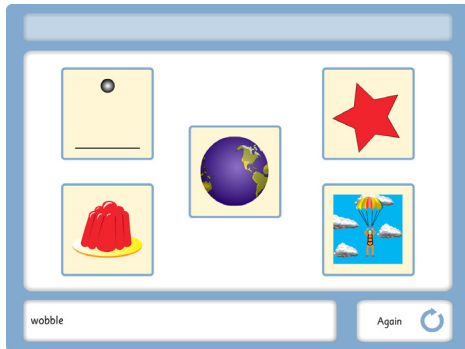# InCAS
Interpreting Feedback

Introduction to InCAS

This guide is useful for anyone who wishes to interpret InCAS feedback.

What is InCAS?

InCAS (Interactive Computerised Assessment System) is a diagnostic, computer-delivered, computer-adaptive assessment tool for schools that can be administered at any time for personalised learning.

InCAS provides a wealth of information at pupil, class and school level. It highlights pupils' strengths and weaknesses so that teachers can determine what pupils know and can do, which can inform teacher planning and target setting. It provides age-equivalent scores and diagnostic information to facilitate personalised learning.

The InCAS software is designed to assist teachers by generating a diagnostic profile of children's reading, spelling, maths and mental arithmetic together with other information to help plan the next stage towards full literacy and numeracy acquisition. It assesses a series of key features relating to reading and spelling and for each one it provides an adaptive assessment. This means that each individual child sees a different assessment from other children and in order for this to be possible, the databanks within the program hold a considerable amount of information.

InCAS is not intended to be used to provide a diagnosis of specific learning difficulties e.g. dyslexia. However, the additional information provided by the developed ability scores from InCAS can provide contextual information about a pupil for the teacher to use.

Who is InCAS designed for?

The assessment is designed for children aged between six and eleven years. The age range can be extended for pupils with special educational needs to be used in the first year of secondary school.

How do the assessments work?

The assessments have been created so that they can be administered to a whole class at once and have a child-friendly multimedia interface that guides them through the assessment process without the need for close supervision.

The computer-adaptive nature of the InCAS assessments means that the questions are tailored to the individual pupil (so that the assessment is not too difficult or too easy) and they get a personalised assessment – more suited to them. As a result, it is a more enjoyable and engaging experience. It also leads to more reliable assessments, with more detailed feedback.

At the end of the assessment the data is uploaded to CEM, automatically processed and feedback is generated and published on your school's dedicated InCAS+ secure site. Feedback generally available to download from InCAS+ within two working days of it being returned to CEM.
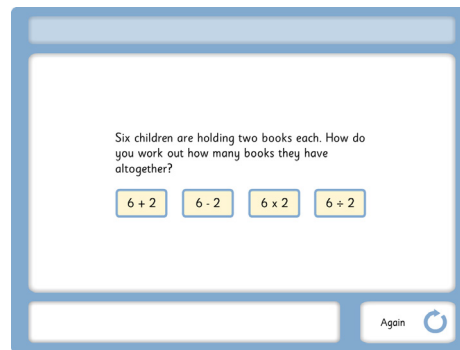
What is tested in InCAS?

InCAS has a modular design so that you can choose which parts of the assessment are appropriate for your circumstances. Six modules are available in total; Reading, General Maths, Developed Ability, Mental Arithmetic, Spelling and Attitudes. Each module is adaptive and pupils will see items appropriate for their age and ability. Within each module the assessment is broken down further.

Reading

- Word Recognition: The pupil hears a high or medium frequency word, which includes a sentence to put it in context. They must then select the target word from a choice of five words on screen.
- Word Decoding: The pupil hears a nonsense or unfamiliar word. They must then select the target word from a choice of five words on screen.
- Comprehension: The pupil reads through a passage and, when given a choice of three words, must select the word that fits into the sentence most appropriately.

General Maths

- Number 1: This covers counting, informal arithmetic, partitioning and place value, fractions and decimals. The questions are non-curriculum based.
- Number 2: This covers sorting, patterns, formal arithmetic, problem solving and algebra. The questions are non-curriculum based.
- Measures, Shape and Space.
- Data Handling.

Developed Ability

- Picture Vocabulary: The pupil hears a word and selects the picture that best represents that word.
- Non-Verbal Ability: A pattern appears on the left hand side of the screen and the pupil must then find the corresponding pattern within a larger pattern on the right hand side.

Spelling

- The pupil hears a word, which includes a sentence to put it in context. They then use the on-screen keyboard to select the correct letters for the target word.

