



## Tea-Composition

Suggested Depth Study:  
Biology



**Year 11 Biology – Depth Study Task Notification**  
**Module 4 – Ecosystem Dynamics**

<b>Task:</b> Two	<b>Weighting:</b> 30%	<b>Timing:</b> Start Date: Week 1 Term 3 Completion Date: Week 10 Term 3 Submission Date: Week 1 Term 4
<p><b>Outcomes assessed:</b></p> <p>A student:</p> <ul style="list-style-type: none"> <li>› develops and evaluates questions and hypotheses for scientific investigation <b>BIO11/12-1</b></li> <li>› designs and evaluates investigations in order to obtain primary and secondary data and information <b>BIO11/12-2</b></li> <li>› analyses and evaluates primary and secondary data and information <b>BIO11/12-5</b></li> <li>› communicates scientific understanding using suitable language and terminology for a specific audience or purpose <b>BIO11/12-7</b></li> <li>› analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem <b>BIO11-11</b></li> </ul> <p style="text-align: right;">(NESA Biology Syllabus, 2017)</p>		
<p><b>Nature of the task:</b></p> <ul style="list-style-type: none"> <li>› The task is to be carried out in groups of two or three students.</li> <li>› Fifteen hours of class time will be assigned for you to work on the task, roughly two lessons per week.</li> <li>› The investigation carried out must be conducted safely with a completed risk assessment prior to starting the task. You must also order all the materials needed for your investigation.</li> <li>› You are to choose ONE of the following options for your investigation, that considers the material from Module 4; Ecosystem Dynamics, on Future Ecosystems, with the given Inquiry Question: <b><i>How can human activity impact on an ecosystem?</i></b></li> </ul> <p><u>Option 1:</u></p> <ul style="list-style-type: none"> <li>• Investigate changes in past ecosystems that may inform our approach to the management of future ecosystems, including: <ul style="list-style-type: none"> <li>○ The role of human-induced selection pressures on the extinction of species</li> <li>○ Models that humans can use to predict future impacts on biodiversity</li> <li>○ The role of changing climate on ecosystems</li> </ul> </li> </ul> <p style="text-align: center;">OR</p> <p><u>Option 2:</u></p> <ul style="list-style-type: none"> <li>• Investigate practices used to restore damaged ecosystems, Country or Place, for example: <ul style="list-style-type: none"> <li>○ Mining sites</li> <li>○ Land degraded from agricultural practices</li> </ul> </li> </ul> <p style="text-align: center;">OR</p> <p><u>Option 3:</u></p> <ul style="list-style-type: none"> <li>• Investigate the effects of different environmental influences on the decomposition of organic matter, as part of the Tea-Composition/Tea Bag Index project. This investigation involves fieldwork and is a joint collaboration with the University of Sydney, providing students with the opportunity to work with academics, utilising the University's facilities.</li> </ul>		



- › Although the first two options imply secondary research, you are expected to also carry out at least one first-hand investigation, supplemented by appropriate research.
- › Option 3 is particularly suitable for this Depth Study, as it provides the opportunity to conduct both first- and second-hand research and is supported by academic researchers from the University of Sydney, as well as overseas. The data collected will form part of an international project and provide you and your group with opportunities to engage in world-class research.
- › You are to keep a comprehensive logbook with such information as: Your investigation question/s and hypothesis, your experimental design, your results, evaluations, limitations, reliability, validity, improvements, secondary research and anything else that seems appropriate.
- › At the end of your investigation, your group must present their findings in the form of an A1-sized scientific poster, with dimensions 594mm x 841mm. All group members must be able to speak about the poster for a maximum of 5 minutes, including answering questions from the audience.
- › You must use correct scientific language and concepts studied in the Biology course thus far.
- › A properly referenced bibliography must be shown on your poster– Wikipedia is not acceptable as a major source of information.

