.
- Click on 'Find Next' to find only occurrences of the complete word 'fin'.

---

20 minutes

5 Internet search engines

Explain that when you search for information on the Internet the first thing to do is to locate an appropriate site. Sometimes it is possible to make a good guess at websites that may be relevant. For example, someone who wants information about a local company might try **www.localcompanyname.co.uk**.

This approach doesn't always work. Businesses may use a URL that simply describes the service they provide. Someone else may already own the most obvious URL or the business may not be on the Internet at all. And this approach doesn't help to find more general information, such as a weather forecast.

Search engines help people to find information on the Internet. These are usually commercially-run websites that catalogue other websites and the information they carry.

Some pupils may have had considerable experience of using search engines. Ask the class:

- Which search engines have you used before? What were they useful for?

- Do you use more than one search engine? If so, do you find one more appropriate than another for particular searches?

- Which search engines have you found the most useful? Why?

Tell pupils that they are now going to evaluate some search engines. Each pair will evaluate one search engine and will be looking for information about two topics:

- the company that offers the lowest price for a rose bush called 'Peace', sells it online and will deliver it to your grandmother;

- details of camp sites in the Lake District, including how close each site is to Lake Windermere, and the cost for a one-person tent per night during August.

Remind pupils that a search should start with a question or a summary of the information they need. Allocate to each pair a search engine from the list you have written on the flipchart, for example:

http://www.google.com/   **http://www.excite.com/**

http://www.yahoo.com/   **http://www.search.com/**

http://www.lycos.co.uk/

Allow about 10 minutes for pupils to search for the information. While they are working, give some extra support to the weakest readers, helping them to identify suitable key words for their search.

---

5 minutes

6 Plenary: Evaluating search engines

Invite a selected pair to tell the rest of the group the URL of a website they used to answer the first question. Ask:

- Why did you think this website was a useful source of information?

- Which search engine did you use to find it? Did you find that your search engine was particularly helpful? In what ways?

- Was the same search engine equally helpful with the second question?

Conclude by reminding pupils that they have learned a range of different search methods to find information on CD-ROMs and the Internet.

Homework: Research task

Distribute **Pupil resource 4**, a list of areas to research. Ask pupils to record on the sheet how they would set about searching for the information.

Alternatively, you could give them your own list of possible areas for research, using current cross-curricular links.

3

Extending and refining search methods

ICT Framework objectives for the lesson

FINDING THINGS OUT

Searching and selecting
- Extend and refine search methods to be more efficient (e.g. using synonyms and AND, OR, NOT).

Key vocabulary

From Year 8: Boolean connector, hits, NOT

Preparation and planning

- Copy Pupil resource 5.doc, *The basics of a Google search*, from **http://www.google.com/help/basics.html**, one for each pupil.

- Copy Pupil resource 6.doc, *Key words for a search on travel between London and Paris*, one for each pupil.

- Copy Pupil resource 7.doc, *A list of information to find or questions to ask and the URLS of appropriate search engines*, one for each pupil. If your school subscribes to a filtered or educational specialist ISP or educational resource service, you may wish to adapt the resource to include the relevant URL in the list.

- Copy Pupil resource 8.doc for the homework task, one for each pupil.

- If you live in or near Milton Keynes, you may wish to change the name of the town in question 6 to one of your own choice.

- Check that Internet access is available. If necessary, have ready some guidance to help pupils to use the Internet browser.

- Check that all websites to be used during the lesson are available, or identify suitable substitutes.

- Add new vocabulary to the wall display.

- Display the lesson's objectives in a prominent position, phrased in a way that pupils can understand.

Resources

- Computer and large display

- Whiteboard or flipchart

- Printer

- Access to the Internet and an Internet browser, both for you and for pupils

- Software for wordprocessing and presentations

- Teacher resources from the CD-ROM for the unit:

  – HD vocab cards.doc   Flashcards of the key vocabulary used in this unit

  – Teacher resource 3.ppt   A presentation for Lesson 3

- Pupil resources from the CD-ROM for the unit:

  – Pupil resource 5.doc   *The basics of a Google search* from
       http://www.google.com/help/basics.html

  – Pupil resource 6.doc   Key words for a search on travel between London and Paris

  – Pupil resource 7.doc   A list of information to find or questions to answer and the URLs of appropriate search engines

  – Pupil resource 8.doc   A homework task for lesson 3 on how to find information

Lesson outline   60 minutes

1	**Starter: Using the advanced search facility**	Demonstration and questioning Whole class	10 minutes
2	**Using precise strings and synonyms to refine a search**	Paired work	15 minutes
3	**Using search engines and Boolean operators**	Activity and discussion Whole-class and paired work	30 minutes
4	**Plenary: Summary**	Whole-class discussion Summary of lesson	5 minutes
	Homework: Describing how to make Internet searches	Individual work	

Activities

1 Starter: Using the advanced search facility

Call up **www.google.com** on the large display. Tell the class that you are looking for information about accommodation in Scotland. You will be travelling with a disabled relative who needs wheelchair access. Ask pupils to suggest a simple query to start the search – the keywords and search method. Explain that most search engines assume AND between key words (unless other connectors such as OR are used), so there is no need to type AND.

Type in the query, using key words suggested by pupils. Look for the number of hits in the top left of the blue search bar: *for example, a search using* Scotland holiday *returns over 500 000 hits.*

Explain that this large number of options will make it difficult to sort out the useful from the irrelevant and that you need to refine the search. Ask:

- What refinements shall we make? Which key words shall we use to narrow down our search?

