### Guides to Making Judgements – Year 7 Water Units Excursion

**Work Samples:** TWLH Chart, Water Cycle representation, Water Quality Monitoring, Assessment of a Waterway, Macro invertebrate Identification and representation, Science Journal

**Student ..........................................................................................................................**

<table>
<thead>
<tr>
<th>Science Assessable Elements:</th>
<th>Task-specific descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science Assessable Elements:</strong></td>
<td><strong>Task-specific descriptors</strong></td>
</tr>
<tr>
<td><strong>Earth and space sciences</strong></td>
<td><strong>A</strong></td>
</tr>
<tr>
<td>• Some of Earth’s resources are renewable, but others are non-renewable (ACSSU116)</td>
<td>I can describe in detail the changes of state that occur during the water cycle and the factors influencing these changes</td>
</tr>
<tr>
<td>• Water is an important resource that cycles through the environment (ACSSU222)</td>
<td>I can describe the changes of state that occur during the water cycle and the factors influencing these changes</td>
</tr>
<tr>
<td><strong>Riparian Assessment</strong></td>
<td>I can make an assessment of riparian vegetation by constructing a detailed cross-sectional diagram with labels &amp; oral/written elaborations.</td>
</tr>
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**Guide to making judgments**

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<tr>
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<td>Guide to making judgments</td>
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<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td><strong>TWLH Chart/ Science Journal</strong></td>
<td>I independently add to a TWLH to show my increasing understanding of water quality and its importance. I make regular, detailed and insightful reflections on my learning in a science journal.</td>
<td>I regularly add to a TWLH to show my increasing understanding of water quality and its importance. I make regular and relevant reflections on my learning in a science journal.</td>
<td>I add to a TWLH to show my increasing understanding of water quality and its importance. I make regular and relevant reflections on my learning in a science journal.</td>
<td>With some support, I add to a TWLH to show my increasing understanding of water quality. I try to make relevant reflections on my learning in a science journal.</td>
<td>With extensive support, I add to a TWLH to show my increasing understanding of water quality. I need help to make reflections on my learning in a science journal.</td>
</tr>
<tr>
<td><strong>Water Quality Monitoring (abiotic data)</strong></td>
<td>I can record abiotic data on water quality over a period of time and analyse patterns in detail suggesting reasons for any changes.</td>
<td>I can record abiotic data on water quality over a period of time and analyse patterns.</td>
<td>I can record abiotic data on water quality over a period of time and attempt to analyse patterns.</td>
<td>I can record abiotic data on water quality over a period of time and need help to analyse patterns.</td>
<td>I can record abiotic data on water quality over a period of time.</td>
</tr>
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</table>
### Guide to Making Judgments – Year 7 Water Units Excursion

Work Samples: TWLH Chart, Water Cycle representation, Water Quality Monitoring, Assessment of a Waterway, Macro invertebrate Identification and representation, Science Journal

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<tr>
<th>Student</th>
<th></th>
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</tr>
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<tbody>
<tr>
<td></td>
<td><strong>SCIENCE UNDERSTANDING</strong> – Earth &amp; Space Sciences</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Earth and space sciences</td>
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</tr>
<tr>
<td></td>
<td>• Some of Earth’s resources are renewable, but others are non-renewable <em>(ACSSU116)</em></td>
<td>I can describe water quality and why it is important in extensive detail.</td>
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<tr>
<td></td>
<td>• Water is an important resource that cycles through the environment <em>(ACSSU222)</em></td>
<td>I can identify all variables that can be investigated.</td>
</tr>
<tr>
<td></td>
<td>Water Quality Monitoring (general concepts)</td>
<td>I can confidently use a data logger and assist peers to collect water quality data.</td>
</tr>
<tr>
<td></td>
<td><strong>Biological Sciences</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• There are differences within and between groups of organisms; classification helps organise this diversity <em>(ACSSU111)</em></td>
<td>I can independently use a dichotomous key to identify a wide variety of macro-invertebrates i.e. water bugs and use this to accurately assess the relative health of a waterway.</td>
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### Science Assessable Elements:

**Task-specific assessable elements**

**SCIENCE UNDERSTANDING – Earth & Space Sciences**

- Some of Earth’s resources are renewable, but others are non-renewable *(ACSSU116)*
- Water is an important resource that cycles through the environment *(ACSSU222)*

**Biological Sciences**

- There are differences within and between groups of organisms; classification helps organise this diversity *(ACSSU111)*
| Scientific drawings/Representations of macro invertebrates | When making my scientific drawing, I  
• Use a pencil  
• Draw from the real animal, not from memory  
• Use solid lines  
• Stipple, not shade  
• Label parts with straight lines  
• Include a title  
• Include the magnification (x__)  
• Include the estimated size in mm | When making my scientific drawing, I  
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• Draw from the real animal, not from memory  
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• Label parts  
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<tbody>
<tr>
<td>Water Quality Monitoring (biotic data)</td>
<td>I can record biotic data on water quality over a period of time and analyse patterns in detail suggesting reasons for any changes.</td>
<td>I can record biotic data on water quality over a period of time and analyse patterns.</td>
<td>I can record biotic data on water quality over a period of time and attempt to analyse patterns.</td>
<td>I can record biotic data on water quality over a period of time and need help to analyse patterns.</td>
<td>I can record biotic data on water quality over a period of time.</td>
</tr>
</tbody>
</table>
## Science Assessable Elements:

### Task-specific assessable elements

#### SCIENCE UNDERSTANDING – Earth & Space Sciences & Biological Sciences

<table>
<thead>
<tr>
<th>Earth and space sciences</th>
<th>Water Quality Monitoring (general concepts)</th>
</tr>
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<tbody>
<tr>
<td>• Some of Earth’s resources are renewable, but others are non-renewable (ACSSU116)</td>
<td>I can describe water quality and why it is important in extensive detail.</td>
</tr>
<tr>
<td>• Water is an important resource that cycles through the environment (ACSSU222)</td>
<td>I can identify and describe all of the abiotic and biotic elements of a waterway and how they are linked. I can identify all variables that can be investigated.</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>I can confidently use a data logger and assist peers to collect water quality data.</td>
</tr>
<tr>
<td>• There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111)</td>
<td>I can identify and describe most of the abiotic and biotic elements of a waterway. I can identify most variables that can be investigated.</td>
</tr>
</tbody>
</table>