<b>Marking criteria:</b>	<b>Marks</b>
<p><b>Knowledge and Understanding (BIO11-11):</b></p> <ul style="list-style-type: none"> <li>› Demonstrates a thorough understanding and analysis of the importance of utilising information gained from investigating changes in past ecosystems in informing the management and sustainability of future ecosystems, specifically related to at least ONE of the following:               <ul style="list-style-type: none"> <li>• the role of human-induced selection pressures on the extinction of species;</li> <li>• how humans can use models to predict future impacts on biodiversity;</li> <li>• the role of changing climate on ecosystems;</li> <li>• practices that can be used to restore damaged ecosystems, such as mining sites and/or land degraded from agricultural practices;</li> <li>• the effects of different environmental influences on the decomposition of organic matter.</li> </ul> </li> <li>› Links primary experimental data and the chosen Biology content to a detailed explanation of the impact of human activity on ecosystems.</li> </ul>	5
<p><b>Questioning and Predicting (BIO11/12-1):</b></p> <ul style="list-style-type: none"> <li>• Clearly identifies an appropriate topic of investigation that relates effectively to the chosen content area and which is supported by appropriate research.</li> <li>• Develops a suitable inquiry question and hypothesis that can be scientifically investigated.</li> <li>• Shows evidence of modifying either the inquiry question or hypothesis throughout the investigation to reflect new evidence in the logbook.</li> </ul>	5
<p><b>Planning Investigations, Analysing Data and Information (BIO11/12-2, BIO11/12-5):</b></p> <ul style="list-style-type: none"> <li>• Designs a fair experiment that will result in reliable, valid and accurate primary and/or secondary data.</li> <li>• Correctly identifies the limitations, relationships and trends of the data and relates these to experimental design.</li> <li>• Appropriately assesses the risks and ethical issues and selects appropriate equipment when planning the investigation.</li> <li>• Modifies the investigation to address any limitations or new evidence.</li> </ul>	10
<p><b>Communication (BIO11/12-7):</b></p> <ul style="list-style-type: none"> <li>• The poster is organised neatly and makes effective use of appropriate diagrams, images, tables, graphs, results, discussion, conclusions and acknowledgements.</li> <li>• Communicates logically and succinctly using scientific terminology.</li> <li>• Discussion about the poster is clearly articulated, with all members of the group contributing, including answering questions from the audience, which may include members of the wider school community.</li> <li>• The logbook is correctly formatted with evidence of detailed notes and reflections.</li> <li>• A wide variety of suitable references is included, and these are correctly cited and formatted.</li> </ul>	10

**Key checkpoints:**

These are for your teacher to monitor your progress and provide verbal or written feedback. If you are unsure of your idea or a component of the task, ask for your teacher's advice. A Planning Sheet is provided and you are strongly advised to utilise it before and during your research activities.

Checkpoint	Due date	Description
One	End of Week 4 Term 3	Perform background research and initial design of experiment, including submission of practical requirements and risk assessment.
Two	Beginning of Week 7 Term 3	Teacher interview to discuss results obtained thus far.
Three	End of Week 1 Term 4	Presentation of poster to class. Submit logbook and bibliography <b>via Google Classroom.</b>



**Year 11 Biology – Depth Study - Detailed Marking Guidelines  
Module 4 – Ecosystem Dynamics**

Knowledge and Understanding:

5 Marks

- **A student analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem BIO11-11**

CRITERIA	MARKS
<ul style="list-style-type: none"> <li>• Demonstrates a thorough understanding and analysis of the importance of utilising information gained from investigating changes in past ecosystems in informing the management and sustainability of future ecosystems, specifically related <b>to</b> at least ONE of the following:               <ul style="list-style-type: none"> <li>- the role of human-induced selection pressures on the extinction of species;</li> <li>- how humans can use models to predict future impacts on biodiversity;</li> <li>- the role of changing climate on ecosystems;</li> <li>- practices that can be used to restore damaged ecosystems, such as mining sites and/or land degraded from agricultural practices;</li> <li>- the effects of different environmental influences on the decomposition of organic matter.</li> </ul> </li> <li>• Links primary experimental data and the chosen Biology content, to a detailed explanation of the impact of human activity on ecosystems.</li> </ul>	5
<ul style="list-style-type: none"> <li>• Demonstrates a good understanding and analysis of the importance of utilising information gained from investigating changes in past ecosystems in informing the management and sustainability of future ecosystems, specifically related <b>to</b> at least ONE of the following:               <ul style="list-style-type: none"> <li>- the role of human-induced selection pressures on the extinction of species;</li> <li>- how humans can use models to predict future impacts on biodiversity;</li> <li>- the role of changing climate on ecosystems;</li> <li>- practices that can be used to restore damaged ecosystems, such as mining sites and/or land degraded from agricultural practices;</li> <li>- the effects of different environmental influences on the decomposition of organic matter.</li> </ul> </li> <li>• Describes primary experimental data and the chosen Biology content, with some reference to the impact of human activity on ecosystems.</li> </ul>	3 - 4
<ul style="list-style-type: none"> <li>• Demonstrates a description of the importance of utilising information gained from investigating changes in past ecosystems in informing the management and sustainability of future ecosystems, specifically related <b>to</b> at least ONE of the following:               <ul style="list-style-type: none"> <li>- the role of human-induced selection pressures on the extinction of species;</li> <li>- how humans can use models to predict future impacts on biodiversity;</li> <li>- the role of changing climate on ecosystems;</li> <li>- practices that can be used to restore damaged ecosystems, such as mining sites and/or land degraded from agricultural practices;</li> <li>- the effects of different environmental influences on the decomposition of organic matter</li> </ul>               OR             </li> <li>• Describes some experimental data and the chosen Biology content.</li> </ul>	1 - 2

