

Lesson Sequence Plans

Using these teaching notes

These notes have been written with NQTs and other new teachers of ‘medicine’ primarily in mind. Two basic points will help you use them. Firstly this is not a set of lesson plans. It would be both naïve and arrogant to create lesson plans because only individual teachers of individual classes can create lesson plans. Each lesson plan needs to be tailored to the specific circumstances of each class – the students, time of day, nature of previous lesson, and so on. Therefore the following notes provide discussion of issues and ideas to think about when preparing your own lesson plans.

Secondly these notes do not simply repeat the details of the activities in the Student’s Book. If there is no mention in the following notes of a particular activity in the Student’s Book this doesn’t mean we’ve decided it’s no longer useful. We’ve just assumed you can read it for yourself and will use the Student’s Book and these notes to make your own decisions about how to use the resources.

These teaching notes:

- identify the main features in the Student’s Book and the main issues to think about in planning and teaching, based on many years’ experience of the problems students can have with this course
- list the available supporting resources in this TRB and in *Medicine and Health Through Time Dynamic Learning* 1, 2 and 3

- assume that you can use the series of activities laid out in the Student’s Book but suggest additional or alternative activities, often involving kinaesthetic versions of the textbook activities. Only *you* will know which of your classes will respond well to which approaches
- suggest ways of helping students identify the outline picture and key features of medicine in a period before going on to explore them in depth
- suggest methods of speeding up progress by, for example, dividing tasks between different groups in a class
- provide reminders of when to place the ideas, events and people of individual periods in the wider overview of medical history
- highlight opportunities to link activities to the over-arching enquiry ‘Why do people today have better health and live longer than people in the past?’

The activities in the Student’s Book all have the single heading ‘Activities’ and thus do not specify whether questions will be answered on paper or orally. This is because you may use the same questions for oral discussion with one class or as a written task with another, depending on the nature of the class, time of day, what lesson they had before, and so on. Only *you* can judge how best to use an activity at any particular time. However, we have indicated in these notes which activities are intended to be done as fast overviews and which as more measured analyses.

Section 1: The Big Story

<p>Rationale</p>	<p>In the past we might have called this section ‘Introduction’ but we’ve used a different section title because we want to flag up its importance. It’s all too easy to zip past an ‘Introduction’ to get to the start of ‘real’ work on ancient medicine. However, this section is important for two reasons:</p> <ol style="list-style-type: none"> 1) It enables students to develop an outline understanding of medical history and to see how this outline helps create an answer to the core enquiry. 2) It enables students to focus early on the overall enquiry question ‘Why do people today have better health and live longer than people in the past?’ <p>Experience shows that, while spending time on an overview seems to make for a slow start, students do better in their exam if they have gained a stronger grasp of the overall story of the history of medicine at the beginning of the course.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student’s Book pages 2–11 • Activity Sheets 1–6 • Dynamic Learning 3: Living Graphs and Medical Moments in Time illustrations.
<p>Exam Busters</p>	<p><i>Smarter Revision</i></p> <ul style="list-style-type: none"> • Living Graph (Student’s Book pages 6–7)
<p>Objectives</p>	<p>By the end of this section students should have:</p> <ul style="list-style-type: none"> • established a clear outline of medical history, which includes some key individuals, events and theories • identified how the Study in Development on the history of medicine fits into their overall GCSE History course and what it is aiming to achieve • identified the range of concepts and factors used in the study and begun to use some of the language of change and continuity • identified as the core question for this unit ‘Why do people today have better health and live longer than people in the past?’ and have begun to suggest answers to this question.
<p>New to teaching ‘Medicine’? Priority decisions</p>	<ul style="list-style-type: none"> • Are you going to begin with personal medical stories or go straight into the Big Story activities? • How many lessons on the Big Story are needed to make sure that students develop a strong grasp of the outline? • What level of detail in the outline is suitable for this particular class? • How will students record this outline for future use and how will you use classroom displays to keep it visible?

Introducing the core enquiry for the whole Development Study

This book has been written to answer an overall enquiry as well as covering an exam specification. Our core enquiry is: ‘Why do people today have better health and live longer than people in the past?’

(We know the words ‘on average’ should be in there but they would take away much of the clarity

and punch of the question.)

There are different ways of introducing this enquiry. One option is to do so as part of the activities in the Big Story (Student’s Book pages 2–7). Another option is to use a more personal story or stories to open up the core question. This ‘personal story approach’ could be taken in the very first lesson or after covering **pages 2–7** and before you move on to **pages 8–9**.

Personal stories are an extremely effective way of drawing students into topics, especially a personal story of your own or from your family, or one from a colleague, your class or a past student. Many teachers know the feeling of abandoning their teaching persona and talking about themselves to a class – suddenly students’ attention is deeper and more focused.

However, if you don’t feel comfortable with this approach then Activity Sheets 1A and B provide an alternative – in the form of two stories of other people. If you are an NQT with a new class, think carefully and discuss with colleagues how to approach a story-telling start. With some classes you might not wish to open up your own story so early and it may be better to play safe and use the stories on Activity Sheets 1A and B. While surgery appears to be the dominant element in these stories, behind surgery lie factors (see **page 9**) such as science and technology. Can students at this stage suggest how other factors might have helped or hindered medical progress?

The Big Story (pages 2–7)

Establishing a clear outline in students’ minds at the beginning of the course is important for exam success. The sooner they develop a sense of the overall story, the more time they have to deepen their overall chronological understanding and knowledge, with less chance of making mistakes in exams by putting periods in the wrong sequence or key developments in the wrong periods. An early grasp of the outline also makes it much easier to understand the full significance of developments in any individual period.

In addition, the core enquiry gives this outline a purpose, establishing some initial ideas about the answer (a hypothesis) to the question ‘Why do people today have better health and live longer than people in the past?’

Therefore **pages 2–5** help students create this outline and hypothesis for themselves. **Pages 2–3** are an introduction to the outline so you will spend a lot more time on **pages 4–5**, which enable students to tell the outline story for themselves and relate it to the core question.

Your first step in planning must be to clarify for yourself what constitutes a suitable outline for each class. Plan this in conjunction with a wall display that will be visible throughout the course (assuming that classroom facilities make this possible).

Pages 2–3 present ten clues for students to place in particular periods. This is about identifying their assumptions about medicine in each major period

and establishing some of the major continuities. You can tackle this activity using the book, or copy Activity Sheet 2 to create cards that can be moved and placed on a timeline.

- 1) Begin by focusing on the timeline and asking students which non-medical events, people or developments they associate with each period. This will establish a sense of each period.
- 2) Then move on to placing the clues. Either have small groups organise all ten clues and then compare results as a class. Alternatively, you could give each group two or three clues to concentrate on and then report back to the class on where they think they go on the timeline.

Here’s an answer guide – just in case it helps:

- A Second World War
- B medieval but used until at least the early twentieth century
- C Ancient Greece but the idea lived on
- D medieval but idea common from prehistory and lasted into nineteenth century
- E 1948
- F later 1800s
- G example from mid-eighteenth century but typical of similar cures throughout history
- H Ancient Greece but throughout
- I early 1800s and before
- J Ancient Rome.

- 3) Having put the clues into periods, pick out one or two items for discussion to introduce ideas of change and continuity. For example:
 - Could Clues B, G or H have gone in any other period? Lead into ideas about continuity and how long-lasting some ideas were.
 - Do you think everyone after the Romans had facilities such as those in Clue J? Lead into ideas about regression.
 - How long do you think the ideas in Clue C lasted?
 - Which clues suggest the period when there was most progress?
 - Which clues tell us about a really important turning point in medical history?

Move through **pages 2–3** quite quickly – it’s a stimulus activity to introduce the more detailed work on **pages 4–5**, which adds more key events, people and developments. From this information stems the main Big Story activity, in which groups of students present an outline answer to the core question by creating and telling their own outline history of medicine (**page 4**, Activity 1), using the information on the graph.

It is important to get two or three groups to make their presentations (so that students become used to seeing and thinking about the overview) and then discuss what they have in common and what the key features of this overview/answer are. Activity Sheet 6 can be used to sum up these key features.

This approach can be supported by using a simple kinaesthetic overview activity identifying the 'Big Ideas' of each period, such as 'Enquiry' for the Renaissance. This should take no more than 15 minutes. Some students wear tabards proclaiming a period Big Idea and the rest of the class have to put them into the right chronological sequence and explain in a sentence what each period Big Idea was. For full details see www.thinkinghistory.co.uk/ActivityBase/MedicineBigIdeas.html

Pages 6–7 then focus more closely on the individual themes (surgery, ideas about causes of disease, treatments and public health) and set up the first Smarter Revision task – recording the development of each theme as a graph. Students will continue this throughout the course, adding more detail after working on each historical period. How long you spend on this task at this stage will depend on the nature of the class. You could:

- a) tackle the graph-building task outlined in the activity, sending groups of students on a treasure hunt through the five Medical Moments in Time pages (**12–13, 50–51, 86–87, 118–19, 120–21**) so that each group builds up a different graph
- b) focus on starting the graphs at this stage by using **pages 12–13** only (on ancient medicine) to begin the four graphs.

Page 7 gives students the rationale for this activity and suggests different methods of recording the development of the graph. Activity Sheet 3 provides a template graph to complete.

Together, **pages 2–7** provide all the material you need to create wall displays outlining the history of medicine. These displays are an important reference as each period is investigated in more detail. If you use a heading for the display, consider using the core question as the heading rather than simply 'The History of Medicine'. Keep a display board available to update this outline on a regular basis during the course, adding details to

this initial pattern and amending the tracks of the graphs.

Helping students understand the context of 'Medicine' (pages 8–11)

You could use **pages 8–11** either before or after you cover the Big Story (**pages 2–7**). They are for brief reference early on in the course but you should revisit them later at least once to reinforce the ideas, certainly at the end of the Development Study. They aim to make clear to students how the Study in Development fits into their overall GCSE History course and identify the main concepts they will use. **Page 10** should help students appreciate that this SHP course is not a mix of randomly chosen bits of content but an introduction to a set of deliberately diverse approaches to history. Understanding how the whole GCSE course fits together can increase students' sense of achievement. You could also use Activity Sheet 5 to get across one of the main transferable skills that comes from studying History.

When you introduce the factors on **page 9** (and Activity Sheet 4), spend a little time exploring the role of factors in the story of medicine. Students need to understand how factors such as 'war' and 'government' can affect the development of medicine. One way to do this is to kit a couple of students out with tabards saying 'War' and 'Government'. Nominate another student to represent 'The development of medicine' and ask him or her to move across a timeline. Then physically show that these factors sometimes accelerate Medicine's progress, sometimes stop progress, and sometimes work together to help or hinder progress. You could also ask students to suggest in which periods they think each factor had most impact.