#### Task-specific descriptors

<table>
<thead>
<tr>
<th>A</th>
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<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can describe water quality and why it is important in extensive detail.</td>
<td>I can describe water quality and why it is important in some detail.</td>
<td>I can describe water quality and why it is important.</td>
<td>I can describe water quality. I can identify some of the abiotic and biotic elements of a waterway.</td>
<td>I need help to describe water quality.</td>
</tr>
<tr>
<td>I can identify and describe all of the abiotic and biotic elements of a waterway and how they are linked. I can identify all variables that can be investigated.</td>
<td>I can identify most of the abiotic and biotic elements of a waterway. I can identify most variables that can be investigated.</td>
<td>I can identify most of the abiotic and biotic elements of a waterway. I can identify some variables that can be investigated.</td>
<td>I can create a simple food chain of a local waterway using data collected.</td>
<td>I need help to identify some of the abiotic and biotic elements of a waterway.</td>
</tr>
<tr>
<td>I can confidently use a data logger and assist peers to collect water quality data.</td>
<td>I can use a data logger to collect water quality data.</td>
<td>I require some support to use a data logger to collect water quality data.</td>
<td>I require some support to identify variables that can be investigated.</td>
<td>I require significant support to identify variables that can be investigated.</td>
</tr>
<tr>
<td>I need help to describe water quality. I need help to identify some of the abiotic and biotic elements of a waterway.</td>
<td>I require significant support to use a data logger to collect water quality data.</td>
<td>I require significant support to use a data logger to collect water quality data.</td>
<td></td>
<td></td>
</tr>
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<tr>
<td>Task-specific assessable elements</td>
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<td>C</td>
<td>D</td>
</tr>
<tr>
<td>SCIENCE AS A HUMAN ENDEAVOUR – Nature &amp; development of science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature and development of science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE223)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riparian Assessment</td>
<td>I can make an assessment of riparian vegetation by constructing a detailed cross-sectional diagram with labels &amp; oral/written elaborations.</td>
<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with detailed labels.</td>
<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with labels.</td>
<td>I can make an assessment of riparian vegetation by constructing a basic cross-sectional diagram with some attempt at labelling.</td>
</tr>
<tr>
<td>Water Quality Investigation of local waterway</td>
<td>I can neatly and accurately record results in a table and display in a graph. I can accurately and in detail summarise patterns in results.</td>
<td>I can accurately record results in a table and a graph. I can summarise the results.</td>
<td>I can record results in a table and a graph. I try to summarise the results.</td>
<td>I need help to record results in a table and graph. I need help to summarise the results.</td>
</tr>
<tr>
<td>Water Quality Monitoring (general concepts)</td>
<td>I can describe water quality and why it is important in extensive detail.</td>
<td>I can describe water quality and why it is important in some detail.</td>
<td>I can describe water quality and why it is important.</td>
<td>I can describe water quality. I can identify some of the abiotic and biotic elements of a waterway.</td>
</tr>
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<td></td>
<td>I can identify and describe all of the abiotic and biotic elements of a waterway and how they are linked. I can identify all variables that can be investigated.</td>
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<td>I can identify most of the abiotic and biotic elements of a waterway.</td>
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<td></td>
<td>I can confidently use a data logger and assist peers to collect water quality data.</td>
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<td>I regularly add to a TWLH to show my increasing understanding of water quality and its importance.</td>
<td>I add to a TWLH to show my increasing understanding of water quality and its importance.</td>
<td>With some support, I add to a TWLH to show my increasing understanding of water quality.</td>
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### Science Assessable Elements:
**Task-specific assessable elements**

**SCIENCE INQUIRY SKILLS - Communicating**

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</thead>
<tbody>
<tr>
<td><strong>Water Cycle Representation</strong></td>
<td>My conceptual drawing of the water cycle provides a summary of my learning</td>
<td>My conceptual drawing of the water cycle provides a summary of my learning</td>
<td>My conceptual drawing of the water cycle is an inconclusive summary of my learning</td>
<td>My conceptual drawing of the water cycle is an inconclusive summary of my learning</td>
<td>My conceptual drawing of the water cycle is an inconclusive summary of my learning</td>
</tr>
<tr>
<td><strong>Communicating</strong></td>
<td>• Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate (ACSIM133)</td>
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<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with labels.</td>
<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with labels.</td>
<td>With support, I can make an assessment of riparian vegetation by constructing a basic cross-sectional diagram</td>
</tr>
<tr>
<td><strong>Notes for a Compare &amp; Contrast Report</strong></td>
<td>Describes areas of science that contribute to a solution.</td>
<td>Describes areas of science that contribute to a solution.</td>
<td>Identifies the areas of science that contribute to a solution.</td>
<td>Identifies the areas of science that contribute to a solution.</td>
<td>States that science is involved</td>
</tr>
<tr>
<td></td>
<td>Justifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics most of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>Justifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics some of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>Identifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics at least one of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>Identifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics at least one of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>Uses everyday language.</td>
</tr>
<tr>
<td></td>
<td>Uses accurate scientific language and representations</td>
<td>Uses accurate scientific language and representations</td>
<td>Uses scientific and everyday language.</td>
<td>Uses scientific and everyday language.</td>
<td>Uses everyday language.</td>
</tr>
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**Guide to making judgments**