Questioning and Predicting:

5 Marks

- **A student develops and evaluates questions and hypotheses for scientific investigation** BIO11/12-1

CRITERIA	MARKS
<ul style="list-style-type: none"> <li>• Clearly identifies an appropriate topic of investigation that relates effectively to the chosen content area and which is supported by appropriate research.</li> <li>• Develops a suitable <b>inquiry</b> question and hypothesis that can be scientifically investigated.</li> <li>• Shows evidence of modifying either the inquiry question or hypothesis throughout the investigation to reflect new evidence in the logbook.</li> </ul>	5
<ul style="list-style-type: none"> <li>• Identifies an appropriate topic of investigation.</li> <li>• Develops a suitable question and hypothesis that can be scientifically investigated.</li> </ul>	3 - 4
<ul style="list-style-type: none"> <li>• Identifies an appropriate topic of investigation OR</li> <li>• Attempts to develop a question or hypothesis.</li> </ul>	1 - 2

Planning Investigations, Analysing Data and Information:

10 Marks

- **A student designs and evaluates investigations in order to obtain primary and secondary data and information** BIO11/12-2
- **A student analyses and evaluates primary and secondary data and information** BIO11/12-5

CRITERIA	MARKS
<ul style="list-style-type: none"> <li>• Designs a fair experiment that will result in reliable, valid and accurate primary and/or secondary data.</li> <li>• Appropriate and correct data processing with sufficient accuracy to answer the research question.</li> <li>• Correctly identifies the limitations, relationships and trends of the data relating it back to the experimental design or the biology concepts.</li> <li>• Appropriately assess all the risks, ethical issues and selects the correct equipment when planning the investigation.</li> <li>• Evaluates investigation in order to address any major limitations or new evidence.</li> </ul>	9 - 10
<ul style="list-style-type: none"> <li>• Designs a fair experiment that will result in some reliable, valid and accurate primary and/or secondary data.</li> <li>• Some data processing with sufficient accuracy to answer the research question.</li> <li>• Correctly identifies most/some of the limitations, relationships and trends of the data relating it back to experimental design or the Biology concepts.</li> <li>• Appropriately assesses two out of the following; the risks, ethical issues, or selecting the correct equipment when planning the investigation.</li> <li>• Some review of the investigation to address any major limitations or new evidence.</li> </ul>	6 - 8



<ul style="list-style-type: none"> <li>• Designs an experiment that will result in obtaining suitable primary data.</li> <li>• Some data processing skills designed to answer the research question.</li> <li>• Identifies some the limitations, relationships and trends of the data.</li> <li>• Some assessment of risks and ethical issues in planning the investigation.</li> <li>• Minimal review of the investigation to address any major limitations.</li> </ul>	3 - 5
<ul style="list-style-type: none"> <li>• Designs an experiment broadly linked to the research topic.</li> <li>• Some errors in data processing skills.</li> <li>• Minimal identification of limitations, risks and ethical issues.</li> <li>• No consideration made to modify the investigation to address any major limitations or new evidence.</li> </ul>	1 - 2

Communication (BIO11/12-7):