Outcomes to look for

- 1) Students' ability to give a simple but coherent account of medical history, using some conceptual language (such as 'change', 'continuity', 'progress', 'turning point') and referring to periods of history.
- 2) Students' ability to relate the information in the outline to the core enquiry.
- 3) Students' understanding of what factors are – not simply their names but their role in affecting events.

Section 2: Ancient Medicine

Why was ancient medicine so important when they didn't even know what made people sick?

<p>Rationale</p>	<p>It always feels as if there is a lot in Section 2 because it covers four different societies, identifies changes and continuities and analyses the importance of factors. However, it's best not to rush into the detail of prehistoric medicine but first use pages 12–15 to establish the key elements of ancient medicine as a whole. This will give students a sense of success and reduces the likelihood of them not being able to see the 'ancient medicine wood' for the 'individual detail trees'.</p> <p>It's also very important to make key topics memorable because, as the above section enquiry question suggests, many topics covered here will be returned to later. These topics include the balance of supernatural and natural thinking, the Theory of Four Humours, the work of Galen, and Roman public health. Role-play and other kinaesthetic techniques can be very helpful in making these key topics memorable, as shown in the examples given below.</p> <p>This section also contains several Smarter Revision activities listed below. They play an important part in building knowledge of major content areas and in establishing a firm base for later revision. They also show students techniques they can re-use in later sections.</p> <p>Two Exam Buster units (pages 46–49) introduce the Development Study section of the exam paper and begin the process of advising students on tackling individual question types.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 12–49 • TRB Activity Sheets 7–20 • Dynamic Learning 1: five activities (see page 12 of this TRB) • Dynamic Learning 2: animations on Egyptian ideas, Hippocrates and Galen • Dynamic Learning 3: Smarter Revision templates: Natural or Supernatural? How long did the ideas of Hippocrates and Galen last? Review story to write and voice-over.
<p>Exam Busters</p>	<p>Smarter Revision</p> <ul style="list-style-type: none"> • Memory map (pages 14–15) • 'Role of the individual' chart (page 27) • Digital camera (page 39) • Factors chart (pages 44–45) <p>Meet the Examiner</p> <ul style="list-style-type: none"> • Introducing Development Study questions (pages 46–47) • Answering 'describe' questions (pages 48–49)

<p>Objectives</p>	<p>By the end of this enquiry pupils should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • the key features of the four societies (Prehistory, Egypt, Greece and Rome) that affected medicine • the major developments in ideas about the cause of disease, treatments, public health, which factors helped and hindered the development of medicine in the period, and the contributions of Hippocrates and Galen • the features of ancient medicine that were to continue as key features of medicine for many centuries (supernatural explanations, herbal remedies, Theory of the Four Humours, advice on exercise and diet, the books of Hippocrates and Galen). <p>Students should also be able to relate developments in this period to the overview and core enquiry by being able to explain why people's lives were, on average, much shorter than today.</p> <p>In addition, students should have begun creating revision materials, using the memory map, factors chart, role of the individual chart and perhaps digital photographs.</p>
<p>New to teaching 'Medicine'? Priority decisions</p>	<ul style="list-style-type: none"> • How will students quickly establish a picture of the main developments in ancient medicine? • When will you introduce the Review activity on pages 42–43? • How will you make key topics memorable so that students retain their knowledge of them? • How will you help them understand the impact of factors? • How will you relate ancient medical developments to the overall core enquiry?

Introduction (pages 12–15)

These pages enable students to identify the key features of ancient medicine even though they appear to focus only on medical practice in the Roman Empire. Use the conclusions from the activities on **page 12** to start the memory map on **pages 14–15** (Activity Sheet 8) and to relate them to the core enquiry.

Turn this Medical Moment in Time into a team game, with each team of students taking one of the four topics in Activity 1 and competing against the clock (taking, say, 3 minutes) to see how much evidence they can find, before feeding back their results to the whole class. Students can use Activity Sheet 7 to annotate the picture.

Turnip mash was still used for chilblains into the twentieth century (see **pages 120–21** and the video on Dynamic Learning 1 featuring objects from the Thackray Medical Museum).

Having identified the key features of ancient medicine, introduce the Section Review Activity (**pages 42–43**). This shows students the target they are working towards and they can begin to suggest answers to some of the questions. You could take this

a step further at this stage by pencilling in some answers on the version of this Review on Activity Sheets 19A–E.

Prehistoric and Egyptian medicine (pages 16–25)

The balancing act here is to establish understanding of the basic issues without getting bogged down and feeling you are never going to get to the Greeks, let alone finish the course. Focus on recording basic information on the memory map and completing other activities orally, rather than creating lengthy extra notes.

On **pages 16–17** tackle Activity 1 by dividing the class in two: one half investigating hunter-gatherers, the other half investigating farmers. Then compare the answers from the two halves and record them on the memory map. In addition you can use Activity Sheet 9 to begin recording how key features in society affected medicine – in this case the benefits and problems of hunter-gathering compared with settled farming. (Those who have taught this course for some time will note the absence of familiar pictures of aboriginal medicine. These have been omitted because

they were ‘set up’ and portrayed an over-simplified and culturally inaccurate picture of what is actually a complex approach to medicine.)

Pages 18–19 focus on the natural/supernatural overlap in explanation and treatment. It is important that students see this as an overlap, not a conflict, and they should bring this out in Activity 1, the role-play. Why do this through role-play? Because many students will do it better orally and will enjoy the task – and acting it out will make it more memorable so that you can refer back to it later on with more confidence than students will remember the lesson. Which has the greater chance of being remembered – ‘do you remember when Andrew was a prehistoric hunter with a broken arm?’ or ‘do you remember when we did page 18 and you wrote down answers to how people with broken bones were treated in prehistoric times?’

For Activity 1 set students to work in groups of three on one of the medical problems. Give them plenty of time to research and plan properly, but only a short time for presentations – a time limit of 2 minutes perhaps. Use a digital camera to capture an image of each presentation and ask students to annotate key features or write an extended caption.

Pages 20–25 examine continuities and change from Prehistory to Egypt but also introduce explicit focus on factors. Begin with the illustration on **page 20** (Activity Sheet 10 and Dynamic Learning 2), hunting for similarities to and differences from prehistoric medicine and encouraging students to infer how particular factors (such as writing, travel, wealth and religion) might affect medicine. There is a lot to be dug out but do it at a fast pace, as a prelude to the factors activity on **page 25**. Key answers can be recorded by annotating Activity Sheet 10.

To focus on Egyptian ideas about how blocked channels caused disease try the short physical demonstration at www.thinkinghistory.co.uk/ActivityBase/WhatAncientEgyptiansDisease.html

This should take about 10 minutes. Do it before looking at the explanation and diagram in the book – then use the book (**page 24**) to consolidate the idea.

Pages 22–25 can be covered in two stages. Firstly use the Bingo Activity (Activity Sheet 11) to encourage students to skim-read and to realise that the emphasis is now on factors. Before you begin, ask how they need to go about ‘speed reading’ for it to be effective. You want them to understand that they are looking for key words and phrases. In other words, the factors are the key point. Set a short time limit to emphasise the importance of skimming. ‘Who can complete a Bingo line fastest?’ is the signal to start. Once the key factors have been highlighted, turn to

the recording activity on **page 25** (Activity Sheet 12) and set students to complete the chart.

As a consolidation activity on factors, give pairs the task of being a factor (*‘This afternoon, Mr Smith, we are going to be War’*). Their task is to spend one minute explaining War’s place on a ‘Helped Medicine–Hindered Medicine’ washing line (*‘War is at the Helped end because...’*).

Activity Sheet 13 can be used to record the placing of all factors – and later for all other periods.

In conclusion, make sure the memory map is up to date. If you have already introduced the Review Activity on **pages 42–43** you could now return to it and complete the Prehistoric and Egyptian sections.

Greek and Roman medicine (pages 26–41)

This is a vital section because of the long-lasting impact of Hippocrates and Galen so students must emerge clear on the basics of the work of these individuals. To emphasise their importance, begin by returning to your overview to show how long their influence lasted. In planning, focus on how to make work on these individuals enjoyable – and therefore more memorable.

It is equally important to emphasise the continuities from earlier periods (such as prayers to gods), as students often assume that Hippocrates changed everything and that everyone in the Roman period bathed regularly and avoided plagues. There were steps forward but students need to be clear that it’s the rational approach that is important rather than a significant improvement in health.

Pages 28–32 focus on Hippocrates. A good way to begin is a short role-play with you in the role of Hippocrates, explaining and demonstrating your Theory of the Four Humours. See www.thinkinghistory.co.uk/ActivityBase/FourHumours.html for the details.

This role-play has been kept simple because for most students simplicity and clarity is the key. It needs about 10 minutes plus any follow-up recording you wish to do. Focus on:

- the idea that having too much or too little of a humour was believed to cause illness
- treatments therefore focused on restoring the balance, for example by bleeding.

Having introduced this theory, use the ‘Role of the Individual’ chart on **page 27** (Activity Sheet 14 and Dynamic Learning 3) as your core recording activity. As this is the first such chart, model this by working with the class to build up a draft version on the board, to which they can add details to create their own final version.

Pages 32–33 emphasise the continuation of supernatural ideas alongside the natural ideas of Hippocrates. This needs impact to ensure students appreciate this continuity overlap. One method of doing this is for you, wearing a toga, to tell the story of your visit to an Asclepion, asking students to spot the natural and supernatural aspects of your experience. Alternatively use students to create a tableau of the story in Source 3, while you provide commentary and direct movements.

Pages 34–41 on Roman medicine can be built around the ‘washing line’ activity on **page 34** (Activity Sheet 15) recording old and new ideas and the evidence justifying where the topics are placed on the line. The work of Galen needs as much emphasis as that of Hippocrates. Teachers with a dramatic streak may again don a toga and gather students around a skeleton borrowed from the science department. Recount your efforts to find human bodies to study (using Source 1 on **page 36**) and then explain your achievements – make sure you stay in character as short-tempered and boastful.

From this performance, students could begin to fill in a Role of the Individual chart for Galen, completing it from **pages 36–39**. How much support you provide in completing this chart will clearly differ from class to class but at this stage careful guidance is usually the best option, perhaps by creating a draft to be finished by the class. The digital Summary on **page 37** (Activity Sheet 16) provides a second method of consolidating understanding of Galen’s impact and clearly this technique can be used later for other topics. This is again particularly worth doing because it’s such a memorable activity and so facilitates recall of detail.