Mental Arithmetic

- Assesses the pupil's ability to process numerical operations quickly and accurately.

Attitudes

- Attitudes towards Reading, Maths and School are assessed using a sliding scale.

How long do the assessments take?

The timings for the modules of the assessment are shown below.

- Reading (20 – 25 minutes)
- General Maths (20 – 25 minutes)
- Developed Ability (20 – 25 minutes)
- Spelling (15 – 20 minutes)
- Mental Arithmetic (15 – 20 minutes)
- Attitudes (5 – 10 minutes)

To assist the pupils' concentration, we recommend a break in between each section. This may be play time or dinner time, or the sections may be administered over a period of a few days or even a few weeks.

When can we use the assessments?

InCAS can be done at any time of the year. However, schools that are registered for the assessments through their local education authority or consortium should check if an assessment period has been specified. Schools need not assess all pupils at the same time although for consistent comparisons year on year, it is advisable to choose a convenient time of year and stay with it.

What feedback do we get?

InCAS feedback gives a profile for the whole school, year groups, classes and individual pupils. Pupil reports allow the teacher to see reading, spelling and mathematics abilities in relation to vocabulary, non-verbal ability and attitudes.

InCAS UK 2011/12
Form 3

School: 1234567
Assessment:Achievement

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)	
		Reading	GenMaths
Adam Apple	6:1	10:3	8:1
Bertie Banana	8:3	9:4	8:10

InCAS delves deeper into the scores of the subsections of modules to give a more diagnostic approach to reporting the assessment feedback. The breakdown of reading and spelling scores enables a teacher to see which pupils have good word recognition and decoding skills but perhaps poor understanding of a passage of text. Other children will be able to read reasonably well but have problems with spelling, and so on. Analysis of the mental arithmetic and general mathematics sections enable teachers to identify areas of strength and weakness.

The added dimension of the Developed Ability module (consisting of the Picture Vocabulary and Non-Verbal ability subsections of the assessment) enables teachers to see if pupils' reading is in line with their ability to learn. This is particularly useful for children for whom English is an additional language. Developed ability is something that they have developed over their lifetime and they will continue to develop. It is measured by using a combination of their vocabulary acquisition and non-verbal ability.

The pupils' responses for vocabulary, non-verbal ability, reading, spelling, mental arithmetic and general mathematics are converted to age equivalent scores that can be compared to their actual age. Age equivalent scores present the scores as ages in years and months at which a pupil is performing. If a pupil is performing as expected for their age, the age equivalent score is the same as their chronological age.

Attitudes are reported on a scale of negative through to positive.

Age standardised scores are also available with a mean of 100 and a standard deviation of 15.

English National Curriculum Key Stage SATS Predictions are also available where applicable.

Longitude Charts show the progress that a child makes over a period of time and start to become valuable as pupils are assessed year on year. Longitude Charts are available for Reading, General Mathematics, Mental Arithmetic and Developed Ability.

InCAS+ Website: www.incasproject.org/plus

InCAS+ provides a range of additional services for users of the InCAS assessments. You can also download feedback.

To gain access to the InCAS+ website first go to the InCAS website at www.incasproject.org/plus where you will be prompted to enter your user name and password. If you have lost your user name and password please email *primary.support@cem.org* giving your school name and school code. A reminder letter will then be sent to the InCAS coordinator at your school.
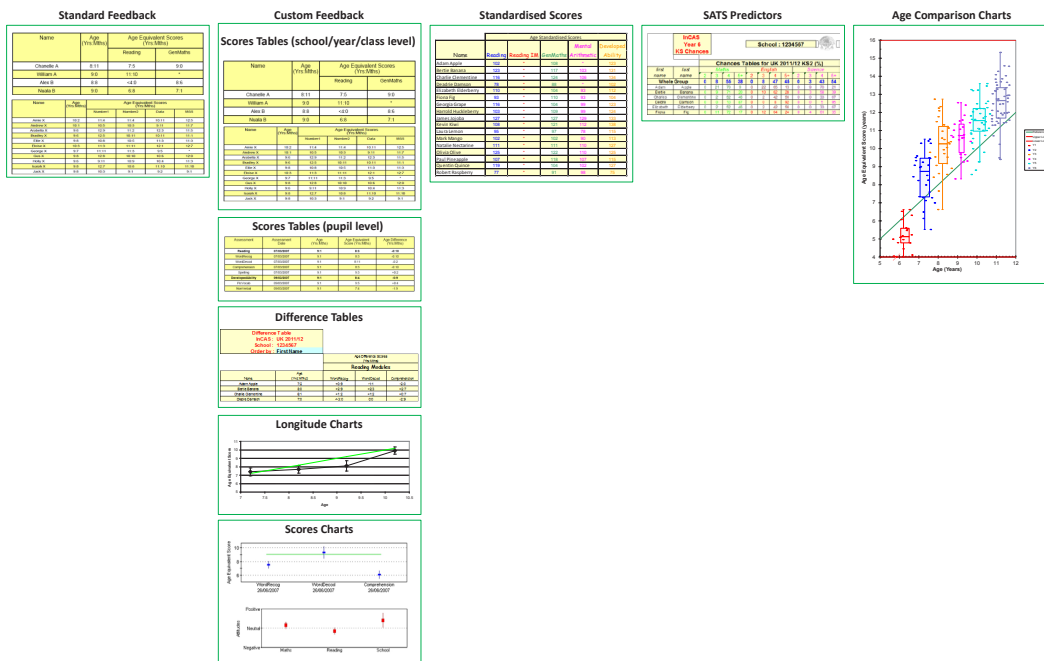
Interpreting feedback

