



2013  
2013  
2013



# WAMSE

Western Australian Monitoring Standards in Education  
Administrators guide to reporting



School Curriculum  
and Standards  
Authority

## CONTACT DETAILS

All documents referred to throughout the *Administrators guide to reporting* are located on the WAMSE website: [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE)

### General queries

Contact	Phone
K-10 Testing, School Curriculum and Standards Authority	(08) 9442 9488 <i>or</i> (08) 9442 9471 Email: <a href="mailto:wamse@scsa.wa.edu.au">wamse@scsa.wa.edu.au</a>

© School Curriculum and Standards Authority, 2013

This document—apart from any third party copyright material contained in it—may be freely copied, or communicated on an intranet, for non-commercial purposes in educational institutions, provided that the School Curriculum and Standards Authority is acknowledged as the copyright owner, and that the Authority's moral rights are not infringed. Copying or communication for any other purpose can be done only within the terms of the *Copyright Act 1968* or with prior written permission of the School Curriculum and Standards Authority. Copying or communication of any third party copyright material can be done only within the terms of the *Copyright Act 1968* or with permission of the copyright owners.

Any content in this document that has been derived from the Australian Curriculum may be used under the terms of the Creative Commons Attribution-NonCommercial 3.0 Australia licence.

# CONTENTS

<b>BACKGROUND</b>	<b>2</b>
Participation	2
Assessment development	2
Publications, support materials and forms	3
Marking	4
<b>IMPORTANT INFORMATION</b>	<b>5</b>
Use of the results	5
Security and confidentiality	5
Individual student reports	6
School reports	6
Timing of the reports	7
Translations	7
Revised versions of school data or student reports	7
Non-receipt of student reports	7
Transfer of WAMSE information between schools	7
<b>REPORTING EXEMPTIONS, WITHDRAWALS AND NON-ADMINISTRATION</b>	<b>8</b>
Exemptions	8
Withdrawals	8
Where schools did not participate in one assessment (non-administration)	8
<b>REPORTING ABSENCES, SANCTIONED ABANDONMENTS AND NON-ATTEMPTS</b>	<b>9</b>
<b>DESCRIPTION AND INTERPRETATION OF REPORTS</b>	<b>10</b>
The WAMSE scales of achievement	10
Links to the MSE9 program and previous WAMSE assessments	10
The WAMSE test standards	11
<b>APPENDIX A – THE INDIVIDUAL STUDENT REPORT</b>	<b>12</b>
Understanding the student report	12
The Science displays: Years 5, 7 and 9	13
The Society and Environment displays: Years 5, 7 and 9	13
Student report samples	14
<b>APPENDIX B – SUGGESTED LETTER TO ACCOMPANY REPORTS TO PARENTS</b>	<b>16</b>
<b>APPENDIX C – SCHOOL RESULTS (DIGITAL)</b>	<b>17</b>
Accessing	17
Information provided	17
Support documents (EARS)	17
<b>APPENDIX D – OUTPUT DISPLAYS</b>	<b>18</b>
<b>APPENDIX E – CONTACTS AND RESOURCES</b>	<b>20</b>
Related system-level results from other assessments	21

## BACKGROUND

### Participation

In August 2013 over seventy thousand students in Years 5, 7 and 9 from Western Australian government, Catholic and independent schools participated in the Western Australian Monitoring Standards in Education (WAMSE) assessment program in Science and Society and Environment.

Since 2005, Year 9 students have been assessed by standardised tests through the MSE9 and WAMSE assessment programs.

### Assessment development

The Science and Society and Environment assessments were developed by the Australian Council for Educational Research in consultation with educators from all sectors in Western Australia.

The assessments have been written in accordance with good-classroom practice. They:

- cater for the diverse range of students in Western Australian schools and ensure there is no systematic bias associated with such factors as gender, culture or geographic location
- provide opportunities for students of all abilities to demonstrate achievement
- are based on Western Australian curriculum documents comprising a large number of questions which address the process outcomes. In Science, over 50% of questions explicitly address student achievement in the *Investigating* outcome, and in Society and Environment, over 40% of questions explicitly address the *Investigation, Communication and Participation* outcome
- begin to incorporate relevant aspects of the Australian Curriculum. e.g. Science and History.

The current formats of the WAMSE Science and Society and Environment assessments have no practical components, which limits some aspects of the process outcomes being assessed.

## Publications, support materials and forms

Prior to the administration of WAMSE, schools were sent support publications to assist in the implementation of the assessments. These were:

- *Handbook for principals*, which included information about key dates, assessment tasks, scheduling and administering the assessments, student exemption and withdrawal, assistance for students with disabilities, return of materials, marking and reporting
- *Information for teachers*, which included information about assessment dates and assessment tasks
- *Information for parents*, which was produced for schools to distribute to parents/ caregivers. This contained information on participation, the assessment schedule, the tasks, catering for students with particular needs, confidentiality, reporting and use of the results.
- *Test administrators handbook*, which provided details of the standardised testing procedures to be used by teachers when conducting the test and a summary of the important points provided in the *Handbook for principals*.