Pages 40–41 summarise the strengths *and* weaknesses of the Roman public health system. It is important for the students to reach a balanced judgement; the aims and engineering of the Romans were far in advance of anything before the Victorians but still did not protect people from epidemic disease and were far from universally available. One way to get across both sides of the argument is to set up a game of ‘verbal tennis’ between two teams – two halves of the class. The first team begins ‘serving’ by stating one of the strengths of the Roman system (such as *‘aqueducts brought fresh water to towns’*), then the other team returns with a weakness (*‘sewers sometimes didn’t have enough water running through them to clean them out and this spread disease’*). This uses the information in Activity 2 on **page 40**. As an example of the limits of Roman medicine, Pliny the Elder advocated reducing labour pains by throwing a javelin over the roof of a house!

Review (pages 42–45)

Use the story strip on **pages 42–43** (Activity Sheets 19 A–E and Dynamic Learning 3) to consolidate students’ understanding. This is best done with pairs or threes working together to write their own captions. Afterwards they could record their versions as podcasts for revision. It’s important make it clear that the story strip isn’t simply about acquiring information about ancient medicine. It also:

- answers the section enquiry
‘Why was ancient medicine so important when they didn’t even know what made people sick?’
- relates to the overall core enquiry (about why health and life expectancy today are much better) by explaining why lives in the Ancient World were much shorter, on average.

Reference to these questions needs to be light touch but very clear. At this stage you should ensure that the memory map (**pages 14–15**) is complete and that the living graphs (**pages 6–7**) are up-dated. Also review your classroom display and relate work on this period to the Big Story established earlier.

Pages 44–45 (Activity Sheet 19) summarise the impact of factors. Remember to emphasise that sometimes a factor can have a positive effect, and other times a negative effect. Again, asking pairs to wear a tabard, become a factor and report on their impact makes a good summary activity along with Activity Sheet 13.

If you wish to use a kinaesthetic summary activity for a big finish to this section see

www.thinkinghistory.co.uk/ActivityBase/ChangeContAncientMedicine.html

This activity covers the major changes and continuities and also the roles of factors. Although there are several sections and you need to plan carefully it makes the key points of this enquiry very clear. If you wish to follow it up by recording the details it is a lesson’s work.

Exam Busters (pages 46–49)

These pages provide the first detailed guidance on tackling exam questions. **Pages 46–47** help students understand the nature of Development Study questions. Now that students are familiar with issues of change and continuity and the impact of factors, they will see these themes in these sample questions. Return to this page when you tackle ‘Meet the Examiner’ pages later so that students can see the context of individual questions. You can also use this page with ‘live’ papers, once they have been set.

Pages 48–49 provide the first detailed guide to teaching a particular question type – ‘Briefly describe ...’ questions. You will need to return to the ‘describe’ advice a number of times. Activity Sheet 20 provides the text of the student answer on **page 49** for annotation and improvement. You could enhance students’ ability to answer this kind of question by setting any of the following:

- Briefly describe the impact of religion on medicine in Egyptian times.
- Which medical treatments were provided at a Greek Asclepion?
- Briefly describe the work of Hippocrates.
- Briefly describe the work of William Harvey.
- Briefly describe how Jenner discovered smallpox vaccination.
- Briefly describe the main problems of public health in the early nineteenth century.

Outcomes to look for

The review activities will help you identify students’

understanding and knowledge of:

- 1) the key general features of each society and how they affected medicine at the time
- 2) the effects of both supernatural and natural thinking on medicine
- 3) the Theory of the Four Humours and Galen’s importance as a writer of medical books
- 4) the significance of some features of ancient medicine that continued to influence medicine for many centuries (supernatural explanations, herbal remedies, Theory of Four Humours, advice on exercise and diet, the books of Hippocrates and Galen)
- 5) why health was poorer and lives were, on average, much shorter than today
- 6) the roles of some factors in both helping and hindering medical developments.

Meet the Examiner pages help you identify the strengths and weaknesses of students’ ability to answer:

- ‘Describe...’ questions.

Section 3: The Middle Ages

Why didn't medicine improve during the Middle Ages?

<p>Rationale</p>	<p>The previous section on ancient medicine concentrated on changes and continuities and only introduced the roles of factors right at the end. This section reverses that balance. We begin with an outline survey of the changes and continuities (almost entirely the latter) before spending the bulk of the section concentrating on using the factors to explain developments in medicine. This separation of 'description' and 'explanation' should help many students who would find the intermingling of these two elements confusing. The emphasis on factors also allows the section conclusion to mesh with the 'Meet the Examiner' advice on answering questions about the impact of factors.</p> <p>Pages 50–57 help students build up an outline level of knowledge, highlighting the pattern of changes and continuities.</p> <p>Pages 58–73 identify and evaluate the effects of factors, using the chart on page 58 to collect evidence. This section also provides a chance to consolidate knowledge of the major developments in medicine.</p> <p>Pages 74–75 provide the opportunity to answer the section enquiry question on why there was no improvement in medicine. The 'Meet the Examiner' advice on tackling factors questions is therefore embedded within the main structure of the section rather than being tacked on as a separate item at the end.</p> <p>At this stage you can also link to the overall core enquiry question of why lives were shorter and health poorer in the past. While constant repetition of the core enquiry question would be wearing, occasional, carefully timed references are important to tie the whole course together. The section enquiry links directly into the core enquiry so it can arise naturally rather than being tacked on artificially.</p> <p>Pages 76–79 introduce the nature of the Source Investigation paper with a sample paper on the Black Death and guidance on answering inference questions, using the context of medieval public health.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 50–79 • TRB Activity Sheets 21–27 • Dynamic Learning 1: four activities (see page 13 of this TRB) • Dynamic Learning 2: short films of medieval healers at work • Dynamic Learning 3: activities on how Galen's work was preserved and on making inferences from sources about medieval medicine
<p>Exam Busters</p>	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Answering 'factor' questions (pages 74–75) • Historical Source Investigations – The Black Death (pages 76–77) • Using sources: 'inference' and 'cross reference': • Topic – Medieval Public Health (pages 78–79)

Objectives	<p>By the end of this enquiry students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • medical developments: <ul style="list-style-type: none"> • continuities in ideas about the causes of disease • continuities and occasional changes in treatments and surgery • decline in some public health facilities • events and factors that affected the development of medicine, particularly the collapse of the Roman Empire and the influence of the Christian and Muslim religions <p>Students should also be able to relate developments in this period to the overview and core enquiry by being able to explain why health was poorer and lives still, on average, much shorter than today.</p>
New to teaching 'Medicine'? Priority decisions	<ul style="list-style-type: none"> • How will you introduce this period to make an impact and create interest and get students thinking? • How will you establish an overview of changes and continuities? • How will you organise the detailed work on factors on pages 58–73? Will everyone do everything? Or will you divide topics between groups? • Will you use the Source Investigation paper to diagnose students' strengths and weaknesses in using sources? • How will you relate medieval medical developments to the overall core enquiry?

Introduction

It's a new period of medical history and classes may need lifting and enthusing. It's also important to get them into the habit of thinking for themselves, not waiting to be told things and given conclusions. A good starter is the predictive activity 'Introducing the Middle Ages' on Dynamic Learning 1, which will get students thinking about how key aspects of medieval life affected medicine and hence why medicine did not improve in this period.

This is important because:

- a) it requires real thinking about the connections between the nature of life in the Middle Ages and the kinds of medicine available
- b) it provides students with a chance to establish the key features of medieval medicine.

This helps reduce the chance of students seeing this and other sections as being solely about the acquisition of information. Instead it supports the idea of the whole Development Study being an enquiry to which understanding of each period contributes.

An alternative opening is to use a role-play in which you play the part of a medieval physician – a

medieval hat and maybe a black gown is the only costume you will need. This also enables students to spot similarities to and differences from Greek and Roman medicine and to ask you questions about your medical methods and ideas. How long you take on this depends on your own confidence in the role, the class reaction and how much detail you want to get across – but brevity (say 5 minutes) is a good idea for less experienced teachers. In planning this, start with a list of points you want students to take away and create a recording sheet for them (perhaps based on **pages 56–57**), identifying Greek and Roman features and asking them to note down the medieval equivalent from your performance. The degree to which students take this seriously depends at least as much on the clarity and usefulness of this task as on your dramatic recreation! See

www.thinkinghistory.co.uk/ActivityBase/MeetOswaldMedievalPhysician.html

Here again however – it's fun with a purpose. After debriefing from the meeting with the physician, students should be able to suggest reasons why medicine did not improve in the Middle Ages.

Identifying changes and continuities (pages 50–57)

Pages 50–51 provide an overview of the main features of medieval medicine as the Black Death approaches. Before you begin, however, use a timeline or classroom display to identify the Middle Ages and where the 1340s and the Black Death lie in relation to the period of the Roman Empire. Students need to be clear that we're starting at the end of the period to sum it up, then going back to the beginning later on **page 58**.

Pace is important in the activities on **page 50** – use clear time limits as students hunt for evidence and count the time down to maintain a sense of urgency. The specific examples in the speech bubbles all come from medieval sources.

Having completed this activity, it's a good time to begin a new memory map recording the key features of medieval medicine. Start it now, then build it up across the rest of this section.

Pages 52–55 use the Black Death as a case study to build up students' knowledge of medieval medicine. Activity Sheet 21 can be used to collect evidence of the nature of medieval medicine. Activity 1 on **page 52** could be tackled as a group competition against the clock. The story can be recapped using the decision-making activity on the Black Death on Dynamic Learning 1. The comparison in Activity 3, **page 52**, needs emphasis – plagues were equally common in the Roman Empire. The focus on **pages 54–55** is on continuities with Galen, in terms of supernatural explanations and remedies. All these features are reinforced later in this section although the main focus then is on the effects of factors.

Pages 56–57 summarise the features of medieval medicine that have been introduced on **pages 50–55**. This is a good point to build up your memory map on the Middle Ages and go back to your Living Graph summaries from **pages 6–7** and add details.

Why didn't medicine improve? (pages 58–73)

The factors chart on **page 58** (Activity Sheet 24 and Dynamic Learning 3) provides the core activity for this section. Everyone should work on **pages 58–61**, as these events (the fall of the Roman Empire and the impact of religions) are central to the specification. This will also allow you to model this activity for the class, looking at the impact of the key factors of war and religion.

Then use the summary on **pages 62–63** to look at

which factors have made the most impact. With some students and classes, you could act out this team talk, with students wearing factors tabards and yourself in the role of coach.

The main teaching decision for **pages 64–73** is whether you want:

- all students to work on every page (able students will cope with this but there's a danger for other students that the density of detail will obscure the main points about the impact of the factors) or
- groups to tackle individual pages and report back their findings to the whole class. (This is speedier and less likely to see students getting bogged down in detail. It gives a sense of pace, teamwork and individual responsibility across the class.)

