# Criterion A: Knowing and understanding

Maximum: 8

At the end of year 3, students should be able to:

- i. describe scientific knowledge
- apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations.
- iii. analyse information to make scientifically supported judgments.

Achievement level	Level descriptor
0	The student does not reach a standard indicated by any of the descriptors below.
1-2	The student is able to:  i. recall scientific knowledge  ii. apply scientific knowledge and understanding to suggest solutions to problems set in familiar situations  iii. apply information to make judgments.
3-4	The student is able to: i. state scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations iii. apply information to make scientifically supported judgments.
5-6	The student is able to:  i. outline scientific knowledge  ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations  iii. interpret information to make scientifically supported judgments.
7-8	The student is able to:  i. describe scientific knowledge  ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations  iii. analyse information to make scientifically supported judgments.

Feedback:			

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Feedback:	 		 

### Criterion B: Inquiring and designing

#### Maximum: 8

At the end of year 3, students should be able to:

- i. describe a problem or question to be tested by a scientific investigation
- ii. outline a testable hypothesis and explain it using scientific reasoning
- iii. describe how to manipulate the variables, and describe how data will be collected
- design scientific investigations.

Achievement level	Level descriptor			
0	The student does not reach a standard identified by any of the descriptors below.			
1-2	The student is able to:  i. state a problem or question to be tested by a scientific investigation, with limited success  ii. state a testable hypothesis  iii. state the variables  iv. design a method, with limited success.			
3-4	The student is able to:  i. state a problem or question to be tested by a scientific investigation  ii. outline a testable hypothesis using scientific reasoning  iii. outline how to manipulate the variables, and state how relevant data will be collected  iv. design a safe method in which he or she selects materials and equipment.			
5-6	The student is able to:  i. outline a problem or question to be tested by a scientific investigation  ii. outline and explain a testable hypothesis using scientific reasoning  iii. outline how to manipulate the variables, and outline how sufficient, relevant data will be collected  iv. design a complete and safe method in which he or she selects appropriate materials and equipment.			
7-8	The student is able to:  i. describe a problem or question to be tested by a scientific investigation  ii. outline and explain a testable hypothesis using correct scientific reasoning  iii. describe how to manipulate the variables, and describe how sufficient, relevant data will be collected  iv. design a logical, complete and safe method in which he or she selects appropriate materials and equipment.			

Feedback:		

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### Maximum: 8

At the end of year 3, students should be able to:

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Feedback:			

# Criterion C: Processing and evaluating

Maximum: 8

At the end of year 3, students should be able to:

- i. present collected and transformed data
- ii. interpret data and describe results using scientific reasoning
- iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation
- iv. discuss the validity of the method
- v. describe improvements or extensions to the method.

Achievement level	Level descriptor
0	The student does not reach a standard identified by any of the descriptors below.
	The student is able to:
	i. collect and present data in numerical and/or visual forms
	ii. accurately interpret data
1-2	<ul> <li>state the validity of a hypothesis with limited reference to a scientific investigation</li> </ul>
	<ul> <li>iv. state the validity of the method with limited reference to a scientific investigation</li> </ul>
	v. state limited improvements or extensions to the method.
	The student is able to:
	i. correctly collect and present data in numerical and/or visual forms
	ii. accurately interpret data and describe results
3-4	<ul> <li>state the validity of a hypothesis based on the outcome of a scientific investigation</li> </ul>
	<ul> <li>iv. state the validity of the method based on the outcome of a scientific investigation</li> </ul>
	v. <b>state</b> improvements or extensions to the method that would benefit the scientific investigation.
	The student is able to:
	i. correctly collect, organize and present data in numerical and/or visual forms
	ii. accurately interpret data and describe results using scientific reasoning
5-6	iii. outline the validity of a hypothesis based on the outcome of a scientific investigation
	iv. <b>outline</b> the validity of the method based on the outcome of a scientific investigation
	<ul> <li>outline improvements or extensions to the method that would benefit the scientific investigation.</li> </ul>
Achievement level	Level descriptor
	The student is able to:
	i. correctly collect, organize, transform and present data in numerical and/
	or visual forms
	<ul> <li>accurately interpret data and describe results using correct scientific reasoning</li> </ul>
7-8	iii. <b>discuss</b> the validity of a hypothesis based on the outcome of a scientific investigation
	<ul> <li>iv. discuss the validity of the method based on the outcome of a scientific investigation</li> </ul>
	<ul> <li>describe improvements or extensions to the method that would benefit the scientific investigation.</li> </ul>
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Feedback:	 	 	 	

# Criterion C: Processing and evaluating

Maximum:

- i. present collected and transformed data
- ii. interpret data and describe results using scientific reasoning
- iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation
- iv. discuss the validity of the method
- v. describe improvements or extensions to the method.