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<table>
<thead>
<tr>
<th>Classification of macro invertebrates</th>
<th>I can independently use a dichotomous key to identify a wide variety of macro-invertebrates i.e. water bugs and use this to accurately assess the relative health of a waterway.</th>
<th>I can use a dichotomous key to identify macro-invertebrates i.e. water bugs and attempt to use this to assess the relative condition of a waterway.</th>
<th>I need help to use a dichotomous key to identify macro-invertebrates i.e. water bugs.</th>
<th>Scientific drawings/Representations of macro invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>When making my scientific drawing, I</td>
<td>Use a pencil • Draw from the real animal, not from memory • Use solid lines • Stipple, not shade • Label parts with straight lines • Include a title • Include the magnification (x__) • Include the estimated size in mm</td>
<td>When making my scientific drawing, I Use a pencil • Draw from the real animal, not from memory • Use solid lines • Stipple, not shade • Label parts with straight lines • Include a title • Include the magnification (x__) • Include the estimated size in mm</td>
<td>When making my scientific drawing, I Use a pencil • Draw from the real animal, not from memory • Use solid lines • Stipple, not shade • Label parts with straight lines • Include a title • Include the estimated size in mm</td>
<td>When making my scientific drawing, I Use a pencil • Draw from the real animal • Use solid lines • Label parts • Include a title</td>
</tr>
</tbody>
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### Guides to Making Judgements – Year 7 Water Units Excursion

**Work Samples: Connected Map; Water Quality Investigation of local waterway - Report Card**

<table>
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<tr>
<th>Science Assessable Elements: Task-specific assessable elements</th>
<th>Task-specific descriptors</th>
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<tbody>
<tr>
<td><strong>SCIENCE INQUIRY SKILLS</strong></td>
<td><strong>Communicating</strong></td>
</tr>
<tr>
<td>- Communicate ideas, findings and solutions using scientific language and representations using digital technologies as appropriate (ACSIM133)</td>
<td>A</td>
</tr>
<tr>
<td><strong>Connected Map</strong></td>
<td>I can create a food chains and food webs using data collected from a local waterway which shows how the ecosystem works.</td>
</tr>
<tr>
<td><strong>Water Quality Investigation of local waterway - Report Card</strong></td>
<td>I can create accurate tables, graphs and communicate detailed findings using extensive scientific language as part of an investigation and report card of a local waterway.</td>
</tr>
<tr>
<td></td>
<td>I can share findings with peers, adults and community partners both face-to-face and online.</td>
</tr>
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### Guide to making judgments

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## Guides to Making Judgements – Year 7 Water Units Excursion

**Work Samples:** Riparian Assessment; Water Quality Monitoring (general concepts); Notes for a Compare & Contrast Report; Classification of macro invertebrates

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### Science Assessable Elements:
**Task-specific assessable elements**