10 Marks

- **A student communicates scientific understanding using suitable language and terminology for a specific audience or purpose BIO11/12-7**

CRITERIA	MARKS
<ul style="list-style-type: none"> <li>• Communicates findings effectively in an organised and accurate poster using correct scientific terminology and content. The poster includes:               <ul style="list-style-type: none"> <li>▪ a title;</li> <li>▪ an introduction;</li> <li>▪ methodology;</li> <li>▪ results, which includes tabulated data, graphs, diagrams;</li> <li>▪ discussion, which considers limitations and possible improvements;</li> <li>▪ acknowledgements.</li> </ul> </li> <li>• Logbook is comprehensive with such information as: primary data, observations, evaluations, limitations, reliability, validity, improvements, secondary research.</li> <li>• Logbook is set out in an appropriate format, clear and in the correct order.</li> <li>• Discussion about the poster is presented logically and succinctly using scientific terminology, addressing all questions from the audience correctly/in a considered manner.</li> <li>• A wide variety of suitable references are included, and are correctly cited and formatted.</li> </ul>	9 - 10
<ul style="list-style-type: none"> <li>• Communicates findings in an accurate poster using correct scientific terminology and content. The poster includes:               <ul style="list-style-type: none"> <li>▪ a title;</li> <li>▪ an introduction;</li> <li>▪ methodology;</li> <li>▪ results, which includes tabulated data, graphs, diagrams;</li> <li>▪ discussion, which considers some limitations and/or improvements;</li> <li>▪ acknowledgements.</li> </ul> </li> <li>• Logbook shows some information such as primary data, observations, evaluations, limitations, secondary research.</li> <li>• Logbook is set out in an appropriate format, clear and mainly in the correct order.</li> <li>• Discussion about the poster is accurate, mainly addressing all questions from the</li> </ul>	7 - 8



<p>audience correctly/in a considered manner.</p> <ul style="list-style-type: none"> <li>• Some suitable references are used and correctly cited and referenced.</li> </ul>	
<ul style="list-style-type: none"> <li>• Communicates findings in a somewhat disorganised poster, which includes most of the following: <ul style="list-style-type: none"> <li>▪ a title;</li> <li>▪ an introduction;</li> <li>▪ methodology;</li> <li>▪ results, with tabulated data, graphs, diagrams, which may show some errors;</li> <li>▪ a limited discussion;</li> <li>▪ some acknowledgements.</li> </ul> </li> <li>• Logbook shows some information such as observations and secondary research.</li> <li>• Discussion about the poster is presented with some use of scientific terminology, addressing some questions from the audience.</li> <li>• Logbook tends to be overly messy and/or disorganised.</li> <li>• Some suitable references are used, but there may be errors in citation and/or referencing.</li> </ul>	<p>5 - 6</p>
<ul style="list-style-type: none"> <li>• Communicates findings in a limited poster, which contains only 3 or 4 of the following: <ul style="list-style-type: none"> <li>▪ a title;</li> <li>▪ an introduction;</li> <li>▪ methodology;</li> <li>▪ results, which includes tabulated data, graphs, diagrams showing several errors or omissions;</li> <li>▪ discussion, which considers some limitations and improvements;</li> <li>▪ acknowledgements.</li> </ul> </li> <li>• Logbook contains minimal information and reflects a poorly organised and conducted investigation.</li> <li>• Discussion about the poster is presented with some errors in addressing questions from the audience.</li> <li>• Minimal references used, which may be of poor validity and reliability.</li> </ul>	<p>3 - 4</p>
<ul style="list-style-type: none"> <li>• Communicates minimal findings within the poster design.</li> <li>• Logbook is largely incomplete with minimal evidence of any form of research.</li> <li>• No references used and/or cited.</li> </ul>	<p>1 - 2</p>