  For example, disabled access or disabled return over 36 000 hits.

Explain that it might be better to use the advanced search facility. Choose this from the top menu list of the Google search screen. Explain each of the options of an advanced search in turn.

Say that you are not keen on travelling all the way to the Highlands in the north of Scotland, as that is a long drive. Show the class how to exclude the Highlands by typing *Highlands* in the box marked '**without** the words'. Point out that this search is the equivalent of 'Scotland AND holiday AND disabled AND NOT Highlands'.

Say that you really only want up-to-date information, and show how to use the 'Date' facility to return only those pages updated in the last 3 months.

Search again, and show pupils that Google returns about 20 000 hits for the search, as against more than 500 000 hits for your first search. Point out how wide the range of information on the Internet is, and the need to be as specific as possible when searching.

Tell pupils that each search engine may use a slightly different set of rules for searching and it is important to understand the rules that are being applied. Go to **http://www.google.com/help/basics.html** on the large display, and distribute copies of **Pupil resource 5** *The basics of a Google search*. Tell pupils that an advantage of using a search engine such as Google regularly is that they will learn the way it works and the logic it uses, so they will be better able to phrase their searches effectively.

15 minutes	**2 Using precise strings and synonyms to refine a search**

Point out the objective for today's lesson. Remind pupils that, so far, they have combined single words using the connectors AND and OR. Tell them that they may want to combine words to form a short phrase or name, such as *Milton Keynes*. Show them on the flipchart that this is done by enclosing the words in double quotation marks: *"Milton Keynes"*. Explain that the search engine will then treat the words and the space between them as a single string. It will only find references to the complete phrase between the quotation marks.

Load **Teacher resource 3.ppt** and show slide 1 on the large display.

Using synonyms

- cosmetics
- army camp
- computer programs
- lawyers
- poems
- sport magazines

Slide 1

Say to the class:

- Remind me what a synonym is.

  For example, a synonym is a word that means the same, or nearly the same, as another word, such as 'big' and 'large', or 'far' and 'distant'.

- Can you suggest some synonyms that may give the same or a similar result in a search?

  For example, cosmetics/beauty products, army camp/military base, computer programs/software, lawyers/solicitors, poems/poetry/verse, sport magazines/sports publications.

Distribute **Pupil resource 6**, which lists key words for a search about travel between London and Paris.

Ask pupils to work in pairs to group the possible key words into three categories:

- their first choice for key words for a search;

- words with similar meanings that could be used if the first words don't return appropriate hits;

- less useful words which may seem relevant but are unlikely to return the kind of information being looked for.

Give the pairs 5 minutes to do this. Ask those who complete the task quickly to add any other words they think would be useful.

Working with the whole class, invite pairs of pupils to describe their groupings. Discuss how a 'near synonym' can be useful during a search. (Words in the second category are not real synonyms.) Ask pupils:

- Why did you put that word in the second category, not the first?

During the discussion, identify pupils who find this difficult. They will need extra support during the next activity.

Possible categories are:

- *first choice: London, Paris, travel;*

- *second choice: transport, Eurostar, ferry, timetables, trains;*

- *words that may be too general: boat, France, holiday, journey, methods, rail, stations, weather.*

---

30 minutes

3 Using search engines and Boolean operators

Distribute **Pupil resource 7**, which is a list of information for pupils to find, with the URLs of appropriate search engines:

http://www.excite.com/

http://www.google.com/

http://www.lycos.co.uk/

http://www.search.com/

http://www.yahoo.com/

While pupils are working, support those that you have identified as having less experience of using the Internet and search engines. You may decide to give them fewer search engines and some simple instructions to help them to find the information they need.

After about 20 minutes, take feedback from pupils. Ask them:

- What information did you find?
- What did you discover about searches?
- What problems did you have? How did you resolve them?
- Which search engines did you find to be the most useful? Why?

| 5 minutes | **4 Plenary: Summary** |

Summarise what pupils have learned over the last three lessons. Remind them about these points.

- They have developed their skills in finding information on the Internet by searching and by using other clues, such as identifying likely URLs.

- There are important words on the wall display, such as *accurate, reliable, valid, accessible, relevant.*

- There are clues to the accuracy, reliability and relevance of information sources on the Internet that they should apply whenever they use a source.

- They should always remember to acknowledge their sources of information, whether from a book, the Internet or CD-ROM, from a person, or another source. There are reasons for this, apart from courtesy and compliance with copyright laws: it adds credibility to the information and helps the reader to judge its reliability.

Tell pupils that in the next lesson they will do some specific research to find appropriate information by applying all that they have learned.

Homework: Describing how to make Internet searches

Hand out copies of **Pupil resource 8**, a task about finding information on the Internet. Tell pupils that there are five requests for information. For each request, they should:

- note the search engine that they would choose to use first;

- write the query that they would use to find the information they need.

4

Independent application of new learning: searching and evaluating

ICT Framework objectives for the lesson

FINDING THINGS OUT

Using data and information sources
- Devise and apply criteria to evaluate how well various information sources will support a task.

- Justify the use of particular information sources to support an investigation or presentation.

Key vocabulary

From Year 6: accurate, evaluate

From Year 7: fitness for purpose, intended audience

Other: precise, reliable, valid

Preparation and planning

- To prepare for activity 2, ask your history department to provide you with brief information about key historical events in your selected town or borough. This will help your monitoring of pupils' progress through their searches.

- Enter the name of the town or borough in slide 1 of Teacher resource 4.ppt.