Support materials and forms required for effective management of the test were provided to schools via the web.

Support materials:

- *Learning adjustments*
- *Overview powerpoints*

Forms:

- *Braille and large print*
- *Exemption*
- *Withdrawal*
- *Home educator registration*
- *Marker expression of interest*
- *Non-receipt of materials*

These publications, support materials and forms are available at [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE)

## Marking

Marking was completed using two methods depending on the nature of the question.

Multiple-choice questions were machine marked.

Short-answer questions were marked online at a central location with shifts operating during the day and in the evening. Retired, pre-service and other qualified teachers completed marking during the day and practising teachers came after school for the evening marking session. Markers scored either Science questions or Society and Environment questions. To ensure reliability of the marking, all teachers selected underwent extensive training in marking procedures in the relevant learning area. To further enhance reliability, markers worked in groups under the direction of a group leader. The group leader monitored the marking, provided advice and counselled markers where necessary.

The marking guides for all assessments are available at [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE) (following the links [Schools](#) > [Publications](#)).

## IMPORTANT INFORMATION

### Use of the results

The WAMSE assessment program appraises the performance of Years 5, 7 and 9 students in aspects of Science and Society and Environment. As a range of factors can influence students' performance in a test situation, WAMSE results should be viewed alongside other information collected by the classroom teacher on the *Test-session participation and summary report*. The WAMSE information forms part of the total assessment of student performance that teachers make. This does not replace the judgements that teachers are able to make concerning each student.

It is worth remembering that for the Years 5, 7 and 9 students who sat the WAMSE assessments, the results represent the culmination of more than four, six and eight years of schooling respectively and responsibility for results cannot reside solely with the current classroom teacher.

Results are used by:

- **Parents/caregivers**, who are provided with information about the performance of their child in relation to that of all other students in the same year group across Western Australia.
- **Schools**, which receive information on the performance of individual students, as well as information on the performance of their class groups, in relation to that of all other students in the same year group.

Years 5, 7 and 9 students' and groups' performance is displayed in a uniform way across the full range of abilities and against common standards. This type of information is not readily available within schools.

Teachers can use the information in conjunction with their own class records to focus their curriculum development, program planning and classroom teaching.

Schools can use the assessment results as part of their annual report to the school community, to moderate teacher judgements and to provide longitudinal data for planning and monitoring.

### Security and confidentiality

The security of student, class and school information is a priority during test production, administration, marking, and analysis. It is important that principals and teachers also preserve the security of student, class and school data so that confidentiality of results is maintained and privacy respected.

Information about each child should only be available to the child's parents/caregivers, teachers and school. It would be inappropriate, for example, to cite individual student or class results in a public forum, either orally or in print.

## Individual student reports

Schools receive individual student WAMSE reports for all students who participated in the assessments and for students who were absent from school when the assessments were administered.

Student reports have not been prepared for students who were exempt or withdrawn from both assessments.

Schools should check the reports upon receipt. Aspects of the report to be checked include names and absence.

### **Distribution**

School administrators should distribute all student reports received.

The WAMSE reports are intended to support school information and therefore should not be sent to parents/caregivers in isolation. They should be accompanied by the suggested letter to parents/caregivers given at Appendix B as well as the second semester school reports. This letter is available on the website [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE) as a Word document and schools should adapt it where necessary.

Schools should advise parents to store their child's report in a safe place as additional copies are not available.

### **Interpreting**

See Appendix A for examples of and interpreting individual student reports.

School and student results can be clarified by telephoning 9442 9488 or by emailing [wamse@scsa.wa.edu.au](mailto:wamse@scsa.wa.edu.au).

## School reports

### **Distribution**

Government and Catholic schools are provided with a digital version of school results in the Educational Assessment Reporting System (EARS). For Government schools this will be through *Student Achievement Information System* (SAIS) via the Department's portal. See Appendix C for details on accessing the results.

Independent (AISWA) schools are provided with a digital version of school results in the *Ping Jia* web-based software. See Appendix C for details on accessing the results.

The results provide detailed information about the school as a whole as well as the achievement of each student. See Appendix D for sample results.

### **Interpreting**

It is useful for teachers to be fully informed of the detailed results of each student in their class and the results of the school as a whole. This information can be used in conjunction with information from school-based programs to develop strategies to improve students' learning and to enable meaningful discussions with parents regarding their child's result. Appendix D explains how to use the EARS software, similar information is available in *Ping Jia*.

An EARS support manual is available to assist with interpreting the EARS displays. See [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE).



## Timing of the reports

Although the WAMSE results are released in November, it is important to remember that students sat the WAMSE assessments in the third week of Semester 2, shortly after the preparation of Semester 1 school reports. The information in the WAMSE reports should be interpreted in this light.

## Translations

The student report is in English. Where a translation to another language is required, it is recommended that an accredited interpreter or translator be used.

Government schools should use the Department of Education's preferred supplier of translation services. Please telephone the EAL/D Resource Centre on 9383 1122 for assistance.