We suggest you strongly consider option (b) but you must have an effective plenary session to ensure that all students have a fully completed factors chart to help them with the concluding activity (**pages 74–75**) and for revision.

Medieval surgery can also be explored using the short, filmed reconstructions on Dynamic Learning 2 of medieval healers (physician, surgeon and wise woman), featuring experienced re-enactors and one of the authors of this book.

Note that surgery was a topic that saw some improvement and challenges to Galen's conclusions because of the everyday practicality of surgeons' work. This brings out the duality of the impact of war – sometimes helping, sometimes hindering development. To support Public Health you could use the Activity on Dynamic Learning 1, investigating fourteenth-century London, which is based on the activity in the 1996 'White' medicine book (Dawson & Coulson).

Meet the Examiner and Review (pages 74–79)

The Meet the Examiner unit on **pages 74–75** introduces students to the process of answering factors questions, thus rounding off the work on the previous pages. The same approaches can obviously be taken if the question is focusing on another factor and you may wish students to practise drawing up a short plan for a question on war, for instance. Other examples of this kind of factor question that can be used later are as follows:

- Explain ways in which chance has had an impact on medicine.
- Explain why Vesalius was able to make so many discoveries about the human body at that time.

- Explain why there was so much improvement in public health in the second half of the nineteenth century.
- Explain why there was so much opposition to anaesthetics and antiseptics in the nineteenth century.

This is a good time to use the work on factors to sum up the answer to the section enquiry on why there was no progress in medicine in the Middle Ages. (It also acts as a breather before the other exam focus on the Source Investigation.) At the same time, you can relate the absence of progress to the overall core enquiry about why lives were shorter and health poorer in the past. Again, reference to these questions needs to be light touch but very clear. You could use Activity Sheet 24 to record answers.

At this stage, you should also ensure that the memory map (**pages 14–15**) is complete and that the living graphs (**pages 6–7**) are updated. Also review your classroom display and relate work on this period to the Big Story established earlier.

Developing Source Investigation skills

Pages 76–79 introduce the Source Investigation paper. The Black Death topic on **pages 76–77** has a two-fold purpose – it shows students the kinds of questions they will face and it can be used to diagnose students’ strengths and weaknesses in using sources. This paper could have been used immediately after the earlier work on the Black Death but we decided to place it here so that a change of emphasis on to source work did not disrupt the thread of investigation into the nature of medieval medicine.

It is important to note that source skills should be developed throughout the GCSE course, including the Study in Development, not just be dealt with in a ‘box’ labelled ‘exam preparation’. The documentary and visual sources in this book provide numerous opportunities to improve comprehension, inference and other skills. In addition, material on Dynamic Learning 1, 2 and 3 is designed to develop students’

ability to use sources.

Pages 78–79 then focus on the first of the specific source-handling skills – making inferences and cross-referencing sources, using the topic of Medieval Public Health, one of the case studies for the Source Investigation. Copies of the sources for annotation are on Activity Sheets 26 and 27. Further practice in making inferences from sources can be gained from the activity on Dynamic Learning 3 ‘What do they tell us about medieval medicine?’

Outcomes to look for

The Review and Meet the Examiner activities will help you assess students’ understanding and knowledge of:

- 1) the key general features of medieval society and have some sense of how these changed in the later Middle Ages (such as the importance of religion, kings’ concentration on war, low levels of literacy and growth of universities)
- 2) the continuities in everyday medicine for ordinary people (such as the belief that God sent disease and the use of herbal remedies)
- 3) continued belief in the Theory of the Four Humours among qualified physicians and dependence on Galen’s books
- 4) the roles of factors, particularly in hindering medical developments
- 5) why people were unable to understand the cause of the Black Death and prevent its spread
- 6) the nature of public health provision and how it compared with Roman public health
- 7) why health was still poorer and lives were still, on average, much shorter than today.

Meet the Examiner pages help you identify the strengths and weaknesses of students’ ability to:

- answer questions evaluating the role of a single factor
- write effective explanations using connectives.
- make valid inferences from sources
- make valid cross-references between sources to make comparisons.

Section 4: The Renaissance

Why was the medical Renaissance important when it didn't make anyone healthier?

<p>Rationale</p>	<p>The major problem faced by students working on this period is establishing an accurate sense of the balance of change and continuity. Students can be misled – by the teaching time spent on new discoveries and techniques – into thinking that medicine had been transformed by 1700. They can also assume that because new ideas were an improvement they were automatically taken up straight away. Because students are young and accustomed to novelty, they sometimes find it hard to give due weight to the power of conservatism. Therefore this section tackles this problem head-on by building the central activity around the clash between conservatism and enquiry. The concluding Exam Buster material also grows directly out of this core issue, helping students to develop the skill of evaluating statements about change and continuity and enabling you to link into the core enquiry for the whole book.</p> <p>Pages 80–85 establish the wider changes taking place in this period and set up the core activity on the struggle between enquiry and conservatism. This activity sets students to collect evidence to see which boxer in a boxing match between ‘Enquiry’ and ‘Conservatism’ came out on top by 1700.</p> <p>Pages 86–87 provide a Medical Moment in Time illustration so that students quickly gain an overview of changes and continuities and can immediately start collecting evidence.</p> <p>Pages 88–99 provide more detailed evidence for each of the boxing match rounds (including Vesalius, Harvey, surgery and public health) so that students can build up evidence in the chart from pages 84–85.</p> <p>Pages 100–03 (plus Activity Sheets 32 and 33) provide the conclusion to the enquiry, giving guidance on answering exam questions about change and continuity and at the same time enabling students to answer the section enquiry question. This is followed by two concept mapping activities, summarising the reasons for the changes and continuities in this period.</p> <p>Pages 104–05 focus on quack doctors and give practice in placing sources in their historical context and evaluating sources.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student’s Book pages 80–105 • TRB Activity Sheets 28–33 • Dynamic Learning 1: four activities (see page 13 of this TRB) • Dynamic Learning 2: Harvey and the circulation of the blood • Dynamic Learning 3: How would you treat Charles II? How would you try and stop the plague in 1665?

Exam Busters	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> Evaluating change within a period (pages 100–01) Evaluating sources: Topic – Quack Doctors (pages 104–05) <p><i>Smarter Revision</i></p> <ul style="list-style-type: none"> Concept map (pages 102–03)
Objectives	<p>By the end of this enquiry students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> features of the Renaissance that affected the development of medicine, including attitudes to enquiry, printing and art major developments in medicine, particularly the increased focus on scientific methods reflected in the work of Vesalius, Harvey and Paré why this was an important period in medical history, providing the basis for later development the extent to which most medical practice had not changed and why new discoveries had not immediately led to better health. <p>Students should also be able to relate developments in this period to the overview and core enquiry by being able to explain why health was poorer and lives still, on average, shorter than today.</p>
New to teaching ‘Medicine’? Priority decisions	<ul style="list-style-type: none"> Do you start by focusing on the changes or the continuities? If the continuities are often underestimated by students, would it help to start with them? How will you create a sense of discovery about the ideas of the Renaissance? How will you organise the detailed work on factors on pages 88–99? Will everyone do everything or will you divide topics between groups? How can you help students distinguish between new theories and knowledge and the continuities in everyday medicine? How will you relate Renaissance medical developments to the overall core enquiry?

Introduction (pages 80–81)

It is important at the outset to reinforce students’ sense of chronology – both the placing of this period in time and what kinds of events were happening in around 1400–1700. For example:

- Can they place the Renaissance on a blank timeline?
- Which events and people do they remember from Key Stage 3? What was and was not changing at this time? (There were major technological changes, such as the development of printing, gunpowder, art and knowledge of the wider world but many aspects of daily life showed little sign of change.)

Students need a sense of a changing world but one in which change is slow and surrounded by a lot of continuities. This discussion can then lead into **pages**

80–81, which link general breakthroughs in the period to three key medical discoveries. The main points to establish here are that:

- there were some significant medical changes, which were not happening in isolation – they were linked to wider changes in thinking
- these didn’t make people healthier – as announced by the town-crier on **page 80**.

It’s important to spend a few minutes focusing on this conundrum – can students suggest why important changes didn’t make people healthier? If necessary, look back at their overview created in the Big Story section to consider the changes that followed in the nineteenth century and after.

A good and motivating way to emphasise the lack of change in treatments is the ‘How would you treat Charles II?’ decision-making activity (Activity Sheet

28 and Dynamic Learning 3). This activity has often been used in previous textbooks (see ‘White’ Medicine book pages 106–07) but we left it out of the main book this time as it works even better as a Dynamic Learning activity.

Having had the fun of making the decisions, students need to think about how much evidence of changes they have come across in treatments and ideas about medicine. The answer is ‘none’ and there’s no evidence of the impact of Vesalius, Harvey or Paré. This again raises the core question of why important breakthroughs didn’t affect health and, secondly, why were they so important if they didn’t affect health?

Introducing the core activity – the Big Fight between Conservatism and Enquiry (pages 82–85)

Pages 82–83 need careful coverage to convey the ideas clearly. After reading or listening to your explanation, it is important for students to explain the key ideas here in their own words.

Activity Sheet 29 provides a copy of the chart on **page 85**, which doubles as a summary and score card for the main boxing match activity. Activity Sheet 30 and the ‘commentary’ activity on Dynamic Learning 3 enable students to draft and record their commentary on the fight between Enquiry and Conservatism, which could then be recorded as a podcast for revision. Make sure the conclusion to this commentary links directly into the section enquiry about the absence of impact of the breakthroughs on health.

Establishing a summary of continuities and changes (pages 86–87)

Pages 86–87 (Medical Moment in Time – London 1665) provide a summary of medical changes and continuities that can be used to kick-start the boxing match activity. Divide the class into six groups, with each group investigating one topic (‘round’) for the chart on **page 85**. Give them a short time limit, then report back so that everyone can begin to fill in column 3 of the chart, which details medical ideas and practice. This division into groups gives everyone experience of this task without it becoming overly prolonged. Then model the commentary, using this first set of information. Provide your own commentary on one round and ask each group of students to provide their own on the round they researched.

The Big Fight – collecting evidence of enquiry and conservatism (pages 88–99)

Now that the outline has been established, you again have a choice of strategy:

- 1) Every student (perhaps in pairs) works with every spread between **pages 88–99**, completing their own chart and commentary. This ensures that everyone is exposed to plenty of information. For many students there is a danger of their minds being cluttered by too many details and this obscuring the overall pattern. However, this is a good strategy for able students who are capable of working quickly, independently and efficiently.
- 2) Work as a class on Vesalius (pages **88–89**), modelling the activity and recording the evidence in the chart, then ask every student to work on Harvey or Paré, following the path established on Vesalius. This gives practice and emphasises the importance of good feedback to the whole class so that everyone can build up evidence on the pages they haven’t worked on directly. Finally, divide the topics on **pages 94–99** (rounds 3–6) between groups, with each group tackling a different ‘round’.