Achievement level	Level descriptor			
0	The student does not reach a standard identified by any of the descriptors below.			
	The student is able to:			
	i. collect and present data in numerical and/or visual forms			
	ii. accurately interpret data			
1-2	<ol> <li>state the validity of a hypothesis with limited reference to a scientific investigation</li> </ol>			
	<ul> <li>iv. state the validity of the method with limited reference to a scientific investigation</li> </ul>			
	v. state limited improvements or extensions to the method.			
	The student is able to:			
	i. correctly collect and present data in numerical and/or visual forms			
	ii. accurately interpret data and describe results			
3-4	iii. state the validity of a hypothesis based on the outcome of a scientific investigation			
	<ul> <li>iv. state the validity of the method based on the outcome of a scientific investigation</li> </ul>			
	<ul> <li>state improvements or extensions to the method that would benefit the scientific investigation.</li> </ul>			
	The student is able to:			
	<ol> <li>correctly collect, organize and present data in numerical and/or visual forms</li> </ol>			
	ii. accurately interpret data and describe results using scientific reasoning			
5-6	iii. outline the validity of a hypothesis based on the outcome of a scientific investigation			
	<ul> <li>outline the validity of the method based on the outcome of a scientific investigation</li> </ul>			
	<ul> <li>outline improvements or extensions to the method that would benefit the scientific investigation.</li> </ul>			
Achievement	Level descriptor			
level				
	The student is able to:			
	<ul> <li>correctly collect, organize, transform and present data in numerical and/ or visual forms</li> </ul>			
	ii. accurately interpret data and describe results using correct scientific reasoning			
7-8	<ul> <li>discuss the validity of a hypothesis based on the outcome of a scientific investigation</li> </ul>			
	<ul> <li>discuss the validity of the method based on the outcome of a scientific investigation</li> </ul>			
	<ul> <li>describe improvements or extensions to the method that would benefit the scientific investigation.</li> </ul>			
	-			

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# Criterion D: Reflecting on the impacts of science

### Maximum: 8

At the end of year 3, students should be able to:

- describe the ways in which science is applied and used to address a specific problem or issue
- discuss and analyse the various implications of using science and its application in solving a specific problem or issue
- apply scientific language effectively
- document the work of others and sources of information used.

Achievement	
level	Level descriptor
0	The student does not reach a standard identified by any of the descriptors below.
	The student is able to:
1-2	state the ways in which science is used to address a specific problem or issue     state the implications of the use of science to solve a specific problem or     issue, interacting with a factor
	<ul> <li>apply scientific language to communicate understanding but does so with limited success</li> </ul>
	iv. document sources, with limited success.
	The student is able to:
	<ul> <li>outline the ways in which science is used to address a specific problem or issue</li> </ul>
3-4	ii. <b>outline</b> the implications of using science to solve a specific problem or issue, interacting with a factor
	iii. sometimes apply scientific language to communicate understanding
	iv. sometimes document sources correctly.
	The student is able to:
	<ul> <li>summarize the ways in which science is applied and used to address a specific problem or issue</li> </ul>
5-6	ii. describe the implications of using science and its application to solve a specific problem or issue, interacting with a factor
	iii. usually apply scientific language to communicate understanding clearly
Achievement level	Level descriptor
	The student is able to:
	<ul> <li>i. describe the ways in which science is applied and used to address a specific problem or issue</li> </ul>
7-8	ii. discuss and analyse the implications of using science and its application to solve a specific problem or issue, interacting with a factor
	iii. consistently apply scientific language to communicate understanding clearly and precisely
	iv. document sources completely.
eedback:	clearly and precisely

	specific problem or issue
5-6	ii. <b>describe</b> the implications of using science and its application to solve a specific problem or issue, interacting with a factor
	iii. usually apply scientific language to communicate understanding clearly
Achievement level	Level descriptor
	The student is able to:
	<ol> <li>describe the ways in which science is applied and used to address a specific problem or issue</li> </ol>
7-8	ii. <b>discuss and analyse</b> the implications of using science and its application to solve a specific problem or issue, interacting with a factor
	iii. consistently apply scientific language to communicate understanding clearly and precisely
	iv. document sources completely.
Feedback:	

# Criterion D: Reflecting on the impacts of science

- i. describe the ways in which science is applied and used to address a specific problem or issue
- ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue
- iii. apply scientific language effectively
- document the work of others and sources of information used.

Achievement level	Level descriptor			
0	The student does not reach a standard identified by any of the descriptors below.			
1-2	i. state the ways in which science is used to address a specific problem or issue     ii. state the implications of the use of science to solve a specific problem or issue, interacting with a factor      iii. apply scientific language to communicate understanding but does so with limited success      iv. document sources, with limited success.			
3-4	The student is able to:  i. outline the ways in which science is used to address a specific problem or issue  ii. outline the implications of using science to solve a specific problem or issue, interacting with a factor  iii. sometimes apply scientific language to communicate understanding iv. sometimes document sources correctly.			
5-6	The student is able to:  i. summarize the ways in which science is applied and used to address a specific problem or issue  ii. describe the implications of using science and its application to solve a specific problem or issue, interacting with a factor  iii. usually apply scientific language to communicate understanding clearly and precisely  iv. usually document sources correctly.			
Achievement level	Level descriptor			
7-8	The student is able to:  i. describe the ways in which science is applied and used to address a specific problem or issue  ii. discuss and analyse the implications of using science and its application to solve a specific problem or issue, interacting with a factor  iii. consistently apply scientific language to communicate understanding clearly and precisely  iv. document sources completely.			
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