Catholic schools should contact the Catholic Education Office of Western Australia (CEO) on 6380 5302 and independent schools should contact the Association for Independent Schools of Western Australia (AISWA) on 9441 1625 to discuss requirements.

It is important that the original student report not be destroyed as this should accompany the translation sent to the parent/caregiver.

## Revised versions of school data or student reports

Enquiries about missing or incorrect school results or individual student reports can be made to K-10 Testing by emailing [wamse@scsa.wa.edu.au](mailto:wamse@scsa.wa.edu.au).

Revised versions of 2013 WAMSE school data are available until the end of December 2013.

## Non-receipt of student reports

Enquiries about non-receipt of a school's student reports can be made to Pearson Research and Assessment by emailing [wamsereports@pearson.com](mailto:wamsereports@pearson.com) or by telephoning 1800 453 736.

## Transfer of WAMSE information between schools

Schools retain sole ownership of WAMSE information about their students. WAMSE results should form part of the information that is passed on when students change schools.

## REPORTING EXEMPTIONS, WITHDRAWALS AND NON-ADMINISTRATION

### Exemptions

Formal exemptions were granted to students with a disability or impairment and to some English as a Second Language students in mainstream classes and Intensive Language Centres as per the WAMSE guidelines published in the *Handbook for principals 2013*.

Decisions to exempt students were made by the principal after discussion with, in many cases, the classroom teacher and/or school-based specialists and with the signed agreement of parents/caregivers.

Exempted students do not receive a test score and they are not included in the calculation of the State or school means (averages).

No student reports are prepared for exempt students.

Students who attempted the task, and there was evidence of that attempt, but experienced difficulty were not categorised as exempt.

### Withdrawals

Parents/caregivers, with the endorsement of the principal, have exercised their right to withdraw their child from the WAMSE assessments by completing a parent/caregiver withdrawal form made available to schools prior to the testing.

Students who were withdrawn from the assessments by their parents/caregivers do not receive a test score and are not included in the calculation of the State or school means.

No student reports are prepared for withdrawn students.

### Where schools did not participate in one assessment (non-administration)

A small number of independent schools participated in only one of the Science or Society and Environment assessments. For these schools, individual student reports have the words *This assessment was not administered in this school* printed for the assessment the school did not participate in.

## REPORTING ABSENCES, SANCTIONED ABANDONMENTS AND NON-ATTEMPTS

The following table explains the effect of missing one or both parts of an assessment.

		Part A			
		Present	Absence	Sanctioned Abandonment	Non-attempts
Part B	Present	Test score based on both parts	Test score based on Part B	Test score based on Part B	Test score based on both parts
		Comment describing the typical skills and abilities demonstrated.	<i>Your child was present for Part B and absent for Part A. Their score is based on Part B only.</i>	<i>Your child did not complete one part of the test due to illness or misadventure. The results is based on one part only.</i>	<i>Your child was present for both parts of the test but made no attempt on one part.</i>
	Absence	Test score based on Part A	No test score	No test score	Test score based on Part A (raw score zero)
		<i>Your child was present for Part A and absent for Part B. Their score is based on Part A only.</i>	<i>Your child was absent for this test.</i>	<i>Your child was absent for this test.</i>	<i>Your child was absent for one part of this test and made no attempt on the other part.</i>
	Sanctioned Abandonment	Test score based on Part A	No test score	No test score	Test score based on Part A (raw score zero)
		<i>Your child did not complete one part of the test due to illness or misadventure. The results is based on one part only.</i>	<i>Your child was absent for this test.</i>	<i>Your child did not complete the test due to illness or misadventure.</i>	<i>Your child was absent for one part of this assessment and made no attempt on the other part of this test.</i>
	Non-attempts	Test score based on both parts	Test score based on Part B (raw score zero)	Test score based on Part B (raw score zero)	Test score based on both parts (raw score zero)
		<i>Your child was present for both parts of the test but made no attempt on one part.</i>	<i>Your child was absent for one part and made no attempt on the other part of this test.</i>	<i>Your child was absent for one part and made no attempt on the other part of this test.</i>	<i>Your child was present but made no attempt on this test.</i>

Method of calculating student score

Comment that appears on student's report

### Incomplete tests

Students who were present for the entire test but failed to complete all of the test paper were treated as having completed the paper. These students receive a test score and their scores are included in the calculation of the state and school means.

## DESCRIPTION AND INTERPRETATION OF REPORTS

### The WAMSE scales of achievement

In much the same way that temperature can be measured using a scale with units (degrees Celsius) so student achievement in a learning area may be measured on a scale with units. For each of Science and Society and Environment, there is a separate achievement scale with units (WAMSEs) upon which student achievement and question difficulty can be located.

Student abilities and question difficulties are measured in WAMSEs (Western Australian Monitoring Standards in Education units). In the same way as length (m) and temperature (°C) cannot be compared, WAMSEs in one assessment area are not comparable with WAMSEs in another assessment area. For example, it is not possible to directly compare a score in Science with one in Society and Environment.

An important characteristic of the WAMSE scales is that they permit comparisons of performance of individual students and of subgroups (classes, girls, boys etc.) in an assessed area within one assessment period and over time.