- Ensure that Pupil resource 9.doc, a recording grid in which pupils may paste information and references, is available in the network shared area.

- Check that Internet access is available. If necessary, have ready some guidance to help pupils to use the Internet browser.

- Check that all websites to be used during the lesson are available, or identify suitable substitutes.

- Before the lesson, list some suitable search engines for activity 2 on a whiteboard or flipchart. Include any search engines to which you subscribe as a school (optional).

- Add new vocabulary to the wall display.

- Display the lesson's objectives in a prominent position, phrased in a way that pupils can understand.

Resources

- Computer and large display

- Whiteboard or flipchart

- Printer

- Access to the Internet and an Internet browser, both for you and for pupils

- Software for wordprocessing and presentations

- Teacher resources from the CD-ROM for the unit:

  – HD vocab cards.doc   Flashcards of the key vocabulary used in this unit

  – Teacher resource 4.ppt   A presentation for lesson 4

- Pupil resources from the CD-ROM for the unit:

  – Pupil resource 9.doc   A recording grid in which to paste information and references

Lesson outline   60 minutes

1	**Starter: Purpose and audience**	Presentation Whole class	10 minutes
2	**Finding information for a report**	Independent searches Paired or individual work	20 minutes
3	**Selecting information**	Discussion Whole class	15 minutes
4	**Plenary: Review of learning**	Whole-class discussion Summary of lesson	15 minutes
	Homework: How to search effectively *or* preparing for the next unit	Individual work	

Activities

1 Starter: Purpose and audience

Refer pupils to the objectives for this lesson. Remind them that when they search for information they should keep in mind who wants the information, and why. In most cases it will be themselves but it could be someone else. Ask the class:

- Why might someone need information?

  For example, for general interest, as part of a research project, to provide evidence to others, so that arrangements can be made …

Say that pupils' choice of a suitable search engine will be influenced by the *purpose* of the search and its *audience*.

Explain that it may be appropriate to use a search engine that applies artificial intelligence and attempts to turn a simple question, written as a sentence, into a search query. Such sites may also offer special categories to help users. Invite experienced pupils to comment on their own use of such searches, and their value.

Access **http://www.ajkids.com/index.asp** on the large display. Demonstrate quickly how the 'Study tools' option (the stack of books) works. Move the mouse to place the cursor over 'Dictionary' and click to show how 'Jeeves' links to another website. Back on the home page, move the cursor to 'Science' to show how 'Jeeves' links to another page with a list of frequently asked questions. 'Jeeves' is structured to help young people to use the Internet.

Access **http://www.google.com/** and show it on the large display. Contrast the presentation and style of operation. 'Google's' home page is simple and clear, without advertisements or extra functions, but the user needs to know how to construct queries and gets little help.

---

20 minutes

2 Finding information for a report

Ask pupils to work independently, as pairs or as individuals, during this activity, Say that you want them to use the Internet to find information, answers and resources for a report. They will need to apply all that they have learned so far about searching for information.

Load **Teacher resource 4.ppt** and let pupils read the task on **slide 1** on the large display.

Slide 1

> **Task**
>
> For homework, Pat, a Year 6 pupil, is writing a report about the history of (a local town).
>
> The report should cover as long a period in history as possible. The information and evidence should include images or maps if they are available.
>
> Find some useful information to help Pat write the report.
>
> Slide 1

Check that pupils understand the task by asking:

- Who is the audience for the information you are looking for on the Internet? *(Pat in Year 6)*

- What is the purpose of the information you are looking for? *(A report on the history of the local town for Pat's teacher)*

Ask pupils to load **Pupil resource 9.doc**, which is a grid in which they can paste information and record references.
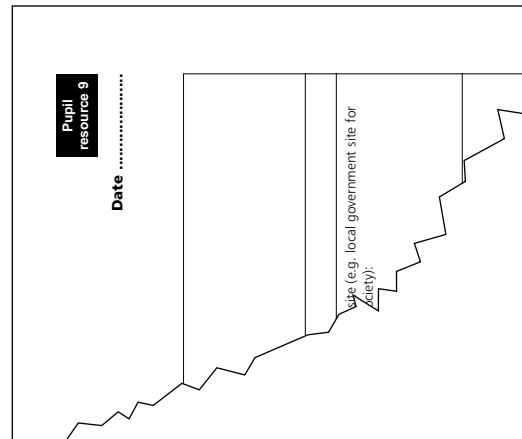
Tell the class that they now have nearly 20 minutes to collect the information. Later there will be further 15 minutes for them to select and simplify the most appropriate information to present to Pat. If you are using it, point out the list of URLs of suitable search engines that is written on the flipchart.

While the class is working, support pupils who are less confident in making Internet searches, or those who may have difficulty with phrasing a query or refining searches. If there are several of them, you could group them around one computer for 20 minutes of additional direct teaching about how to begin the search and then refine it.

| **15** minutes | **3 Selecting information** |

Bring the whole class back together to discuss their findings. Use the whiteboard or flipchart to record the main points under the headings:

- key dates and events;

- URLs of information sources;

- search engines used.

In the discussion, ask these questions.

- Why did you consider that to be a key piece of information? Is it appropriate for the audience (*Pat, a Year 6 pupil*)? Is it suitable for the purpose (*the homework report*)?

- Have you found a suitable range of information (*for a report covering as long a period in history as possible*)?