This latter approach may provide the best balance of confidence building, independence and completing a full set of notes for revision. Students can support their chart by completing Role of the Individual Charts (Activity Sheet 14 and Dynamic Learning 3) for Vesalius, Harvey and Paré.

Harvey’s work on the circulation of the blood can be puzzling for many students – explanations and diagrams never seem to work well in books. To give a more effective explanation, try a physical activity explaining his discovery at www.thinkinghistory.co.uk/ActivityBase/ArteriesHarvey.html

This activity takes 10 minutes, requires a couple of tins of tomatoes instead of blood, and will give whichever student plays the role of ‘the heart’ plenty of exercise!

Having completed column 3 of the chart on **page 85**, spend some time completing column 4 (the scorecard column). Identifying the evidence for the scoring provides effective revision. The task of writing their own commentary is a really helpful way of consolidating students’ knowledge.

Commentaries written, ask two or three groups to give their commentaries, with the prize going to the best ‘commentary performance’. Then relate the task back to the overall question about why health was no

better despite the breakthroughs – what reasons can students now suggest to explain this paradox?

Review and Meet the Examiner

Pages 100–01 provide the overall Meet the Examiner advice on answering questions about the balance of change and continuity in a period, using this example of Renaissance medicine. The material is very structured, with a particular emphasis on writing effective conclusions. This is a page you may wish to return to when tackling other examples of this kind of question.

Pages 102–03 move on to explore the reasons for the continuities in this period. This activity introduces concept maps (see also Activity Sheet 32 and Dynamic Learning 3), which offer an opportunity for kinaesthetic activity, using the artwork on **page 103** as a guide. Some students will understand far more about the impact of factors if they take part in this kind of physical activity than if it is completed as a paper exercise. **Pages 102–03** provide a nearly completed example, showing which factors played a part in hindering development and concentrating on students identifying the roles of the active factors and the links between them. If you wish, you could then use Activity Sheet 33 to analyse the reasons for change at this time. Activity Sheet 33 is more demanding, asking students firstly to decide which factors helped create change before moving on to the other stages.

In previous sections this would have been the moment to link the developments in this period to the overall core enquiry about why lives were shorter and health poorer in the past. However this link is made explicit in the ‘bridging’ Section 5 that follows so there is no need to do so here.

Pages 104–05 return to developing source skills, focusing on the topic of quack medicine and helping students develop their ability to evaluate the usefulness of sources by relating them to their

historical context and decide on their usefulness for a particular enquiry. Before you begin, you could make sure students are aware of how this fits into their assessment – show them a Paper 2 or refer back to the sample paper on **pages 76–77**.

For more sources and work on quacks, see Colin Shephard and Rosemary Rees, *OCR Medicine Investigations*, Hodder Education, 2004.

Outcomes to look for

The Review and Meet the Examiner activities will help you assess students’ understanding and knowledge of:

- 1) the key features of Renaissance society that led to changes in medicine and how these were connected, particularly the development of a questioning, enquiring attitude
- 2) the continuities in medical knowledge and treatments, including belief that God sent disease and continued belief in the Theory of the Four Humours among qualified physicians and dependence on Galen’s books
- 3) why important medical breakthroughs had not led to improved health or life expectancy by 1700 but had created the basis for later improvements
- 4) the roles of factors in both helping and hindering medical developments.

Meet the Examiner pages help you identify the strengths and weaknesses of students’ ability to:

- assess the balance of change and continuity in a period, using this example of Renaissance Medicine
- write effective conclusions, directly answering a question and avoiding ‘sitting on the fence’.
- place sources in their historical context as part of the process of evaluating their usefulness
- evaluate the usefulness of a source for an enquiry.

Section 5: Medicine in 1800

Medicine in 1800: on the brink of progress

<p>Rationale</p>	<p>So far the emphasis has been mainly on the continuities that explain why health and life expectancy were often poor compared with today. However, now we are about to leap into significant discoveries and increasingly rapid change. Rather than racing ahead, this section offers the chance to pause for breath so that students can consolidate their big picture of major medical developments – firstly up to 1800 and secondly after 1800. Each of these short sections can be clearly related to the overall core enquiry. Within this overview is embedded a case study on Jenner and vaccination, This is an ideal opportunity to look at the balance of old and new attitudes and to build up source skills.</p> <p>Pages 106–07 provide a summary of medical developments so far in chart form. Students can use this as the basis for exam practice (on page 109) in tackling questions assessing the balance of change and continuity from the Greeks to 1750.</p> <p>Pages 110–17 investigate Jenner and vaccination, identifying the mix of enquiry and conservatism that still existed, and then helping students develop specific skills for use in the Source Investigation paper.</p> <p>Pages 118–23 look ahead from 1800, using Medical Moments in Time pages for 1848 and 1935. These build up an overview of the key medical developments after 1800 and the pace of change, which together explain improving life expectancy.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student’s Book pages 106–23 • TRB Activity Sheets 34–41 • Dynamic Learning 2: Jenner and vaccination explanatory animation • Dynamic Learning 3: What can we learn about Jenner? – source activities, Medical Moments in Time pages
<p>Exam Busters</p>	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Evaluating change and continuity across periods (page 109) • Reaching overall judgements, using sources and your own knowledge: Topic – Jenner and vaccination (pages 114–17)
<p>Objectives</p>	<p>By the end of this enquiry students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • the overview of medical history to around 1750, including major developments and the pace of change and continuity • how these developments explain why health was poorer and lives, on average, shorter than today but also how such developments were beginning to create the possibility of improvement • the major developments in medicine after 1750. Students should also have begun thinking about which of the themes have contributed most to improved health and life expectancy.

<p>New to teaching ‘Medicine’? Priority decisions</p>	<p>This is predominantly about pace – balancing the need for overview with the danger of slowing down too much.</p> <ul style="list-style-type: none"> • Pausing to look back is important for consolidating knowledge and maintaining a sense of the overview but how long will you spend on pages 106–09 without losing momentum? • How will you make concrete the mix of conservatism and enquiry in the story of vaccination? • How long will you spend on the looking-ahead overview? Will you, for example, ask students to create their own medical Moments in Time page for today? • How strongly will you focus on the activities on pages 122–23 that relate directly to the overall core question about improving health and life expectancy?
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Why hadn't life expectancy improved by the 1750s? (pages 106–09)

Unlike other sections, this ‘bridging unit’ has no overall introduction so you go straight into this first part. The activities on **page 107** give an overview of the main developments so far and relate them to the overall book enquiry question. An alternative, before using the book, is to set students the task of creating their own timeline for one of the core themes to test their recall and understanding. Give them a short time limit, say 4 minutes, then compare their versions with those in the book. This is a good exercise for strengthening recall. Then use the activities in the book for oral discussion rather than written work.

This is also the time to make sure that the continuing Smarter Revision activities (Memory Maps, Role of the Individual Charts, Factor Charts and Living Graphs) are up to date.

The Meet the Examiner activity on **page 109** also consolidates the overview but here it is worth taking time to develop written answers as exam practice. One way to build up confidence is to get pairs or threes working on drafts, then ask students to write up their individual versions as homework. Effective discussion in groups has been shown to have a really beneficial impact on written work because talking about the topic or questions allows students to try out the ideas and structure before putting it down on paper. Without the talking stage, written work can just be a jumble of ideas.

In contrast, the factors activity on **page 108** need only involve discussion, with groups deciding who they would give the medals to (Activity Sheet 34 provides a scorecard to complete), then reporting back to the class – and, most importantly, explaining the reasons for their choices.

Jenner and vaccination (pages 110–17)

This topic is one of the case studies for the Historical Source Investigation paper so this material provides a focus for source work. However, we have also used it to get across the idea that medicine in around 1800 was on the brink of change, with Jenner representing the developing ideas about enquiry – but still in conflict with conservatism.

Begin with the picture on **page 110** (also on Activity Sheet 35 and Dynamic Learning 3). Firstly, see what answers students can suggest to the questions around the picture. This helps them focus on the details in the picture. Then set a speed-reading task to find the answers from **pages 111–13**. The time limit will vary from class to class. Remind students of the speed-reading task on Egyptian medicine and ask how they need to go about ‘speed reading’ for it to be effective (looking for key words and phrases and keeping the questions in mind being the key points). For an easier task and faster outcome, divide the questions between groups but make sure each question is given to more than one group so that you can compare answers at feedback time.

This task familiarises students with the main features of Jenner’s work and reactions to it. You can then consolidate their knowledge by asking them to complete the diagram activity on **page 113** (Activity Sheet 36) and then by setting students to complete a Role of the Individual Chart for Jenner (Activity sheet 14).

Now that students are familiar with Jenner’s work, turn to **pages 114–17** for practice in answering the type of question that concludes the Source Investigation exam. Activity Sheets 37 and 38 provide copies of the pictures for annotation. **Page 117** provides an outline plan and detailed guidance on

using sources but you can use different strategies in setting the tasks up:

- a) Each student writes an individual answer – this is good for diagnosing their individual strengths and weaknesses and tailoring future help to improve their work
- b) Ask students to work in small groups (no more than three), sharing ideas and drafts. This is a better strategy for building skills and will help less confident students. In this case start by discussing paragraph 1 with the class, then let groups develop a draft, then move on to paragraph 2 and so on. This takes time but provides excellent exam preparation.

When and why did life expectancy improve after 1800? (pages 118–23)

Pages 118–21 provide an overview of key developments from 1800 to today. The essence again is pace, using the Medical Moments in Time illustrations for 1848 and 1935 (also on Activity Sheets 39–40) to compare developments and think about the pattern and pace of change. Everyone has to work on both illustrations (and again work to time limits to focus research) but the best comparative strategy is to tackle questions 1 (on changes and continuities) on **pages 118** and **120** together, then move on to question 2 and finally to question 3.

You could also ask students what they would put into a Medical Moment in Time picture for today. As a class, they could create a planning brief for an artist, identifying the features to be drawn and the speech bubbles to be added. Use the themes in the 1848 and 1935 illustrations as ideas for comparison.

The Medical Moments illustrations lay the basis for the overview chart on **page 123**. You can help students focus on the details by:

- a) asking them to summarise in two or three sentences the main developments in one of the themes
- b) beginning memory maps for the nineteenth and twentieth centuries and adding details to the living graphs for each theme
- c) using the activities on **page 122** (see Activity Sheet 41 for cards to complete).

Thinking and hypothesising about why health and life expectancy have seen such improvements since 1800 provides the best means of linking the themes that will be studied in Sections 6–9 and relating back to the core question at the heart of the book. It's worth taking this idea seriously because it is one way of helping students get a perspective on the differences between their lives and their ancestors' lives. Put up on the classroom wall the theory that is chosen at this stage, then come back to it after Section 9 and see if it stands up to the evidence or if the students wish to change it.