### Links to the MSE9 program and previous WAMSE assessments

The WAMSE assessment program, introduced in 2008, replaced the previous MSE9 assessment program through which Science at Year 9 had been assessed since 2005. Statistical psychometric equating has been carried out for all WAMSE assessments. Comparisons of the 2013 WAMSE results with those from previous years are possible.

#### **Comparing means**

Schools will be able to compare their mean performance over time. It should be noted that a variety of factors influence one years' performance when compared with another. Schools who have two or more year groups will be able to compare the same cohort over time. This can be done even when students arrive or leave a school.

#### **Comparing distributions**

In 2013, distributions of student results are displayed using the 20th and 80th percentiles so comparisons between 2013 and previous years are possible. While it will be more difficult for schools to compare the WAMSE Year 9 Science distributions with that of the previous MSE9 Science assessments that were displayed using the 25th and 75th percentiles, the current displays will make for easier comparisons with distributions from the National Assessment Program - Literacy and Numeracy (NAPLAN).

## The WAMSE test standards

A test standard has been established for each of Years 5, 7 and 9 in Science and Society and Environment. The standards have been set to match a realistic and challenging level of performance.

### WAMSE test standards for the Science Assessment

Year	Standard (WAMSEs)
5	413
7	447
9	482

### WAMSE test standards for the Society and Environment Assessment

Year	Standard (WAMSEs)
5	445
7	485
9	494

The standards provide a reference point from which to measure whole-school performance as well as individual student achievement.

Schools can use the standards to set targets for improvement in line with their own school context.

The WAMSE test standards are shown in the school results (EARS) and not on individual student reports. See Appendix D.

## APPENDIX A – THE INDIVIDUAL STUDENT REPORT

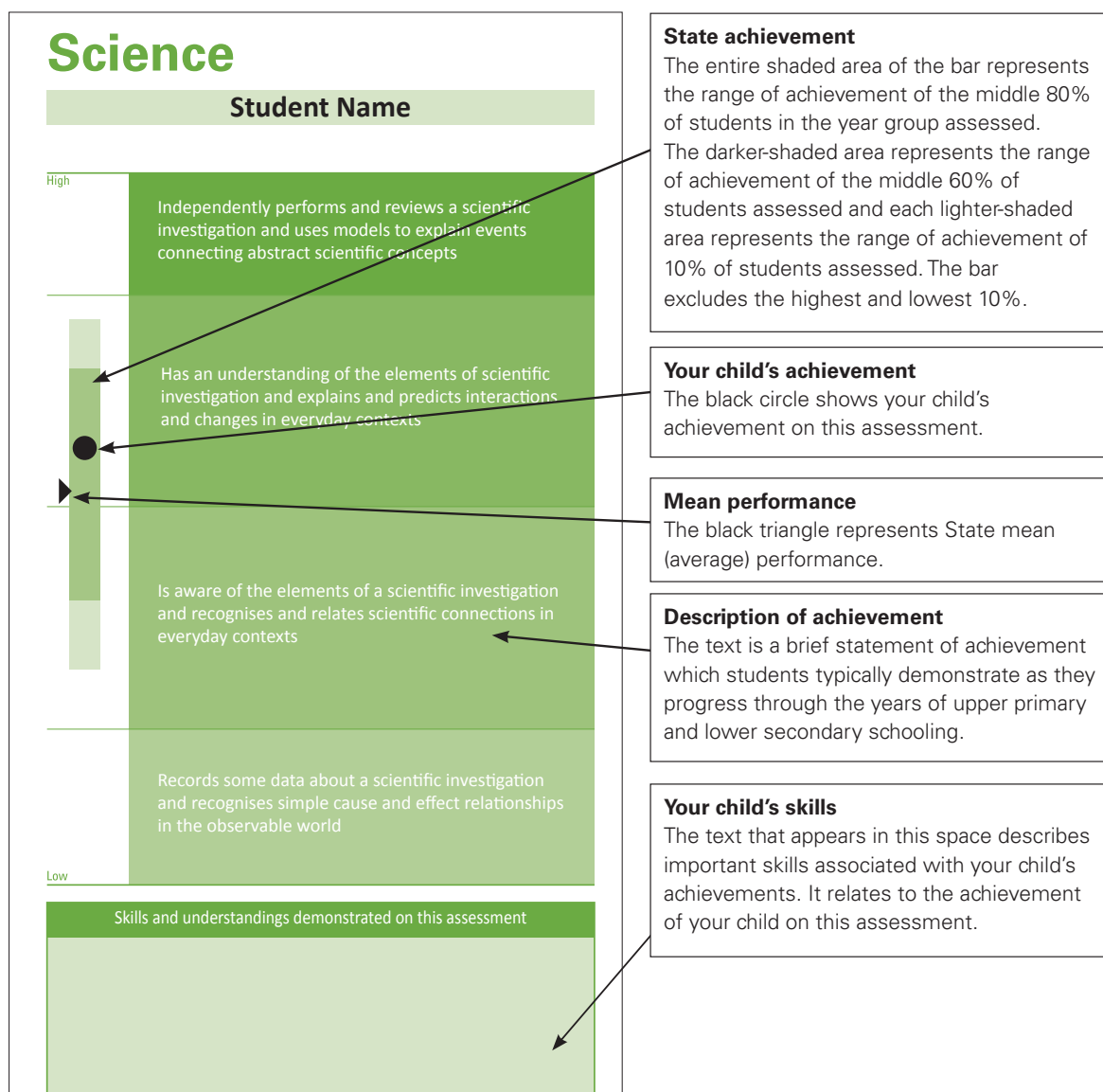
Student reports are prepared for parents/caregivers. The reports show achievement of the individual student, together with graphic representation of the student's performance in comparison to other students in the same year group across Western Australia.