- Why did you choose that particular source of information? Would you regard it as a reliable source? Why? (*If necessary, prompt by reminding pupils of the clues that they used in the first lesson of this unit.*)

- Which were the most useful sources for today's purposes? Which were the most useful sources for the audience? Why did you think these were the most useful?

Emphasise that the quality of information collected is more important than the quantity. In the context of this particular search, a large quantity of information, however useful, might be inappropriate for the particular purpose and audience.

15 minutes	**4 Plenary: Review of learning**

Point out some of the key vocabulary on the wall display, particularly *audience, purpose, appropriate, accurate, valid, reliable, precise.*

Use **slides 2, 3 and 4** of Teacher resource 4.ppt to remind pupils about the important things they have learned during this unit.

Slide 2

> **In this unit we have learned:**
>
> - the need to consider the audience for and purpose of information
>
> - the importance of the appropriateness of the information
>
> - how to judge the appropriateness of the information
>
> Slide 2

Slide 3

> **In this unit we have learned:**
>
> - the importance of the accuracy, validity and reliability of the information
>
> - how to judge the accuracy, validity and reliability of the information
>
> Slide 3

Slide 4

> **In this unit we have learned:**
>
> - the importance of acknowledging sources of information
>
> - how to refine searches to target as precisely as possible the information needed, rather than browsing through large quantities of information.
>
> Slide 4

As you work through the three slides, target specific pupils and check whether their learning has increased since the start of the unit. For each question, ask two or three different pupils to remind the class:

- Why is it important to consider the audience for and purpose of information?

  For example, to select the right information for the needs and interests of the audience, including the level of detail needed;
  to decide on the order in which to present the information;
  to decide on the language and style in which to present the information, and the extent to which it might need graphics to illustrate or explain it.

- Why is it important to consider the appropriateness of information?

  For example, to judge whether the information is fit for the intended audience and purpose.

- How could you go about evaluating the appropriateness of information?

  For example, by using one's own judgement;
  by checking with whoever needs the information;
  by comparing with information provided previously.

- Why is it important to consider the accuracy, validity and reliability of information?

  For example, in order not to be misled;
  to enable sensible conclusions to be drawn;
  to judge if the information is fit for its intended audience and purpose;
  to back up an argument or confirm other findings;
  to take account of the fact that the Internet has no controls, that anyone can publish and that no one checks whether or not the information is accurate.

- What strategies or clues could you use to evaluate the accuracy, validity and reliability of information?

  For example, by comparing different sources on the same subject, including books;
  by using one's own knowledge to judge;
  by considering the reputation of the publisher of the information, the URL of a website and whether it has reputable endorsements;
  by considering whether the information is associated with advertising;
  by finding out more about the way in which the information was collected and how recent it is;
  by finding out if other sites, known to be reliable, have links to it.

- Why is it important to acknowledge sources of information?

  For example,
  because of copyright;
  out of courtesy;
  to help readers to judge where information came from;
  to show what sources of information have been used in a task;
  to add credibility to the information presented.

Homework: How to search effectively *or* preparing for the next unit

Ask pupils:

- How would you go about making a search as effective and precise as possible?

  In their answers, check whether pupils identify steps such as these.
  - *Before starting, think who might publish the information, or where it is likely to be found, e.g. identify likely URLs.*
  - *Use a search engine appropriate to the type of search.*
  - *Use key words closely related to the topic.*
  - *using AND, since this reduces the number of hits, whereas OR gives a larger sample.*
  - *Eliminate superfluous information by using NOT.*
  - *Make use of contents lists and indexes, if they are available.*
  - *Make effective use of the search facilities offered on a site.*

Alternatively, set a homework task to prepare pupils for the next unit of work. If you choose this option, aim to cover the question above in the plenary discussion of the lesson.

Powerpoint presentation for lesson 1

Slide 1

> **Objective**
>
> ■ Understand how the content and style of
> information affect its 'fitness for purpose', by
> considering:
>
> – whether information is fact or opinion
>
> – what viewpoints it offers
>
> – how clear and accessible it is
>
> Slide 1

Slide 2

> **Fact or opinion?**
>
> We are in a school.
>
> Slide 2

Slide 3

> **Fact or opinion?**
>
> I think that classical music
> is boring.
>
> Slide 3

Slide 4

> **Fact or opinion?**
>
> August follows July every
> year.
>
> Slide 4

Slide 5

Fact or opinion?

16-year-olds should be eligible to vote in a general election.

Slide 5

Slide 6

Fact or opinion?

Orange juice seems much tastier than apple juice.

Slide 6

Slide 7

Fact or opinion?

Sunderland is a better football team than Newcastle.

Slide 7

Slide 8

Fact or opinion?

It is a long way from here to Germany.

Slide 8

Slide 9

Fact or opinion?

It's a wonderful day!

Slide 9

Slide 10

Fact or opinion?

Earth is a planet, not a star.

Slide 10

Slide 11

How accurate and reliable?

'In 10 to 20 years' time, we will be able to build new organs artificially and replace an organ with something synthetic.'

Dr Tom Okarma, President and Chief Executive, Geron Corporation, California

Slide 11

Slide 12

How accurate and reliable?

'There will be a permanent lunar base and a manned exploration of Mars some time this century.'

Martin Rees, Royal Society Astronomer, Cambridge

Slide 12

Slide 13

Authoritative statements

'I think there is a world market
for maybe five computers.'

Thomas Watson, Chairman of IBM,
1943

Slide 13

Slide 14

Authoritative statements

'The world potential market
for copying machines is 5000
at most.'