Outcomes to look for

The Review and Meet the Examiner activities will help you assess students' understanding and knowledge of:

- 1) the overview of medical history to around 1750
- 2) which factors had the most impact on medicine to around 1750 and how they affected medicine
- 3) the work of Jenner and how this shows the balance of scientific enquiry and conservatism in around 1800
- 4) the key developments in medicine after 1800 and how they contributed to improving health.

Meet the Examiner pages help you identify the strengths and weaknesses of students' ability to:

- assess the balance of change and continuity over a long period of time.
- use sources and knowledge to evaluate a statement.

Section 6: Fighting disease after 1800

Which medical hero deserves the statue of honour?

<p>Rationale</p>	<p>This section brings together the work of Pasteur and Koch and the development of antibiotics. The major problems arise when students struggle to:</p> <ul style="list-style-type: none"> • pick out the particular importance of each development • identify the connections between these developments • separate the science from the history. <p>Explanation needs to be in terms of factors (such as war, government and the broad category of science and technology), not the minutiae of experiments. So don't overdo the science!</p> <p>To help overcome these problems, students are given the task of deciding which breakthrough was most significant. This requires them to focus on the particular contribution of each development to the fight against disease and how they were inter-related.</p> <p>The Meet the Examiner section, analysing the comparative importance of individuals, therefore emerges directly from the theme of the section and so acts as a conclusion. At this stage, you can return briefly to the overview activity on page 123, looking at the reasons why health and life expectancy have improved so much.</p> <p>Finally, there is further practice in Source Investigation skills, providing more context for the topic of Penicillin and focusing on analysing why sources can disagree.</p> <p>Warning: we have included brief reference to the discovery of DNA, which is not mentioned in the specification. This is simply to bring this story a little more up to date but doesn't require detailed coverage.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 124–41 • TRB Activity Sheets 42–44 • Dynamic Learning 1: activities on Pasteur and Penicillin • Dynamic Learning 2: magic bullets animation • Dynamic Learning 3: the story of Pasteur and Koch
<p>Exam Busters</p>	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Improve your time planning on Development Study questions; tackling 'iceberg' questions (pages 136–37) • Improve your time planning for your Source Investigation exam: Topic – Penicillin (pages 138–41)

Objectives	<p>By the end of these enquiries, students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> the work of Pasteur and Koch: the reasons for their breakthroughs and their significance in the overall pattern of medical history how their work was linked to later developments in the fight against disease how antibiotics were first discovered and then developed and the medical significance of this development the contribution of these developments to improved health and life expectancy.
New to teaching ‘Medicine’? Priority decisions	<ul style="list-style-type: none"> How are you going to explain <i>simply</i> the theory that germs cause disease? How will you help students see the connections between the various developments? Is the class ready to tackle the whole Source Investigation paper on Penicillin as exam practice? Or will you save this for later use?

Introduction (pages 124–27)

This topic can go wrong at the first hurdle if we assume that students know what causes infectious diseases. If they don't know that bacteria (also referred to as germs or microbes) are the cause, then the revelation of Pasteur's germ theory overturning centuries of other ideas won't seem as significant as it should. So begin by asking students why they recently caught a cold and (briefly) how people had explained such illnesses earlier in history – focus on the Theory of the Four Humours, 'gods and spirits' and bad air. Save early nineteenth-century ideas such as spontaneous generation for later. You could also refer ahead to **pages 194–95**.

Pages 124–25 provide an overview. Getting a good grasp of the particular significance of each development is critical here because the close proximity of science can fluster both students and some teachers. Therefore the five discoveries have been grouped under three key headings – Understanding, Prevention (stopping people catching diseases) and Cures (curing people once they have caught something). This is an over-simplification but a necessary one, which helps everyone see the pattern more clearly. DNA is the sixth discovery, which may lead to both prevention and cure. DNA isn't mentioned in the specification but many students will know of its importance so we have included it to place it in its correct context. Here above all we have tried to keep the 'science' simple – this is History, after all, not Chemistry or Biology or any other mysterious discipline.

Page 126 presents the core activity for this section, creating a statue to honour the most significant contribution. We have asked students to honour an individual, as this is a simpler concept to introduce. However, as the section develops, they should realise that the statue could contain figures of more than one person or could relate to factors and they can use the statue base to represent the mix of these elements. **Page 127** provides an important link back to the development of enquiry and scientific method and the work of Jenner. This context is important to emphasise as it helps students understand that Pasteur's work did not materialise out of nowhere, simply as a product of his individual creativity. The activities here show that:

- people had been seeking a logical explanation for disease for many centuries (the Theory of the Four Humours and 'bad air' being logical despite being wrong)
- Jenner's work on vaccination had been a scientific cul-de-sac in medicine (albeit a tremendously important cul-de-sac in terms of human benefits) because he did not know why it worked
- the microscope and other technological developments were enabling scientists to investigate the body much more minutely than ever before
- this had all led to other theories, notably spontaneous generation, which was linked to bacteria but drew the wrong conclusion from their existence.

The key developments (pages 128–33)

The work of Pasteur and Koch (**pages 128–31**) can seem like the most complex part of the whole course, largely because it's easy for students to feel bombarded by individual developments. Hence we have tried to show the links clearly through the diagrammatic activity on **page 128** (and Activity Sheet 42). Completing this diagram helps students concentrate on how each key development happened and what its significance was – and it clarifies how these discoveries built on each other. The work of Pasteur and Koch can be likened to a game of 'pass the parcel', with each man in turn unwrapping a layer of paper around the secrets of defeating disease. Without Pasteur finding the parcel in the first place and unwrapping the first layer, these developments would not have begun at that time.

To further consolidate students' knowledge, use the completed diagram as the basis for compiling Role of the Individual charts for both Pasteur and Koch.

One stage of this story we have not gone into in detail is that of 'magic bullets'. We have mentioned their contribution in outline on **page 125** and this level of knowledge will be sufficient for most students. The best way of helping students to understand this development is to use a role-play on the discovery of Salvarsan 606, developed by Ian Luff, which puts students into the roles of bacteria and bullets. For full details see

www.thinkinghistory.co.uk/ActivityBase/Salvarsan606.html

Pages 132–33 provide coverage of the story of the development of penicillin. A good starting point, however, is a timeline (Activity Sheet 43) showing just the key dates. Ask students to use the book to find out why these dates were important in the story of penicillin and then prompt them to ask questions such as 'Why are the gaps so long?' (Relate these to students' own lives to make them see the reality of a six-year gap). And 'why were problems overcome?' Then students can find the answers and annotate their timeline with explanations. Use Activity Sheet 44 if students need help structuring their work on penicillin.

Conclusions and exam practice (pages 134–41)

Pages 134–35 provide the structure to summarise the key developments, decide who or what the statue should represent and then use these understandings to tackle the concluding Meet the Examiner tasks. Take a moment, however, to look at the wider picture.

Sections 6–9 all link to the question of why health and life expectancy have improved so much since 1800. Make sure students have a chance to relate this story of combating diseases to that wider question (see **pages 122–23**).

The activities relating to the concept map on **page 135** lead in to the choice of statue but this, in turn, really sets up students to tackle the Meet the Examiner question evaluating the importance of the role of Pasteur (**page 137**). Experience shows that the iceberg analogy does help students by providing a memorable image that they can use to improve the structure of their answers. In other words, in this kind of question you don't only write about a named individual or event (the visible part) but compare their importance with the roles of others lurking below the surface of the iceberg. This Meet the Examiner unit also offers the chance to practise 'describe ...' and 'explain ...' questions using advice from earlier Meet the Examiner units.

Pages 138–41 extend students' knowledge of the development of penicillin. They also give an opportunity for extended practice of source skills, using the Penicillin topic as a mock paper if you wish. This will enable you to identify students' individual strengths and weaknesses and so decide which skills need more work. However, you should first focus on the advice on **pages 140–41**, analysing the reasons why sources can disagree. There is another full paper on the topic of Florence Nightingale and Mary Seacole in Section 9 (**pages 187–89**) if you wish to use the Penicillin topic for teaching rather than exam practice.

Outcomes to look for

The activities and Meet the Examiner activities will help you assess students' understanding and knowledge of:

- 1) the significance of the work of Pasteur and Koch in both the short-term and in the long span of medical history in terms of their contribution to overall health and life expectancy
- 2) the significance of the development of antibiotic medicines such as penicillin
- 3) why these key breakthroughs happened when they did
- 4) the relative importance of the key developments and how they were linked together.

The Meet the Examiner pages help you identify students' strengths and weaknesses in:

- evaluating the importance of individuals and events
- analysing why sources can disagree.

Section 7: Public health after 1800

When did it finally improve – and why?

<p>Rationale</p>	<p>This section can be a classic game of two halves – nineteenth-century dirt and disease create plenty of classroom interest but worthy public health legislation doesn't. This means that it's easy for students to lose interest in the legislation – when they really need to understand it.</p> <p>A second problem is that the students need to understand that the pace of change was often slower than they might have thought. Because time needs to be spent on the Public Health Acts of 1848 and 1875 and why they were introduced, students may assume that they led to rapid change because they were significant pieces of legislation. The same assumption can attach to the early twentieth-century Liberal reforms. For this reason, extra care needs to be taken to help students appreciate the slow pace of change – hence the choice of the section enquiry, which focuses on when the greatest leap forward actually occurred.</p> <p>Therefore, although this section is broken into chronological chunks, the final Meet the Examiner task compares the importance of public health changes in the nineteenth and twentieth centuries to help students get a strong sense of the overall pattern of change. At this stage, you should link public health developments to the book's core question.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 142–65 • TRB Activity Sheets 45–52 • Dynamic Learning 1: Why were towns so unhealthy? Public health or Pasteur? Create your own story of the NHS plus Introductory activities • Dynamic Learning 2: Public health through time • Dynamic Learning 3: The mystery of the water pump (John Snow and cholera)
<p>Exam Busters</p>	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Practise your skills at using sources: Topic – Nineteenth-Century Public Health (pages 144–47) • Evaluating the significance of factors (pages 152–53) • Evaluating the significance of events (pages 164–65)
<p>Objectives</p>	<p>By the end of these enquiries, students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • why public health conditions were poor in many towns, their impact on health and why there was opposition to national reform • the changing nature of public health reform since 1900, including the advent of the NHS • the reasons why public health legislation was introduced at different times • the changing pace of public health reform since 1800 • the contribution of public health reforms to improved health and life expectancy.