Student reports have been kept free of educational jargon for ease of reading by parents. Teachers are encouraged to provide any explanation or additional information required.

Because there are a number of factors that could affect students' performances in a test situation, it is advisable for teachers to confirm the results with records of the test session report. This is important where a student's achievement is particularly high or low in comparison with their usual performance.

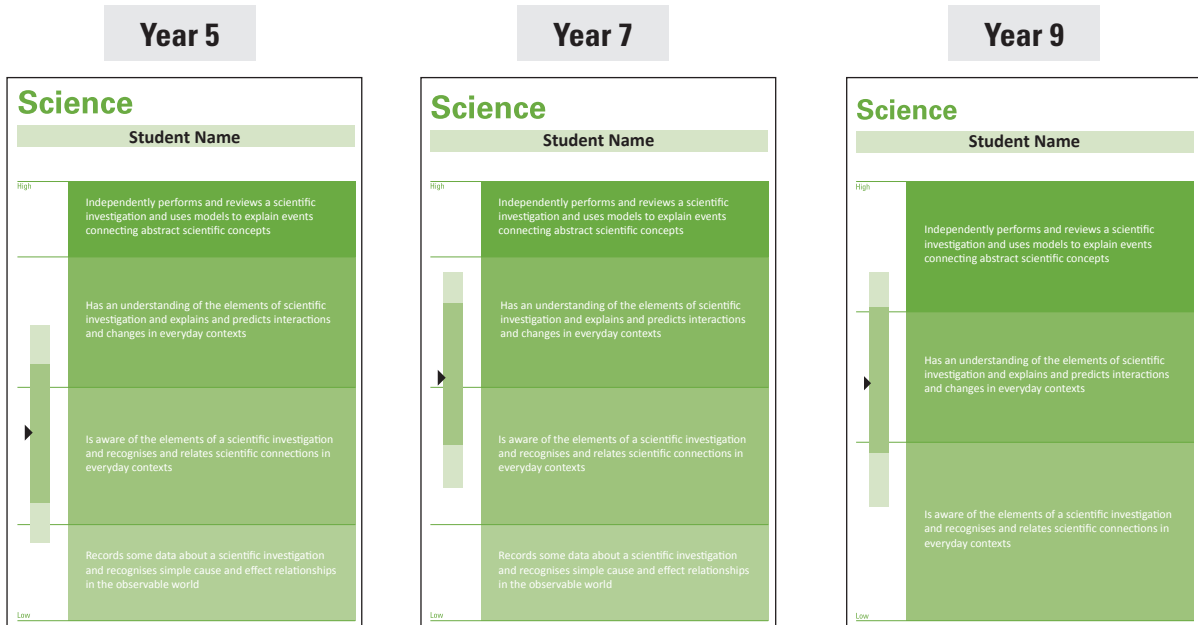
### Understanding the student report

The following sample display describes the features of the student report.



## The Science displays: Years 5, 7 and 9

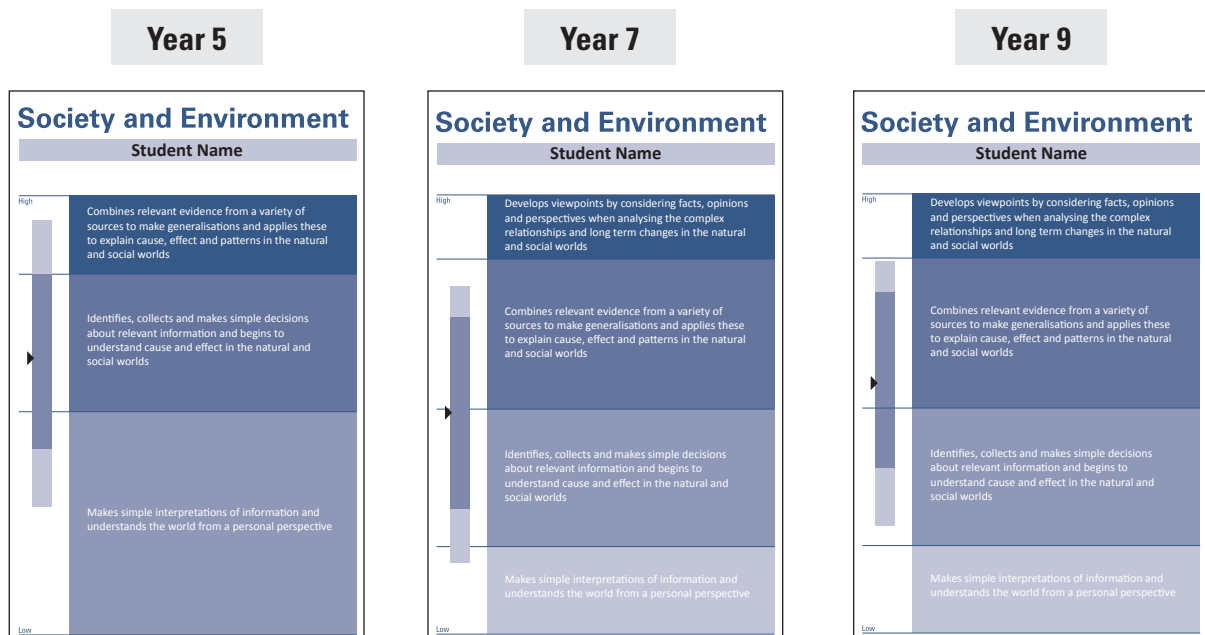
The following sample displays show the features of the student reports for each year level.