Response from IBM to the founders
of Xerox, 1959

Slide 14

Slide 15

fact?

opinion? ➜ bias

Slide 15

Slide 16

fact?

opinion? ➜ bias

accuracy?

reliability? ➜ validity

Slide 16

Slide 17

> When you consider the reliability of a
> website, think about:
>
> - the URL, for example:
>   .gov, .ac, .ed, .org, .co, .com, .sch
>
> - endorsements, e.g. NgFL
>
> - the date of the last update
>
> - advertisements
>
> - links to and from the website
>
> Slide 17

Slide 18

Text on whale sharks, with possible key words

The whale shark: *Rhincodon typus*

The **whale shark** is the **largest fish** in the world. This gentle giant grows up to 12 metres in length. It is believed that some whale sharks even reach 18 metres. They may look fierce, but whale sharks are no real danger to humans. They eat small crustaceans, squid and fish by filtering them through the screens in their gills.

The **shark** is easily recognisable. It is dark grey, bronze or greenish-grey in colour and has a broad, flat head and a pattern of stripes and spots on its back. Its underbody is white or cream and it has ridges on its sides. Whale sharks swim with their mouths open so that they can filter their food as they move. They have about 300 teeth, but these are tiny and hooked, not long and pointed for tearing flesh.

Occasionally whale sharks can be seen hanging vertically in the water to feed. They float with their **tail fins** straight beneath them, bobbing up and down to force water into their mouths and through their gills.

These huge fish are often found in tropical and warm temperate seas, near **coral reefs**. If the water is warm, they may sometimes swim quite near the surface. The fish often travel alone but, in a few places in the world, they may gather in large groups, particularly where coral is spawning.

Researchers are trying to monitor the sharks' migratory movements. These ever-hungry creatures migrate to follow their food and can be found off the Mexican coast, in the Western Pacific, off Queensland in Australia and in the Seychelles. The largest groups appear along the coast of East Africa from October to April.

If you are ever lucky enough to see a whale shark, you might find that it has been tagged. Look out for the tag on its back near the dorsal fin. You probably won't get near enough to read the serial number but, if you do, notify your nearest **Shark Research** Institute.

Possible key words not included in the text:

biggest fish

diving

shark migration

Powerpoint presentation for lesson 3

Slide 1

Using synonyms

- cosmetics
- army camp
- computer programs
- lawyers
- poems
- sport magazines

Slide 1

Powerpoint presentation for lesson 4

Slide 1

> **Task**
>
> For homework, Pat, a Year 6 pupil, is writing a report about the history of (a local town).
>
> The report should cover as long a period in history as possible. The information and evidence should include images or maps if they are available.
>
> Find some useful information to help Pat write the report.
>
> Slide 1

Slide 2

> **In this unit we have learned:**
>
> - the need to consider the audience for and purpose of information
>
> - the importance of the appropriateness of the information
>
> - how to judge the appropriateness of the information
>
> Slide 2

Slide 3

> **In this unit we have learned:**
>
> - the importance of the accuracy, validity and reliability of the information
>
> - how to judge the accuracy, validity and reliability of the information
>
> Slide 3

Slide 4

> **In this unit we have learned:**
>
> - the importance of acknowledging sources of information
>
> - how to refine searches to target as precisely as possible the information needed, rather than browsing through large quantities of information.
>
> Slide 4

Name(s) ……………..……….…… **Date ……………….**

Websites to explore

Task 1

Work with a partner. Look at the information on each of the websites listed in the table below. Consider how reliable and how accurate the information is on each page.

When you have done this, use the letters A to E to rank the five pages in order of their reliability and accuracy. Put A against the website that you think is the most reliable and accurate. Put E against the one you judge to be the least reliable and accurate.

Website	Rank
http://www.natwest.com/frontpage/dhtml/index.htm	
http://www.open.gov.uk/	
http://www.dlclothing.co.uk/	
http://www.uk.ciao.com/	
http://www.guardian.co.uk/	

Task 2

Look at each of these websites and evaluate its reliability.

• **http://www.amazon.co.uk/**

• **http://www.naace.org/**

• **http://www.statistics.gov.uk/**

• **http://www.pavilion.co.uk/**

• **http://www.hearing-dogs.co.uk/**

• **http://www.blackwell.com/**

For each website, record your evaluation. Make brief notes or comments.

Grade the reliability of the website on a scale of 1 to 5, where 1 is very reliable and 5 is not at all reliable.

Website name: **http://www.amazon.co.uk/**	Grade 1 to 5 for reliability	
Brief notes/comments		
URL		
Endorsements		
Adverts		
Links		

Website name: **http://www.naace.org/**	Grade 1 to 5 for reliability	
Brief notes/comments		
URL		
Endorsements		
Adverts		
Links		

Website name: **http://www.statistics.gov.uk/**	Grade 1 to 5 for reliability	
Brief notes/comments		
URL		
Endorsements		
Adverts		
Links		

Website name: **http://www.pavilion.co.uk/**		Grade 1 to 5 for reliability	
Brief notes/comments			
URL			
Endorsements			
Adverts			
Links			

Website name: **http://www.hearing-dogs.co.uk/**		Grade 1 to 5 for reliability	
Brief notes/comments			
URL			
Endorsements			
Adverts			
Links			

Website name: **http://www.blackwell.com/**		Grade 1 to 5 for reliability	
Brief notes/comments			
URL			
Endorsements			
Adverts			
Links			