New to teaching 'Medicine'? Priority decisions

- How will you help students to see this as one overall story, maintaining a focus on the section enquiry?
- How will you find out students' views on the NHS, to avoid any misunderstandings of its impact on health after 1948?
- How can you make the legislation interesting?!

Introduction (pages 142–49)

These pages focus firstly on public health conditions in the early nineteenth century and then on the reasons why they were so poor. You could supplement these pages with the Dynamic Learning 1 introductory activity on medicine in the nineteenth century, asking students to suggest how developments in society might affect medicine. It is important to emphasise:

- a) the extent and speed of change during the Industrial Revolution. Students may assume that all change in the past was slow and this makes it harder to understand the failure to reform
- b) the widespread opposition to government involvement in daily life among all classes. This is important background to the 1848 Public Health Act.

The pictorial sources on **pages 144–47** and Activity Sheets 45–47 offer the chance to develop source inference and evaluation skills. This material is completely integrated so it does not disturb the flow of the overall enquiry.

Pages 148–49 deepen understanding of the reasons for opposition to reform, using the iceberg analogy again as a reminder that the obvious explanation – selfishness among the rich – isn't the only explanation. Groups of students could use Activity Sheet 48 to create their own completed iceberg from the clues on **page 149**.

Why did public health eventually improve in the later 1800s? (pages 150–59)

This enquiry begins by offering a hypothesis – that an individual, Chadwick himself, was the most important reason for reform. This then gives the focus for the Meet the Examiner question on **page 152**, which provides the link through the following pages. You will introduce the question and issues here and then come back to **pages 152–53** in your conclusion after students have carried out their investigation.

While on **pages 150–51** ask students to begin compiling a timeline (Activity Sheet 49) and focus on the pattern of reforms, particularly the lengths of the gaps between Acts. Secondly students should use the card sort activity on **page 153** (Activity Sheet 50) to create their initial hypothesis, agreeing or disagreeing with Chadwick. The cards can then be used to collect evidence from **pages 154–58**.

Pages 154–58 tell the story of the development of public health reform to the late 1800s. The running tasks for students are to:

- a) add relevant information to their timeline, particularly explaining the gaps between Public Health Acts
- b) add evidence to their factors cards (**page 153**), building up a picture of the role played by each factor.

You may wish to begin by guiding students through **pages 154–55**, modelling the collection of evidence on timeline and factors cards, then giving students a chance to tackle **pages 156–58** on their own. If you wish to look more closely at the work of John Snow, see Dynamic Learning 3 (The Mystery of the Water Pump), which provides the evidence for Snow's conclusions in stages.

Once you have reached **page 158**, review the impact of the factors using the evidence on the completed cards and work on developing a complete written answer to the exam question on page 152.

Page 159 is a bridge between the nineteenth and twentieth centuries. It does not deal with either reforms or explanations for reforms but it is important to focus on this material, especially Sources 1 and 2, to understand the slow pace of change in health and to link into the section enquiry question. Students need to be clear that reforms in the late 1800s were very important, reflecting changing attitudes to government involvement and making a start on reform, although government intervention was still very limited. Discussing Activities 1 and 2 on **page 159** is an important prelude to work on the twentieth century.

Why did public health improve further in the twentieth century? (pages 160–63)

A good beginning is to present students with a puzzle based on the queues that formed in 1942 when the Beveridge report was published. Describe the queues, then ask what they think people could have been queuing for? Food, cinema, a sports event? No – a book on social reform! This sets up ‘what do you want to ask?’ For instance, what had been happening earlier in the 1900s? What did this report say?

Now go back to the early 1900s! For this enquiry, we have taken out the structured guidance provided on **page 153** for the nineteenth century. This challenges students to think explicitly about how they went about their enquiry on the nineteenth century and transfer it to the twentieth-century topic. You will need to draw this out from them and create a flow chart of the process (see Activity Sheet 51 if needed) and then students can work in groups to look at why public health continued to improve in the twentieth century.

One possible problem is that modern media coverage of the NHS tends to be negative, creating an impression at odds with most people’s direct experience of the NHS as reported in surveys. Hence it’s important to identify students’ assumptions about the role of the NHS, and where these assumptions come from, before starting on coverage.

Conclusion (pages 164–65)

This whole section can be drawn together using this Meet the Examiner activity comparing the extent of

changes in the nineteenth and twentieth centuries. This also prepares students for exam questions comparing change in different periods. Activity Sheet 52 provides a copy of the scales artwork, on which students can record evidence. The completed timeline (Activity Sheet 49) will also help.

To place this period of public health change in a wider context see the revision activity ‘Germs have feelings too! A Lifeline’ at www.thinkinghistory.co.uk/ActivityBase/GermsFeelingLifeline.html

Outcomes to look for

The activities will help you assess students’ understanding and knowledge of:

- 1) the reasons why public health conditions were poor and why there was opposition to reform in the early nineteenth century
- 2) the major stages in reform through the nineteenth and twentieth centuries and the significance of each stage of reform
- 3) why key reforms were introduced at particular times – the interplay of long-term needs and short-term events
- 4) the contribution of public health reform to improved health and life expectancy.

The Meet the Examiner pages help you identify students’ strengths and weaknesses in:

- evaluating the importance of individuals and other factors in promoting change
- comparing the degree of change in different periods
- inference and evaluation of sources.

Section 8: Surgery since 1800

Why has surgery improved so much since 1800?

<p>Rationale</p>	<p>There are few problems with keeping students interested in this blood-spattered topic but they sometimes struggle to understand attitudes. They may underestimate surgeons' care for patients in a pre-anaesthetics era. It can also be hard to develop a rounded understanding of the reasons for opposition to the early use of chloroform and carbolic acid because today these changes seem such obvious improvements. Therefore the nineteenth-century material focuses closely on understanding opposition to changes. The coverage of twentieth-century surgery looks at the reasons for rapid changes while keeping the technical detail to a level that is easily comprehensible.</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 166–83 • TRB Activity Sheets 53–57 • Dynamic Learning 1: The revolution in surgery • Dynamic Learning 2: Surgery through time • Dynamic Learning 3: Investigating the surgical revolution – a source-based enquiry
<p>Exam Busters</p>	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Practise your skill at using sources: Topic – Nineteenth-Century Surgery (page 167) • Answering 'Are you surprised by ...' questions (page 169) • Improve that answer! (page 182) <p><i>Smarter Revision</i></p> <ul style="list-style-type: none"> • Freeze-framed photographs (page 183)
<p>Objectives</p>	<p>By the end of this enquiry students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • the limitations of nineteenth-century surgery and the major problems to be overcome • how key improvements (such as anaesthesia and antiseptics) came about, and why there was opposition to the early use of chloroform and carbolic acid • the reasons for continued surgical improvements since 1900 • the contribution of surgery to increased life expectancy.
<p>New to teaching 'Medicine'? Priority decisions</p>	<p>How will you help students:</p> <ul style="list-style-type: none"> • see early nineteenth-century surgeons as caring rather than bloodthirsty? • understand the varied reactions of surgeons to new ideas about anaesthesia and antiseptics?

Introduction (pages 166–69)

The source-based activity on **pages 166–67** offers a good introduction because it requires students to think clearly about what they can learn from sources about the nature of surgery in the early nineteenth century. (See Dynamic Learning 3 and Activity Sheet 53 for other copies of these sources.)

However, the sources don't convey a full sense of surgeons' attitudes because they concentrate on the physical events and environment of operations. Therefore it's worth adding a second introductory activity to bring out attitudes. One approach is to use the role-play developed by Andy Harmsworth, placing the teacher in the role of surgeon, explaining and 'carrying out' an operation. Details of this role-play can be found at

www.schoolshistoryproject.org.uk/ResourceBase/Surgery19thCentury.htm

A second is to use a film (Hannah Dyson's *Ordeal*) of the preparations for a pre-anaesthesia operation, made by the Thackray Museum. This is based on a real case at the Leeds Infirmary and is excellent for bringing out the surgeon's concern for his patient. The video or DVD comes as part of a pack on surgery and can be obtained from

www.thackraymuseum.org/view-resources/gcse-pain-pus-and-blood-surgery-pack.html

Pages 168–69 provide an outline of major changes in nineteenth-century surgery and introduce the idea of opposition in Sources 1–3. It's important to open up students' ideas about why these writers opposed early use of anaesthesia and antiseptics – do students assume it was just selfishness or can they suggest other reasons? The sources then link directly to the Meet the Examiner unit on **page 169** on 'Are you surprised...?' questions. This is the question students will tackle when they have completed **pages 168–77** so you will come back to it then.

Opposition to changes in surgery (pages 168–77)

Pages 170–73 cover anaesthetics, with the core task being to identify reasons for opposition. The reasons can be recorded on Activity Sheet 54. In the Student's Book mini shopping baskets mark places where reasons can be found. The material is structured so that **pages 170–71** provide an outline of the story of anaesthetics up to Simpson's early use of chloroform, with some reasons for opposition embedded in the story.

To make this more active and to consolidate knowledge, divide the class into groups of six, subdivided into pairs. Each pair takes one of the three steps on **pages 170–71**. Their task is to explain their breakthrough – why it was useful and what its limitations were. If you can arrange them standing on steps so much the better for getting across the ideas – and another opportunity for using the freeze frame technique.

Page 172 focuses on reasons for opposition – a good opportunity for a brief role-play, with yourself as Simpson and students as opponents. This gives them the viewpoint they find harder to understand. Give each reason on **page 172** to a group and ask them to prepare their ideas quickly before the role-play. Finally **page 173** looks at why opposition was overcome – with the caveat that it took some time for all problems to be overcome (see Source 2, which was published around 1870).

Pages 174–77 on antiseptics follow the same pattern but you could add variety by using Ian Luff's simulation activity (around 10 minutes long) on Lister's use of a carbolic spray. See www.thinkinghistory.co.uk/ActivityBase/ListersAntisepticSpray.html

With Activity Sheet 54 completed, return to the Meet the Examiner material on **page 169** to write up the answer.

You could also repeat the role-play on reasons for opposition, this time with yourself in role as Lister, as a second use of the same technique is usually handled more effectively by students.

Why has surgery improved so much since 1900?/Conclusions (pages 178–83)

This enquiry changes the focus to the impact of factors, asking students to compare the impact of war against that of science and technology. Students can collect evidence from **pages 180–81** and record it on Activity Sheet 55 (the tug of war artwork). One strategy that may help motivation is to divide the class into teams – 'War' or 'Science and technology' – and then (carefully!) re-enact the tug of war. Toss a coin for who pulls first. Then ask the first team to identify evidence in their favour and move the team back a step if the evidence is good. Continue until one of the teams runs out of evidence and the winner is clear.