The Science displays show different areas of the Science achievement scale.

## The Society and Environment displays: Years 5, 7 and 9

The following sample displays show the features of the student reports for each year level.



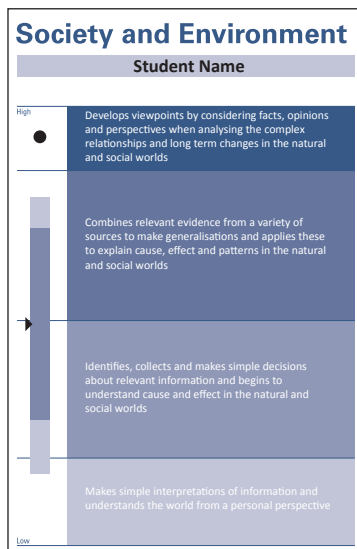
The Society and Environment displays show different areas of the Society and Environment achievement scale.

## Student report samples

The following samples of the student report may assist in discussions with parents regarding the interpretation of their child's results.

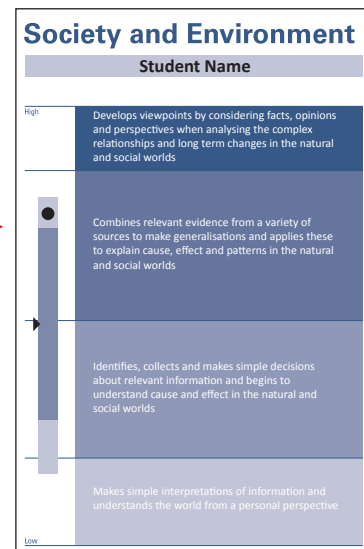
### **Students who demonstrate high levels of achievement**

In consultation with parents, the school would need to establish an overall picture of these students' current work. Extension, enrichment and acceleration are possible strategies to meet the educational needs of the gifted child.

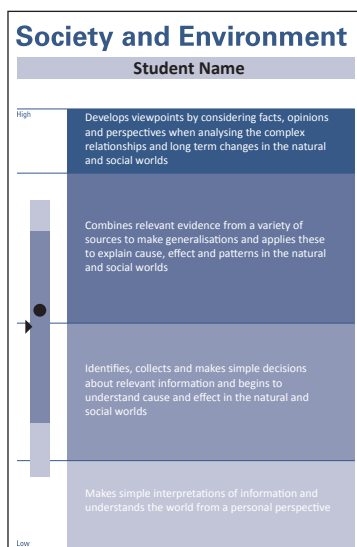


This student has achieved a result that is in the top 10% of the State population and is well above the expected achievement.

This student has achieved a result that is within the top 20% of the State population.



### **Students who demonstrate sound progress**

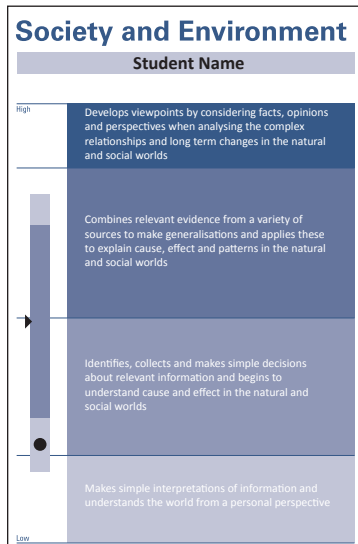


This student has achieved a result similar to the State mean and has demonstrated satisfactory achievement.



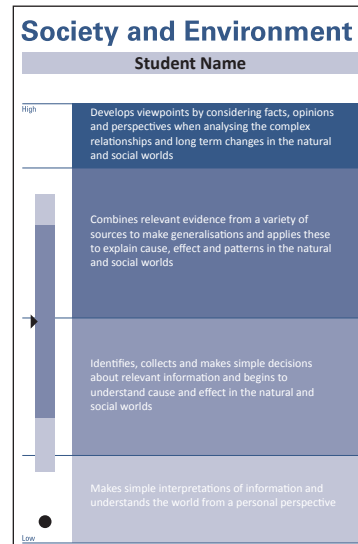
**Students who demonstrate low levels of achievement**

The WAMSE results provide additional information that should help schools target problem areas and develop strategies for improvement. In most instances the results will be a confirmation of what schools already know. Schools will already have been involved in whole-school planning to overcome these problems. Nevertheless, a whole-school review of strategies for improvement may be required.