Shape cards
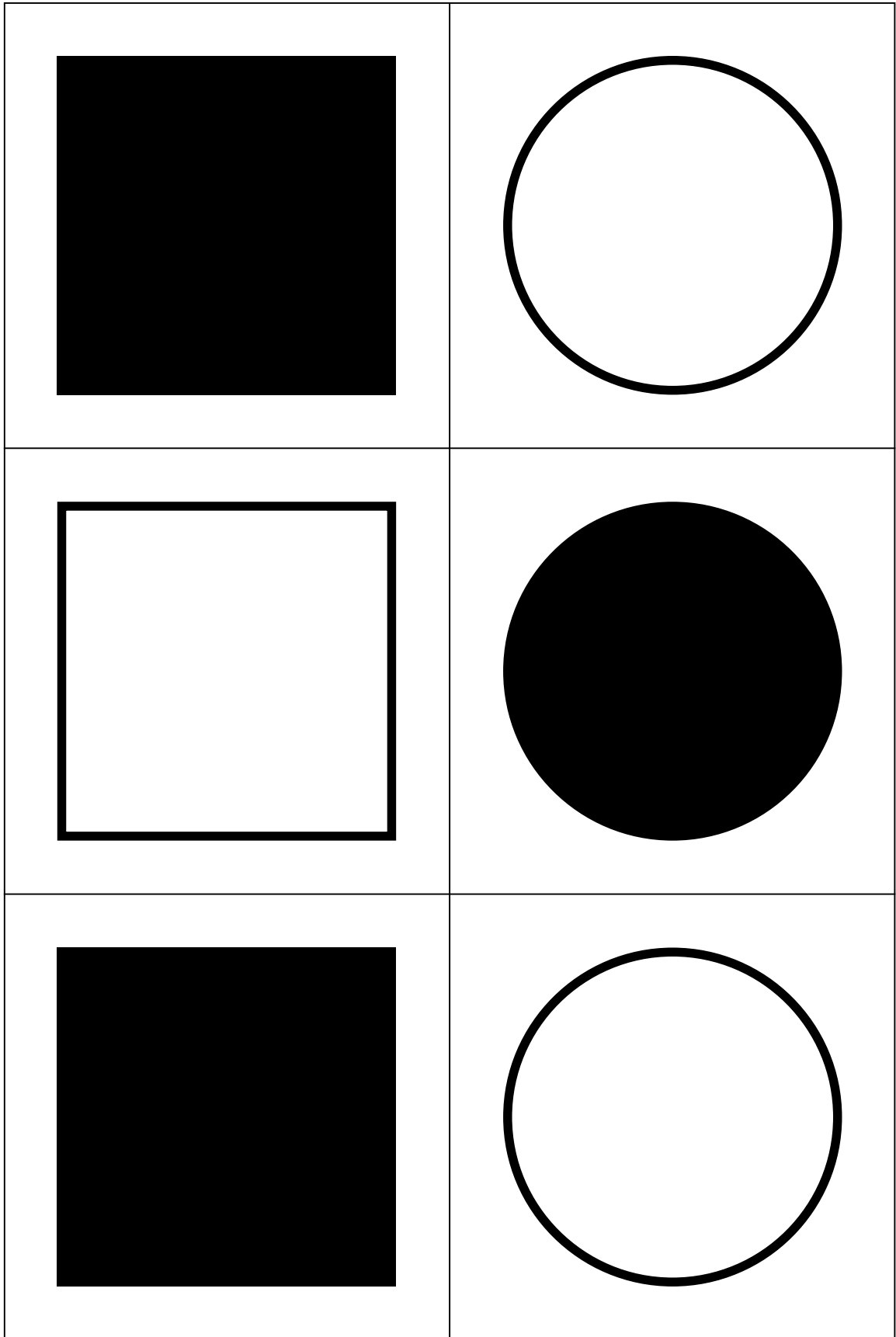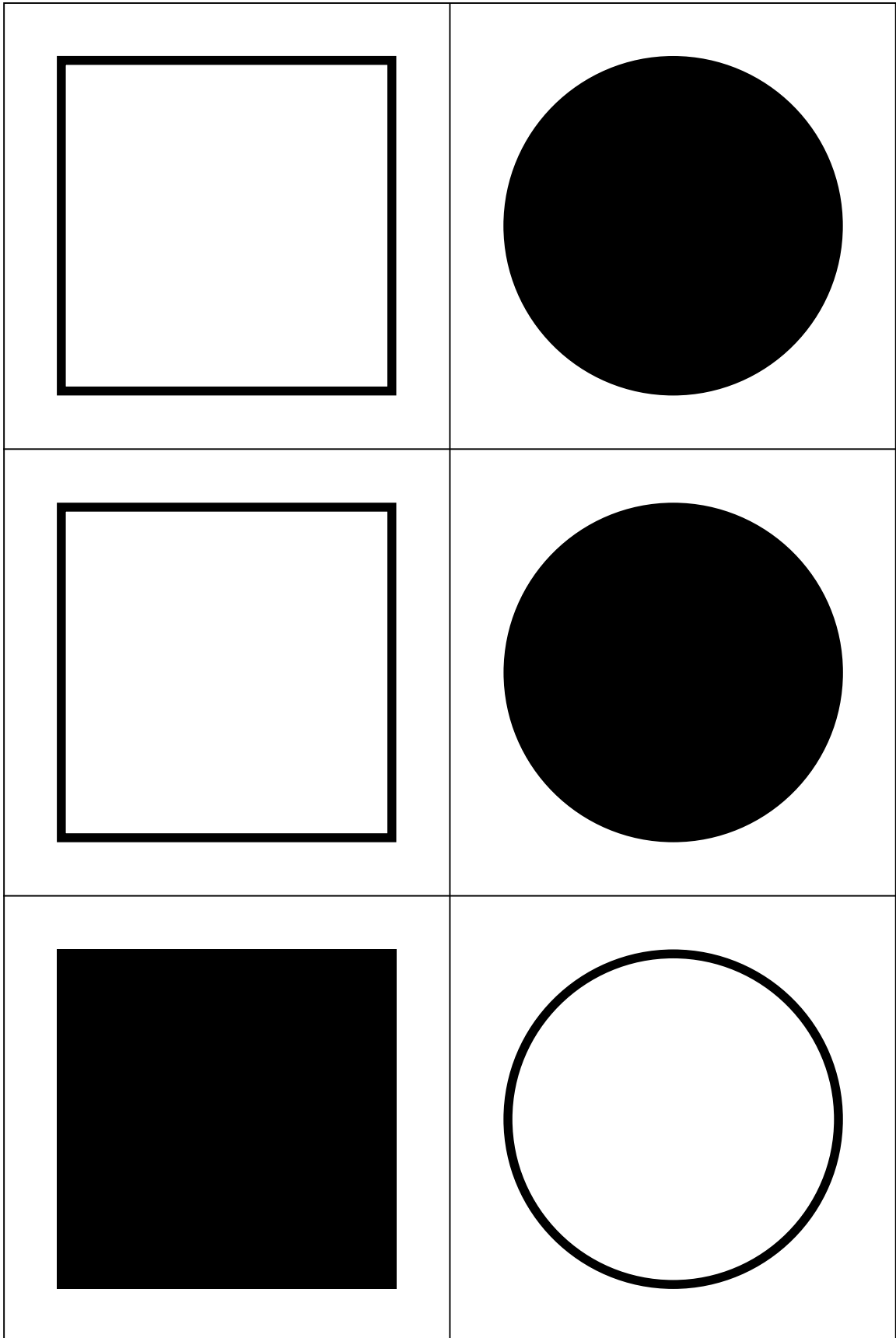
Name(s) .... **Date ....**