#### SCIENCE INQUIRY SKILLS – Processing & analysing data & information

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<thead>
<tr>
<th>Riparian Assessment</th>
<th>Processing and analysing data and information</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate (ACSIS129)</td>
<td></td>
</tr>
<tr>
<td>• Summarise data, from students’ own investigations and secondary sources, and use scientific understanding to identify relationships</td>
<td></td>
</tr>
</tbody>
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<tr>
<th>Water Quality Monitoring (general concepts)</th>
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<tr>
<td>I can describe water quality and why it is important in extensive detail.</td>
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<td>I can identify and describe all of the abiotic and biotic elements of a waterway and how they are linked.</td>
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<td>I can identify all variables that can be investigated.</td>
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<td>I can confidently use a data logger and assist peers to collect water quality data.</td>
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<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with detailed labels.</td>
<td>I can make an assessment of riparian vegetation by constructing a cross-sectional diagram with labels.</td>
<td>I can make an assessment of riparian vegetation by constructing a basic cross-sectional diagram with some attempt at labelling.</td>
<td>With support, I can make an assessment of riparian vegetation by constructing a basic cross-sectional diagram</td>
</tr>
<tr>
<td>Water Quality Monitoring (general concepts)</td>
<td>I can describe water quality and why it is important in some detail.</td>
<td>I can identify some of the abiotic and biotic elements of a waterway.</td>
<td>I can identify some variables that can be investigated.</td>
<td>I can use a data logger to collect water quality data.</td>
<td>I need help to describe water quality.</td>
</tr>
<tr>
<td></td>
<td>I can identify most of the abiotic and biotic elements of a waterway.</td>
<td>I can identify some variables that can be investigated.</td>
<td>I can use a data logger to collect water quality data.</td>
<td>I require some support to use a data logger to collect water quality data.</td>
<td>I require significant support to use a data logger to collect water quality data.</td>
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</tr>
<tr>
<td>Describes areas of science that contribute to a solution.</td>
<td>I can independently use a dichotomous key to identify a wide variety of macro-invertebrates i.e. water bugs and use this to accurately assess the relative health of a waterway.</td>
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<td>Justifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics most of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>I can use a dichotomous key to identify macro-invertebrates i.e. water bugs and use this to assess the relative health of a waterway.</td>
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<tr>
<td>Uses accurate scientific language and representations</td>
<td>I can use a dichotomous key to identify macro-invertebrates i.e. water bugs and attempt to use this to assess the relative health of a waterway.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies the areas of science that contribute to a solution</td>
<td>I can use a dichotomous key to identify macro-invertebrates i.e. water bugs and need help to assess the relative health of a waterway.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Identifies how the Paluma Dam/ Mt Spec pipeline/ Kinduro Water Treatment Plant system mimics some of the natural processes of the Benham’s/ Cloudy/ Ethel Creeks system e.g. aeration, sedimentation and filtration</td>
<td>States that science is involved</td>
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<td>Uses scientific and everyday language.</td>
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Guide to making judgments

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and draw conclusions (ACSI130)
### Science Assessable Elements: Task-specific assessable elements

#### SCIENCE INQUIRY SKILLS – Processing & analysing data & information

<table>
<thead>
<tr>
<th>Science Assessable Elements</th>
<th>Task-specific descriptors</th>
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<td><strong>SCIENCE INQUIRY SKILLS</strong></td>
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| Processing and analysing data and information | When making my scientific drawing, I  
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| Connected Map | When making my scientific drawing, I  
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| **Scientific drawings/Representations of macro invertebrates** | When making my scientific drawing, I  
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| **Connected Map** | I can create a food chains and food webs using data collected from a local waterway which shows how the ecosystem works. |
| **TWLH Chart/Science Journal** | I independently add to a TWLH to show my increasing understanding of water quality and its importance.  
  I make regular, detailed and insightful reflections on my learning in a science journal. |

#### Task-specific descriptors

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**Work Samples:**

- Scientific drawings/Representations of macro invertebrates
- Connected Map
- TWLH Chart/Science Journal, Water Quality
- Investigation of local waterway - Report Card

**Student:**

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**Guides to Making Judgements – Year 7 Water Units Excursion**

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**Investigation of local waterway - Report Card**

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**Student:**

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**Guide to making judgments**

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**Task-specific assessable elements**

- **SCIENCE INQUIRY SKILLS** – Processing & analysing data & information
- **Connected Map**
- **TWLH Chart/Science Journal**
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<td>Water Quality Investigation of local waterway - Report Card</td>
<td>I can clearly identify and explain the challenges I experienced during the water quality investigation and report card production and how I did/could have overcome them.</td>
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<td>I can identify the challenges I experienced during the water quality investigation and report card production and how I did/could have overcome them.</td>
<td>I can identify the challenges I experienced during the water quality investigation and report card production. I tried to write how I did/could have overcome them.</td>
<td>I need help to identify the challenges I experienced during the water quality investigation and report card production and how I did/could have overcome them.</td>
<td></td>
</tr>
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<td>I can clearly identify and explain how I could improve the waterway report card, my conclusions and the water quality investigation for fairness and accuracy.</td>
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<td>I can identify how I could improve the waterway report card, my conclusions and the water quality investigation for fairness and accuracy.</td>
<td>I tried to identify how I could improve the waterway report card, my conclusions and water quality investigation for fairness and accuracy.</td>
<td>I need help to identify how I could improve the waterway report card, my conclusions and water quality investigation for fairness and accuracy.</td>
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