◀ This student has achieved a result in the bottom 20% of the State distribution.

This student has achieved a result that is well below the expected achievement. ▶



## APPENDIX B – SUGGESTED LETTER TO ACCOMPANY REPORTS TO PARENTS

### 2013 WESTERN AUSTRALIAN MONITORING STANDARDS IN EDUCATION ASSESSMENT IN SCIENCE AND SOCIETY AND ENVIRONMENT (YEAR 5/7/9)

Dear Parent/Caregiver

During August your child was assessed in Science and Society and Environment.

The Western Australian Monitoring Standards in Education (WAMSE) report is enclosed together with the Semester 2 school report. The WAMSE report contains the following information:

- your child's performance in relation to the population of Year 5 / 7 / 9 students assessed in the State
- your child's progress in relation to the bands of achievement typically associated with the years of middle/upper primary or lower secondary schooling.

The following explanations are provided for your information:

- The bands of achievement indicate the various skills and knowledge that students typically demonstrate in Science and Society and Environment as they progress through the years of middle/upper primary and lower secondary schooling
- Population comparisons on the report scale display the range of achievement of the Year 5 / 7 / 9 group.

Your child's result is plotted to show his or her position on this scale.

Please store your child's report in a safe place as duplicate copies are not available.

It should be remembered that these results have been obtained from a limited test situation and provide a 'snapshot' of your child's achievement. They do not replace the judgements made by your child's teacher.

The report is intended as a supplement to the Semester 2 school report and any additional information or clarification should be sought from your child's teacher.

Yours sincerely

PRINCIPAL

**Note: Highlighted text should be adapted as necessary. Refer to the Word document available at [scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://scsa.wa.edu.au/internet/Years_K10/WAMSE).**

## APPENDIX C – SCHOOL RESULTS (DIGITAL)

### Accessing

#### **Government schools**

Government schools' WAMSE 2013 results are available online in the *Educational Assessment Reporting System* (EARS) format that can be accessed through the *Student Achievement Information System* (SAIS) via the Department's portal. The process for accessing the data is identical to NAPLAN. For further information government schools should contact the School Performance Branch on 9264 4966.

#### **Catholic schools**

The 2013 WAMSE results for Catholic schools are available digitally via the Educational Assessment Reporting System (EARS) and can be accessed via the online CAS portal. More information will be available on the Director's Noticeboard once the results have been released.

#### **Independent (AISWA) schools**

The 2013 WAMSE results for AISWA schools are available digitally via *Ping Jia*. All AISWA schools currently have access to *Ping Jia*. 2013 WAMSE results will be uploaded to the program and all AISWA schools which participated in WAMSE will be notified by email and mail that the results are available.

Further queries about school results should be directed to your relevant sector contacts (see Appendix E).

### Information provided

The software summarises school performance and shows patterns in student and school performance. For each of Years 5, 7 and 9, there is a separate section in the software for each of the following assessed areas:

- Science
- Science - Investigating
- Society and Environment
- Society and Environment - Investigation, Communication and Participation (ICP).

Results are displayed in such a way that teachers can examine individual and class performance on each of the questions and, for multiple-choice questions, correct and incorrect answers. Teachers are also able to plot class and group distributions against the Western Australian distributions, as well as student performances in relation to the continua of skills assessed. See Appendix D.

For Government and independent (AISWA) schools there will be some variation in the displays.

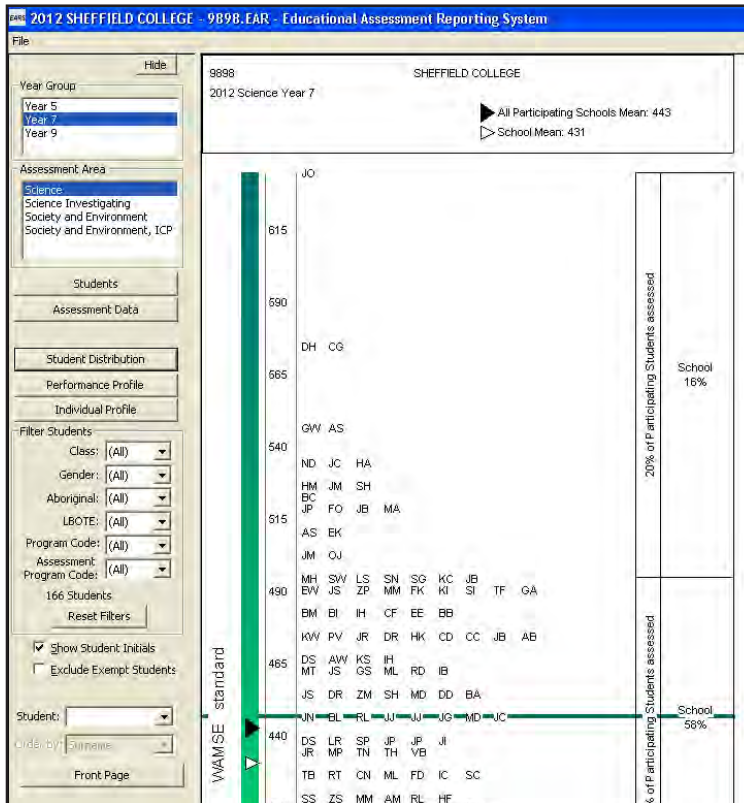
### Support documents (EARS)