The evidence from this activity enables students to complete question 3 in the activity on **page 182**. Finally the freeze-framed activity on **page 183**

provides a stimulating way of recording information that can be applied to many other 'before' and 'after' contexts. Another concluding activity providing a longer overview is the 'Surgery through time' activity on Dynamic Learning 2.

Relating developments in surgery to the overall question about improved health and life expectancy can be harder than in the case of public health and understanding of the causes of diseases. However, the key points are that the breakthroughs covered in this chapter made internal surgery much safer and this enabled surgeons to undertake much more complex surgery. For example, little more than 100 years ago the removal of an appendix (for instance in the case of Edward VII) was seen as very risky, whereas now it is routine. Activity Sheet 1 from this TRB provides two examples. These changes have enabled many people to survive internal problems and lead longer, healthy lives.

Outcomes to look for

The activities will help you assess students' understanding and knowledge of:

- 1) the problems facing surgeons in the early 1800s (pain, infection and blood loss) and how they were overcome
- 2) the range of reasons why there was opposition to early anaesthetics and antiseptics and how this opposition was overcome
- 3) why surgery has continued to improve since the early 1900s
- 4) how surgery has helped improve life expectancy and health.

The Meet the Examiner pages help you identify students' strengths and weaknesses in:

- describe, explain and factors questions
- evaluating the importance of individuals and other factors in promoting change
- 'are you surprised by ...' questions
- inference and evaluation of sources and using sources to evaluate statements.

Section 9: Hospitals

Did Florence Nightingale revolutionise hospitals single-handed?

Rationale	This is a shorter section than the other post-1800 themes. While it does link into the broader story of medical developments, its main aim is to provide a context for the Source Investigation topic on Florence Nightingale, Mary Seacole and the development of hospitals.
Resources	<ul style="list-style-type: none"> • Student's Book pages 184–91 • TRB Activity Sheets 58–59
Exam Busters	<p><i>Meet the Examiner</i></p> <ul style="list-style-type: none"> • Practise for your Historical Source Investigation exam: Topic – Hospitals (pages 187–89)
Objectives	<p>By the end of this enquiry students should have developed their knowledge and understanding of:</p> <ul style="list-style-type: none"> • how women won the right to qualify as doctors • the roles played by Nightingale and Seacole in the improvements in hospitals. <p>They will also have had further practice in tackling a Source Investigation paper and will be clearer on which source skills need improvement.</p>
New to teaching 'Medicine'? Priority decisions	Will you use the Source Investigation paper as a practice exam or work through it in class to improve understanding of how to answer questions?

Introduction (pages 184–85)

The activities on **page 184** are not intended to take a full lesson but to set the scene, showing how difficult it was for any women to make an impact on medicine. Use Activity Sheet 58 to complete Activity 1 and tell the story of how women won the right to become doctors. Move from there to the main topic of hospitals on **page 185**. It is important to draw out of this page a clear list of the problems in mid-nineteenth-century hospitals and why other developments in medicine were creating the need for changes. This is also a good way of recapping the wider developments – germ theory, anaesthesia and antiseptics and public health reform but you will need a clear timeline to show where the Crimean War and the work of Nightingale fit

within these developments. Because this section comes last, students can fall into the trap of assuming that hospital changes follow on from all the other developments.

Florence Nightingale and Mary Seacole (pages 186–91)

The summaries on **page 186** provide outline stories as the context for the Source Investigation to follow. These can be tackled by giving the two activities to different halves of the class and having them report back on the comparisons for each question. This way everyone looks at both women. Completing Role of the Individual charts (Activity Sheet 14) for this section will provide the clearest revision material.

The Source Investigation exam paper (**pages 187–89**) provides opportunities for students to practise a full paper and for you to identify their individual strengths and weaknesses and so decide which skills need more work before the examination. At this stage of the course it may be best to treat this as a mock paper, revealing how well students can do without help, but only *you* can decide that, in the light of your knowledge of each class's abilities. If you do use it as a mock paper you can develop greater all-round participation by using some of the answers afterwards in class, and asking students to mark them and suggest ways of improving them.

Pages 190–91 draw together conclusions about Florence Nightingale's role in hospital changes in contrast to other developments. Having undertaken the Source Investigation as a practice exam, many students will appreciate a different approach to complete this section. Activity Sheet 59 provides the cards from **page 190** – cut them up into sets and place them on A3 paper, acting as a table-cloth, on

desk tops. The students' task is to organise them into a pattern of explanation (as described in the activity on **page 190**) and draw lines on the A3 paper, making links and adding explanatory annotations. After discussion these outlines can then be copied onto A4 sheets and added to files.

Outcomes to look for

The activities and Meet the Examiner activities will help you assess students' understanding and knowledge of:

- 1) attitudes to women in medicine in the 1800s and how these were, to some extent, overcome
- 2) the roles of Florence Nightingale in improvements in nursing and in hospitals and the role of Mary Seacole in the Crimean War.

Source Investigation pages help you identify students' strengths and weaknesses and which elements they need to focus on to improve their source skills.

Section 10: Conclusions

<p>Rationale</p>	<p>This section does not introduce any new content. Instead it revisits the major issues within the course, creating opportunities for effective revision. Page 193 offers a prompt to complete the various Smarter Revision activities that have been building up across the course. This section also returns to broader issues that are unrelated to the exam but have a broader educational value, set out in Objective 2 below.</p> <p>We are not assuming that you will necessarily tackle each of the pages with the whole class. It's important to think about the particular strengths and weaknesses of classes and individuals and plan your choice of activities with students' needs in mind. For example, if understanding of factors is a general weakness then you may want to spend extra time on pages 198–201 on factors and less time on individuals (pages 202–03).</p> <p>Dynamic Learning 2 contains a range of activities that can be used for revision, from detailed activities on themes such as public health to Blockbusters quizzes. These are listed in full on pages 15–17 of this TRB.</p> <p>You can also find a range of kinaesthetic revision activities at www.thinkinghistory.co.uk/ActivityKS/ActivityGCSEHPAGE.html</p>
<p>Resources</p>	<ul style="list-style-type: none"> • Student's Book pages 192–205 • TRB Activity Sheets 60–63 • Dynamic Learning 2: wide range of activities on chronological understanding, concepts, themes and factors and quizzes (see pages 15–17 of this TRB) • Dynamic Learning 3: 'The Road to Bacteria-ville' and 'Factors Football Field' plus Smarter Revision activities
<p>Exam Busters</p>	<p>Meet the Examiner</p> <ul style="list-style-type: none"> • Evaluating the importance of factors over time (page 199) <p>Smarter Revision</p> <ul style="list-style-type: none"> • Completing revision activities
<p>Objectives</p>	<p>1) By the end of this section students will have had the opportunity to revise and consolidate their knowledge and understanding of:</p> <ul style="list-style-type: none"> • the major themes such as surgery and public health • the key features of each period of medical history • the roles of factors across time • the roles of a series of significant individuals. <p>2) They will also have had the chance to bring to a conclusion their ideas about:</p> <ul style="list-style-type: none"> • why health and life expectancy have improved significantly • how the Development Study provides perspective on life today • how the Development Study fits into their overall GCSE course.
<p>New to teaching 'Medicine'? Priority decisions</p>	<ul style="list-style-type: none"> • Are you going to cover all the activities or choose from among them to fit the needs of individual classes or even students? • How important is it to you and the students for them to spend a little time thinking about the issues listed under Objective 2 (above)?

What do we owe our lives to? (pages 192–93)

We've got to the end of the course content and a satisfying, motivating end is not just about setting up revision tasks but about bringing a big enquiry to a close. This page gives you the chance to return to the major overview question, asking why health and life expectancy have improved so much over time. The activity on **page 193** (picking up the activity introduced on **page 122**) enables students either to produce a definitive answer now or to think about their answers, then complete the revision activities on **pages 194–203** and then come back to this question in conjunction with **pages 204–05**.

The road to Bacteria-ville – using road maps to revise key themes (pages 194–95)

This page enables you to focus on themes – the fight against disease, surgery, public health and treatments. The illustration provides a visual summary of ideas about the cause of diseases and the methods used to overcome them. The activity guides students through using this illustration and Activity Sheet 60 provides a copy to annotate.

For this road map approach, see the article by Rachel Foster in *Teaching History* 'Assessing Differently' edition, 131, June 2008. It is worth looking carefully at Rachel's account of how she set up the road map metaphor before moving into the chosen content and to think about when, within the Medicine course, you might introduce this metaphor. Perhaps the best time is right at the beginning when working on the graphs on **pages 6–7** or at the halfway point in Section 5?

Teaching History is available online to HA members (and you really should be a member) at www.history.org.uk.

What was so special about each period of medical history? (pages 196–97)

As we have said several times, wonky chronological understanding can betray students in exams. Dynamic Learning 2 contains a number of activities that will help them with this. However, this Student's Book activity will particularly help those who need a clear overview of the key developments in each period. It also makes a very good independent revision activity to use at home.

How did the factors affect the development of medicine? (pages 198–201)

The focus of these pages is the Meet the Examiner exam question and guidance on evaluating the impact of a factor over the history of medicine. **Pages 198–99** and Activity Sheet 61 enable students to collect information to answer the question on the specified example of religion, while **pages 200–01** and Activity Sheet 62 provide the structure, if you wish to use it, to transfer this model to other factors or carry out a comparative activity with groups researching the impact of individual factors.

Which individuals were most significant? (pages 202–03)

This activity asks students to create Top Trumps cards on individuals. It could be used in its first stage as a homework activity with students having to write up one or two cards for individuals and then bringing their drafts in for comparison and finalising. You could use the partner activity on Dynamic Learning 2 (Smarter Revision section) or Activity Sheet 63 to build up a complete set of cards. While the awards ceremony photograph on **page 202** may look like just a moment of fun, it will be more than worthwhile if students have become fully involved in researching the individuals and thus built up a strong sense of each individual's contribution to medical history – both short-term and long-term.

Into the future? (pages 204–05)

Although the OCR specification does not demand detailed knowledge of medical developments and issues in the recent past, it's still worth spending a little time on such topics to enable students to consolidate their understanding of how the Development Study provides a perspective on life today. The topics and the perspective questions have been set up to draw on links between the present and the past, although this is the present at the time of writing (early 2009) and you may wish to up-date these examples from stories current when teaching takes place.

This is also a good time to go back to **pages 8–11**, to discuss whether the course has fulfilled its objectives and how it fits into the overall GCSE course. You may also wish to return one last time to our overall question about the changes in life expectancy and health if you didn't wrap this up on **pages 192–93**.

One of the hardest things to do is to bring a course to a clear, satisfactory ending. Time and the pressures of school often make this difficult but you'll have more chance of students getting a sense of achievement from concluding this part of their GCSE course if you plan from the beginning for this final session. Give it a real fanfare and remember to relate it strongly to the students' world outside the classroom.