## Year 11 Biology – Depth Study Task Notification and Information for Teachers Module 4 – Ecosystem Dynamics

<b>Task:</b> Two	<b>Weighting:</b> 30% of the final Year 11 course mark	<b>Timing:</b> Start Date: Week 1 Term 3 Completion Date: Week 10 Term 3 Submission Date: Week 1 Term 4
<b>Outcomes assessed:</b>		
<p>A student:</p> <ul style="list-style-type: none"> <li>› develops and evaluates questions and hypotheses for scientific investigation <b>BIO11/12-1</b></li> <li>› designs and evaluates investigations in order to obtain primary and secondary data and information <b>BIO11/12-2</b></li> <li>› analyses and evaluates primary and secondary data and information <b>BIO11/12-5</b></li> <li>› communicates scientific understanding using suitable language and terminology for a specific audience or purpose <b>BIO11/12-7</b></li> <li>› analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem <b>BIO11-11</b></li> </ul> <p style="text-align: right;">(NESA Biology Syllabus, 2017)</p>		
<b>Nature of the task:</b>		
<ul style="list-style-type: none"> <li>› The task is to be carried out in groups of two or three students, with each student receiving the same mark.</li> <li>› Fifteen hours of class time will be assigned to work on the task, roughly two lessons per week. The task is designed to be conducted throughout Term 3, concurrently with students studying Module 4 - Ecosystem Dynamics.</li> <li>› Students are to choose AT LEAST ONE of the following options for their investigation, that considers the material from Module 4 - Ecosystem Dynamics, on Future Ecosystems, with the given Inquiry Question: <b>“How can human activity impact on an ecosystem?”</b></li> </ul> <p><u>Option 1:</u></p> <ul style="list-style-type: none"> <li>• Investigate changes in past ecosystems that may inform our approach to the management of future ecosystems, including: <ul style="list-style-type: none"> <li>○ The role of human-induced selection pressures on the extinction of species</li> <li>○ Models that humans can use to predict future impacts on biodiversity</li> <li>○ The role of changing climate on ecosystems</li> </ul> </li> </ul> <p style="text-align: center;">OR</p> <p><u>Option 2:</u></p> <ul style="list-style-type: none"> <li>• Investigate practices used to restore damaged ecosystems, Country or Place, for example: <ul style="list-style-type: none"> <li>○ Mining sites</li> <li>○ Land degraded from agricultural practices</li> </ul> </li> </ul> <p style="text-align: center;">OR</p> <p><u>Option 3:</u></p> <ul style="list-style-type: none"> <li>• Investigate the effects of different environmental influences on the decomposition of organic matter, as part of the Tea-Composition/Tea Bag Index project. This investigation involves fieldwork and is a joint collaboration with the University of Sydney, providing students with the opportunity to work with academic researchers, utilising the University’s facilities.</li> </ul>		

### Nature of Depth Studies

A Depth Study is any type of investigation/activity that a student completes individually or collaboratively that allows the further development of one or more concepts found within or inspired by the syllabus. It may be one investigation/activity or a series of investigations/activities.

Depth Studies provide opportunities for students to pursue their interests in biology, acquire a depth of understanding, and take responsibility for their own learning. Depth Studies promote differentiation and engagement, and support all forms of assessment, including assessment for, and of learning. Depth Studies allow for the demonstration of a range of Working Scientifically skills (NESA Biology Syllabus, 2017, p. 22).

In reference to this Depth Study, please note the following:

- › While the first two options imply secondary research, students are expected to also carry out at least one first-hand investigation, supplemented by appropriate research.
- › Students are to keep a comprehensive logbook with such information as: investigation question/s and hypothesis, experimental design, results, evaluations, limitations, aspects related to reliability, validity, improvements and secondary research. It is suggested that you provide specific instruction about how to set up and complete a logbook, as this may be a new concept for many students.
- › Students are to present their findings in the form of an A1-sized scientific poster, with dimensions 594mm x 841mm. They should be able to speak about their poster for a maximum of 5 minutes, including answering questions from the audience. Information about what to include in the poster and its format are shown below.
- › The final option given in this Depth Study provides students with the opportunity to conduct soil research with scientists from the University of Sydney. The Tea-Composition/Tea Bag Index project provides a simple, standardised method of practical engagement with soil science that contributes to our knowledge of litter stabilisation and the decomposition of different soils. The actual procedure is quite simple and involves students weighing then burying two particular tea bags, each containing a specific type of tea housed in a biodegradable cover. After a period of three months, the tea bags are exhumed, dried and their mass remeasured, to determine the rate of decomposition. Students should select a variety of areas in which to bury their tea bags, so that microbial activity under different environmental conditions and different soil types can be considered. Detailed information about the project can be obtained at <http://www.teatime4science.org/> or <http://www.tern.org.au/Newsletter-2016-Nov-TeaTime4Science-pg31717.html>. This component of the Depth Study enables students to work directly with researchers on an authentic project, that directly relates to content and skills considered in Module 4 of the Year 11 Biology course - Ecosystem Dynamics, and provides students with an excellent opportunity to expand their knowledge of how scientists research, gather and process information in order to make evidence-based conclusions. Moreover, it provides an excellent foundation for students to further their understanding of organic matter decomposition, should they choose to undertake a more detailed study in the Science Extension Course in Year 12.
- › It may be highly desirable for teachers to suggest that ALL students become involved in this option, perhaps in addition to researching any of the other options provided, as the Tea-Composition project provides students with invaluable experience in conducting formal, controlled and structured research, as well as opening possibilities for future work and study with a tertiary institution.