Identifying key words

Read this text. Identify eight possible key words. Write them in the box below.

> The whale shark is the largest fish in the world. This gentle giant grows up to 12 metres in length. It is believed that some whale sharks even reach 18 metres. They may look fierce, but whale sharks are no real danger to humans. They eat small crustaceans, squid and fish by filtering them through the screens in their gills.
>
> The shark is easily recognisable. It is dark grey, bronze or greenish-grey in colour and has a broad, flat head and a pattern of stripes and spots on its back. Its underbody is white or cream and it has ridges on its sides. Whale sharks swim with their mouths open so that they can filter their food as they move. They have about 300 teeth, but these are tiny and hooked, not long and pointed for tearing flesh.
>
> Occasionally whale sharks can be seen hanging vertically in the water to feed. They float with their tail fins straight beneath them, bobbing up and down to force water into their mouths and through their gills.
>
> These huge fish are often found in tropical and warm temperate seas, near coral reefs. If the water is warm, they may sometimes swim quite near the surface. The fish often travel alone but, in a few places in the world, they may gather in large groups, particularly where coral is spawning.
>
> Researchers are trying to monitor the sharks' migratory movements. These ever-hungry creatures migrate to follow their food and can be found off the Mexican coast, in the Western Pacific, off Queensland in Australia and in the Seychelles. The largest groups appear along the coast of East Africa from October to April.
>
> If you are ever lucky enough to see a whale shark, you might find that it has been tagged. Look out for the tag on its back near the dorsal fin. You probably won't get near enough to read the serial number but, if you do, notify your nearest Shark Research Institute.

Note your key words here.

Name(s) ....

Date ....

Homework: Searching for information

For each question, write a query that you could type into a search engine. Use AND, OR and NOT where appropriate. Add a few notes about how you could narrow down your search.

Information needed	Query for search engine	How to narrow down the search: brief notes
You need information about the history of your local area between 1800 and 1900.		
You want to buy the most recent book of poetry written by Brian Patten.		
You want to find the approximate cost of installing two security cameras in your home.		
You want to know if your favourite sportsperson has published an autobiography.		
You need some statistical information about Spain: total population, total area and average annual rainfall.		

The basics of a Google search

To enter a query into Google, just type in a few descriptive words and hit the 'enter' key (or click on the 'Google Search' button) for a list of relevant web pages. Since Google only returns web pages that contain all the words in your query, refining or narrowing your search is as simple as adding more words to the search terms you have already entered. Your new query will return a smaller subset of the pages Google found for your original 'too-broad' query.

Choosing keywords

For best results, it's important to choose your keywords wisely. Keep these tips in mind:

- Try the obvious first. If you're looking for information on Picasso, enter 'Picasso' rather than 'painters'.

- Use words likely to appear on a site with the information you want. 'Luxury hotel Dubuque' gets better results than 'really nice places to spend the night in Dubuque'.

- Make keywords as specific as possible. 'Antique lead soldiers' gets more relevant results than 'old metal toys'.

Automatic 'and' queries

By default, Google only returns pages that include all your search terms. There is no need to include 'and' between terms. Keep in mind that the order in which the terms are typed will affect the search results. To restrict a search further, just include more terms. For example, to plan a vacation to Hawaii, simply type:

Top of form

| vacation hawaii | Google Search |

Bottom of form

Automatic exclusion of common words

Google ignores common words and characters such as 'where' and 'how', as well as certain single digits and single letters, because they tend to slow down your search without improving the results. Google will indicate if a common word has been excluded by displaying details on the results page below the search box.