Used in conjunction with the EARS support manual, see [www.scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://www.scsa.wa.edu.au/internet/Years_K10/WAMSE), the digital results provide a powerful way for teachers to examine student achievement as well as their teaching and learning programs.

A help and information section can be accessed by clicking on the 'Help and Information' button on the front page of the software.

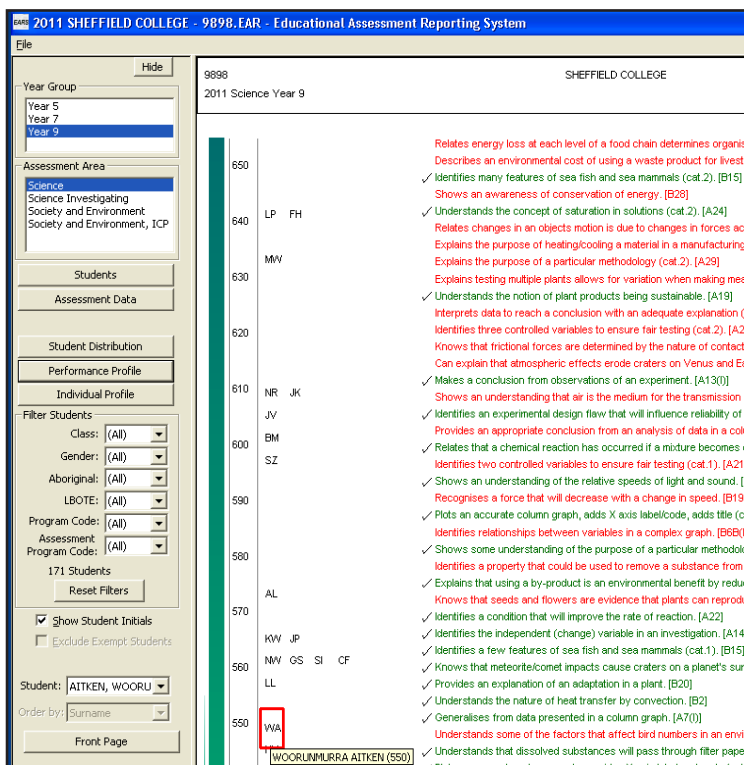


## Student Distribution



- Displays students against the WAMSE scale and the distribution of the school and all participating schools.
- By default all students are displayed. Using the "Filter Students" options on the left of the screen any subgroup of students can be selected.

## Performance Profile



- Students are displayed showing the questions they answered correctly. Questions are ranked in order from most difficult, top of screen, to least difficult at the bottom of the screen.

## APPENDIX E – CONTACTS AND RESOURCES

### School Curriculum and Standards Authority

#### **K-10 Testing (WAMSE)**

T: (08) 9442 9471

F: (08) 9442 9489

E: [wamse@scsa.wa.edu.au](mailto:wamse@scsa.wa.edu.au)

W: [scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://scsa.wa.edu.au/internet/Years_K10/WAMSE)

#### **Assessment Literacy EARS support manual**

W: [scsa.wa.edu.au/internet/Years\\_K10/WAMSE](http://scsa.wa.edu.au/internet/Years_K10/WAMSE)

### Catholic Education Office (CEO)

T: (08) 6380 5302

W: [ceo.wa.edu.au](http://ceo.wa.edu.au)

### Association of Independent Schools of Western Australia (AISWA)

T: (08) 9441 1625

W: [ais.wa.edu.au](http://ais.wa.edu.au)

### Pearson Research and Assessment

For missing reports:

T: 1800 453 736

E: [wamsereports@pearson.com](mailto:wamsereports@pearson.com)

## Related system-level results from other assessments

### **National**

NAP-SL (National Assessment Program – Science Literacy) results for Year 6 students and NAP-CC (National Assessment Program – Civics and Citizenship) results for Years 6 and 10 students are available at [nap.edu.au](http://nap.edu.au) (follow the links: [Results and Reports > National Reports](#)).

### **International**

PISA (Program of International Student assessment) reports in Science, Mathematics and Reading for 15 year olds are available at [www.pisa.oecd.org](http://www.pisa.oecd.org) (following the links [PISA products > Key findings](#)).

TIMSS (Trends in International Mathematics and Science Study) reports for Year 4 and Year 8 students are available at [www.timss.org/](http://www.timss.org/).