Checklist to complete before interpreting InCAS feedback

☐ Assessment data returned to CEM and feedback ready

☐ InCAS+ user name and password

☐ Microsoft Excel

☐ Adobe reader

TIP: *Most computers will be able to deal with the pdf format but if not, Adobe reader is required and this can be downloaded for free from the Adobe web site at http://www.adobe.com/*

The types of feedback outlined in this section of the guidance notes

Standard Feedback

Custom Feedback

Scores Tables (school/year/class level)

Scores Tables (pupil level)

Difference Tables

Longitude Charts

Scores Charts

Standardised Scores

SATS Predictors

Age Comparison Charts

Step 1: Getting started – Is the feedback ready to download?

In order for the feedback to be ready to download, the assessment data must have been returned to CEM.

Once the feedback is ready to download it is accessible on the InCAS+ secure website.

Step 2: Logging on to InCAS+

1 To log on to InCAS+ go to www.incasproject.org/plus.

2 Enter your user name and password and click "Log In".
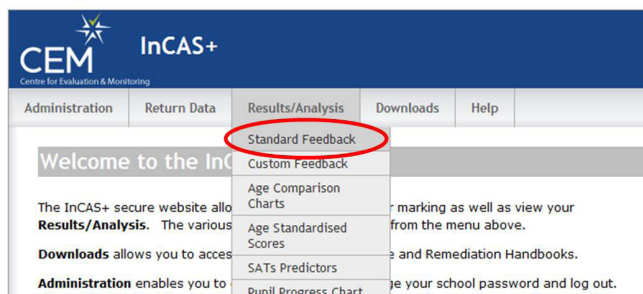

3 You will be taken to the InCAS+ homepage

> **TIP:** *This page shows you several important pieces of information such as forthcoming conferences, and standard feedback availability. It is worth keeping up to date with any new information on this page.*

Step 3: Standard Feedback

How to download Standard Feedback

1 To view the Standard Feedback, log in to InCAS+ using the instructions in Step 2.

2 Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "Standard Feedback".

3 A page will appear that has a box listing all years ("Version") in which the InCAS assessment has been carried out at the school.

4 Highlight the "Version" that you are interested in e.g. UK 2010/11 and then click the "Display" button.

5 A pdf document will open containing the Standard Feedback for your school.

What is in the Standard Feedback?

"Standard Feedback" presents the feedback in the form of tables in a pdf document. The tables appear in the order below:

• Achievement (Reading and General Maths)
• Reading Modules (Word Recognition, Word Decoding, Comprehension, Spelling)
• General Maths Modules (Number 1, Number 2, Measures, Shapes and Space, Data)
• Mental Arithmetic
• Mental Arithmetic Modules (Addition, Subtraction, Multiplication, Division)
• Developed Ability
• Developed Ability Modules (Picture Vocabulary, Non Verbal)
• Attitudes (Reading, Maths, School)

Feedback is presented by class with all the tables for one class given before moving on to the next class.

An example of the information given in the table is shown below.

• Name - Name of the pupil (in alphabetical order by surname)
• Age (Yrs:Mths) – Age of the pupil at the time they sat the assessment (in years and months)
• Age Equivalent Score (Yrs:Mths) – Score for the pupil (in years and months)

InCAS UK 2011/12 Form 3	School: 1234567 Assessment:Achievement

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)	
		Reading	GenMaths
Adam Apple	6:1	10:3	8:1
Bertie Banana	8:3	9:4	8:10

Symbols used in the feedback tables

* Pupil has not completed a particular module or unit

The confidence interval of a module exceeds plus or minus three years

More information about Standard Feedback

Standard Feedback provides age equivalent scores for all pupils in the school who have sat the InCAS assessment in the selected academic year.