If a common word is essential to getting the results you want, you can include it by putting a '+' sign in front of it. (Be sure to include a space before the '+' sign.)

Another method for doing this is to conduct a phrase search, which simply means putting quotation marks around two or more words. Common words in a phrase search (e.g. 'where are you') are included in the search.

For example, to search for Star Wars, Episode I, use:

Top of form

| Star Wars Episode +I | Google Search |

Bottom of form

~ OR ~

Top of form

| "Star Wars Episode I" | Google Search |

Bottom of form

Capitalization

Google searches are NOT case sensitive. All letters, regardless of how you type them, will be understood as lower case. For example, searches for 'george washington', 'George Washington', and 'gEoRgE wAsHiNgToN' will all return the same results.

Word variations (stemming)

To provide the most accurate results, Google does not use 'stemming' or support 'wildcard' searches. In other words, Google searches for exactly the words that you enter in the search box. Searching for 'googl' or 'googl*' will not yield 'googler' or 'googlin'. If in doubt, try both forms: 'airline' and 'airlines', for instance.

Search by category

The Google Web Directory (located at directory.google.com) is a good place to start if you're not exactly sure which search keywords to use. For example, searching for [Saturn] within the Science > Astronomy category of the Google Web Directory returns only pages about the planet Saturn, while searching for [Saturn] within the Automotive category returns only pages about Saturn cars. Searching within a category of interest allows you to narrow in quickly on only the most relevant pages to you.

From http://www.google.com/help/basics.html

Name(s) ……………...............…… **Date ……………......**

Identifying key words

Work with a partner. Suppose you want to find the best way to get from London to Paris. Here are 16 possible words to use as key words for a search.

stations	**Paris**	**methods**	**rail**
transport	**Eurostar**	**holiday**	**trains**
London	**timetables**	**ferry**	**weather**
journey	**France**	**boat**	**travel**

Put the words into three groups:

- your first choice for key words for a search;

- words with similar meanings that could be used if the first words return too much information;

- less useful words that may seem relevant but are unlikely to return the kind of information you are looking for.

First choice for key words	Words with similar meanings	Less useful words

Add to the boxes any other words that you think would be useful.

Name(s) ....

Date ....

Searching for information

Seven questions are listed in the grid below.

- Find the answers to the questions or find appropriate information.

- Make a note of the search engine you used and the URL/website where you found the answers or information.

- Write a brief summary of the information.

Use one or more of these search engines.

http://www.excite.com/
http://www.google.com/
http://www.lycos.co.uk/
http://www.search.com/

Query	Search engine and URL	Brief summary of answer /information
What is the temperature today in Lincoln?		
What is the latest train to leave London for Manchester before 09:00?		
Where can you find information about rare breeds of sheep in the UK?		
List five key safety points or actions when hill-walking in the UK.		

Query	Search engine and URL	Brief summary of answer/information
Is there a zoo in Edinburgh?		
What is another name for a phascogale?		
Note five facts about the history of 10 Downing Street.		

Name(s) ....

Date ....

Homework: Finding information on the Internet

For each question make a note of the search engine that you would use first. Write the query that you would use to find the information.

Query	Search engine you would use first	Query for search engine
Who made the speech generally referred to as 'I have a dream'?		
Find a location map for Heathrow airport.		
What ways are there of travelling from Glasgow to Belfast.		
What is the habitat of the slow-worm?		
Find information on Milton Keynes for a family who would like to move there.		

Name(s) ....

Date ....

Information for Pat's report

Paste the information collected (text or images) in here.
Acknowledgement (reference, name of author or source):
URL of website or page where the information was found:
Brief description of the site (e.g. local government site for town's archaeological society):
Search engine used (e.g. www.google.com):
Query typed (e.g. Andover history map medieval):

Name(s) ....

Date ....

Information for Pat's report

Paste the information collected (text or images) in here.
Acknowledgement (reference, name of author or source):
URL of website or page where the information was found:	Brief description of the site:
Search engine used (e.g. www.google.com):	Query typed:

Name(s) ....

Date ....

Information for Pat's report

Paste the information collected (text or images) in here.
Acknowledgement (reference, name of author or source):
URL of website or page where the information wasfound: Brief description of the site:
Search engine used (e.g. www.google.com): Query typed:

Name(s) ....

Date ....

Information for Pat's report

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Acknowledgement (reference, name of author or source):
URL of website or page where the information was found: Brief description of the site:
Search engine used (e.g. www.google.com): Query typed:

Name(s) ....

Date ....

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Paste the information collected (text or images) in here.
Acknowledgement (reference, name of author or source):
URL of website or page where the information was found:
Brief description of the site:
Search engine used (e.g. www.google.com):
Query typed:

Name(s) ....

Date ....

Information for Pat's report

Paste the information collected (text or images) in here.

Acknowledgement (reference, name of author or source):

URL of website or page where the information was found:

Brief description of the site:

Search engine used (e.g. www.google.com):

Query typed:

accessible

accurate

AND

appraise

authentic

bias

Boolean connector

evaluate

fitness for purpose

hits

information source

intended audience

Internet

key word

locate

navigate

NOT

opinion

OR

plausible

precise

query

relevant

reliable

search engine

search method

URL

valid

viewpoint

web page

website

World Wide Web