### Lesson ideas throughout the Depth Study

1	<p><u>Scaffolding what is required in a scientific report:</u>          Abstract – a sentence on introduction, method, results, discussion and conclusion; introduction – necessary background information, aim, hypothesis – testable; method; results – any relevant tables and labelled graphs; discussion; conclusion and any diagrams or balanced chemical equations with states.</p>
2	<p><u>How to set out a comprehensive logbook:</u>          Date, observations, your primary data, observations, evaluations, limitations, reliability, validity, improvements, thought, modifications, secondary research and anything else that seems appropriate. No 'dear diary'!!</p>
3	<p><u>Planning investigations:</u>          Students must spend a lesson planning their experiments and <b>cannot start</b> until you have sighted their method. It is suggested that you ensure your students use the Planning Sheet provided, in order to formalise their thinking and work, and the sheet provides a basis for you to use when reviewing their progress. Make sure students consider variables – independent, dependent and controlled. Also consider the number of trials – reproducibility, accuracy, safety and ethical considerations.</p>
4	<p><u>How to effectively research using the internet:</u>          Students may need support in identifying reliable primary and secondary sources, as well as citing references correctly and appropriately.</p>
5	<p><u>The scientific poster:</u>          Students may need considerable support in developing their posters, as this is probably a new presentation schema for them. There are several good websites that provide supporting information about what to include and how to design the poster, for example: <a href="http://guides.nyu.edu/posters">http://guides.nyu.edu/posters</a> and <a href="https://ugs.utexas.edu/our/poster/templates">https://ugs.utexas.edu/our/poster/templates</a>          Students should be reminded that the following aspects should be included in their poster:</p> <ul style="list-style-type: none"> <li>✓ Title;</li> <li>✓ Abstract – optional;</li> <li>✓ Introduction – a one- or two-sentence overview of the purpose of the investigation and why the research question is of interest to the students;</li> <li>✓ Methodology;</li> <li>✓ Results – ensure graphics are clear; data trends and relationships are clearly presented; tables, graphs and diagrams are sequentially labelled, with key sentences/phrases used to draw attention to key points in the tables and graphs;</li> <li>✓ Discussion – ensure that reference is made to the hypothesis, implications of the findings and the potential limitations of the experimental design. Students should also compare their results with others obtained during their secondary research;</li> <li>✓ Conclusions – again, link back to the hypothesis and justify any comments made by specific reference to the data obtained;</li> <li>✓ References and acknowledgements – using APA referencing format.</li> </ul>



**Planning Sheet – Depth Study**

<b>Topic:</b>		<b>Term:</b>	
<b>Key concepts:</b>		<b>Context:</b>	

<b>Possible hypotheses/research question</b>	<b>Outline of some experiments</b>	<b>Notes on data to be collected</b>
<b>Opportunities for students to:</b>		
<ul style="list-style-type: none"> <li><b>Modify and refine experiments</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Evaluate and justify conclusions</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Use technology/modify equipment</b></li> </ul>
<ul style="list-style-type: none"> <li><b>Data manipulation and display possibilities</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Appropriate scaffolding</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Learning experiences/prior knowledge</b></li> </ul>
<ul style="list-style-type: none"> <li><b>Time/space/equipment requirements, costs and safety issues</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Strategies for authentication</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Other considerations</b></li> </ul>