The scores allow teachers, senior managers and coordinators to create a profile for individual pupils, individual classes and the whole school.

Pupil scores allow direct comparison of Reading, Spelling, Mathematics and Mental Arithmetic abilities in relation to Developed Ability (Vocabulary and Non-Verbal Ability) and Attitudes.

Delving deeper into the subsections of the Reading and Spelling module scores enables a teacher to see which pupils have good Word Recognition and Decoding skills but perhaps poor understanding of a passage of text (Comprehension). Other children will be able to read reasonably well but have problems with spelling, and so on.

The added dimension of Developed Ability (Picture Vocabulary and Non-Verbal Ability) enables teachers to see if pupils' reading is in line with their other scores. Developed Ability is described for the purpose of CEM assessments as the ability of children to learn. It is something that they have developed over their lifetime and they will continue to develop. It is measured by using a combination of their language acquisition and non-verbal ability. This is a particularly useful measure for children for whom English is an additional language.

The aim for the InCAS scores is that teachers will use it to help move pupils forwards, to take them from where they are and to extend their performance in reading, vocabulary, mathematics etc. Professional interpretation of the scores by teachers who know their pupils allows the creation of a personalised teaching and learning strategy for every pupil founded on research-based information.

It is extremely important to note that the Developed Ability score is not a fixed quantity. It is a measure of the pupil's capacity to think quickly, solve novel problems and understand and learn rapidly. It is not the same as an IQ score and it will change year on year as the pupil develops these skills. The Developed Ability score is influenced by culture and in recognition of this, the vocabulary items that are used in the assessment are, as far as is possible, not curriculum dependent. This is to gain a measure of vocabulary acquired outside of the school environment.

Reading

The Reading score is a composite score calculated based on the pupil's scores from the Word Recognition, Word Decoding and Comprehension modules.

Module descriptions

Word Recognition: The pupil hears a high or medium frequency word, which includes a sentence to put it in context. They must then select the target word from a choice of five words on the screen.

Word Decoding: The pupil hears a nonsense or unfamiliar word. They must then select the target word from a choice of five words on the screen.

Comprehension: The pupil reads through a passage and, when given a choice of three words, must select the word that fits into the sentence most appropriately.

> **TIP:** *A pupil will only be presented with the Comprehension section if they have scored highly enough in the Word Recognition and Word Decoding sections. Those pupils who do not achieve sufficiently high Word Recognition and Word Decoding scores to access the Comprehension module during the assessment are credited with the minimum Comprehension score in the calculation of the composite Reading score.*

Spelling

The pupils sits this module as a separate module to the Reading module. The pupil hears a word, which includes a sentence to put it in context. They then use the on-screen keyboard to select the correct letters for the target word.

General Maths

The General Maths score is based on the pupil's scores from the Number 1, Number 2, Measures Shape and Space and Data modules.

Module descriptions

Number 1: The pupil hears a question from one of the topics: counting, informal arithmetic, partitioning and place value, fractions and decimals. The pupil must then select the appropriate answer from a choice of four possible answers on the screen.

Number 2: The pupil hears a question from one of the topics: sorting, patterns, formal arithmetic, problem solving and algebra. The questions are non-curriculum based. The pupil must then select the appropriate answer from a choice of four possible answers on the screen.

Measures, Shape and Space

Data Handling

Mental Arithmetic

The Mental Arithmetic score is based on the pupil's scores from the Addition, Subtraction, Multiplication and Division modules. This section assesses the pupil's ability to process numerical operations quickly and accurately.

Module descriptions

Four possible answers are displayed on the screen before the question is presented. The sections appear in the order Addition, Subtraction, Multiplication and Division.

> **TIP:** *A pupil will only be presented with the Subtraction section if they have scored an Addition score greater than 5 years. They will only be presented with the Multiplication section if they have scored a Subtraction score greater than 7 years. Finally, a pupil will only be presented with the Division section if they have scored a Multiplication score greater than 8 years.*

Developed Ability

The Developed Ability score is based on the pupil's scores from the Picture Vocabulary and Non-Verbal Ability modules. Developed Ability is described for the purpose of CEM assessments as the ability of children to learn. It is something that they have developed over their lifetime and they will continue to develop.

Module descriptions

Picture Vocabulary – The pupil hears a word and selects the picture that best represents that word from a choice of five pictures on the screen.

Non-Verbal ability – A pattern appears on the left hand side of the screen and the pupil must then find the corresponding pattern within a larger pattern on the right hand side of the screen. The pattern may have been translated in position but will not have been rotated or reflected.

The aim is that pupils complete as many of the puzzles as possible in the time available. This provides a reliable measure of the pupil's ability to work speedily through problems that they have never seen before. Further details can be found in Baseline Assessment and Monitoring in Primary Schools, Tymms, 2000. ISBN-13 978-1-85-346591-8

Attitudes

The pupil's attitudes towards Reading, Maths and School are assessed using a sliding scale. Questions take the form of "I do well in Maths" and "I like Reading".

Example standard feedback

Achievement

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)	
		Reading	GenMaths
Chanelle A	8:11	7:5	9:0
William A	9:0	11:10	*
Alex B	8:8	<4:0	8:6
Nuala B	9:0	6:8	7:1

Comments on the feedback

Chanelle was 8 years and 11 months when she completed InCAS. Her Reading age equivalent score was 7 years and 5 months, which was much lower than her chronological age. Her General Maths age equivalent score was 9 years, just one month higher than her chronological age.

At the time of producing the feedback, William had only completed the Reading unit (as shown by the asterisk under the column of General Maths scores), and his age equivalent score of 11 years and 10 months was almost three years higher than his chronological age.

Alex's Reading score was less than four years and, as such, too low to reasonably estimate.

Developed Ability

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)	
		PicVocab	NonVerbal
Chanelle A	8:11	9:5	10:5
William A	9:0	11:4	12:4
Alex B	8:8	5:2	<3:0
Zane C	8:8	10:7	11:6

Comments on the feedback

Chanelle's Picture Vocabulary and Non-Verbal age equivalent scores are higher than her chronological age.

Alex's Picture Vocabulary and Non-Verbal age equivalent scores are very low. In fact, his Non-Verbal score is so low that it can only be reasonably estimated to be lower than 3 years.

Reading and Spelling module scores

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)			
		WordRecog	WordDecod	Comprehension	Spelling
Chanelle A	8:11	9:0	7:0	7:3	8:10
William A	9:0	10:5	13:2	12:1	10:8
Alex B	8:8	4:0	<4:0	*	4:8
Nuala B	9:0	7:6	9:3	6:1	*
Joe C	9:1	7:10	11:8	9:1	*

Comments on the feedback

Joe's Word Decoding age equivalent score is much higher than his Word Recognition score.

Alex's Word Recognition and Word Decoding age equivalent scores are extremely low, in fact his Word Decoding score is estimated to be lower than 4 years. Alex's Word Recognition and Word Decoding scores were below the level required to move onto the Comprehension module, denoted by the asterisk.

General Maths module scores

Name	Age (Yrs:Mths)	Age Equivalent Scores (Yrs:Mths)			
		Number1	Number2	Data	MSS
Amie X	10:2	11:4	11:4	10:11	12:5
Andrew X	10:1	10:5	10:3	9:11	11:7
Arabella X	9:6	12:9	11:2	12:3	11:5
Bradley X	9:6	12:5	10:11	10:11	11:1
Ellie X	9:8	10:8	10:5	11:3	11:3
Eloise X	10:3	11:3	11:11	12:1	12:7
George X	9:7	11:11	11:3	9:5	*
Gus X	9:8	12:8	10:10	10:6	12:0
Holly X	9:6	9:11	10:9	10:4	11:3
Isaiah X	9:8	12:7	10:8	11:10	11:10
Jack X	9:8	10:3	9:1	9:2	9:1

Attitudes scores

The table for attitude scores reports on a 5-point scale with 1 being very negative and 5 being very positive.

Name	Age (Yrs:Mths)	Attitude Scores		
		Reading	Maths	School
Amie X	10:2	4	3	5
Andrew X	10:1	5	5	4
Arabella X	9:6	5	3	3
Bradley X	9:6	4	5	5
Ellie X	9:8	3	4	4
Eloise X	10:3	4	3	4
George X	9:7	3	2	3
Gus X	9:8	3	4	4
Holly X	9:6	3	4	4
Isaiah X	9:8	4	4	4
Jack X	9:8	3	3	3

Step 4: Custom feedback

What is available through Custom feedback?

"Custom feedback" presents the feedback in a range of different forms. Microsoft Excel tables and charts as well as pdf documents are available to download. Four main types of feedback are available:

- Scores tables
- Difference tables
- Scores charts
- Longitude charts

The feedback can be displayed for
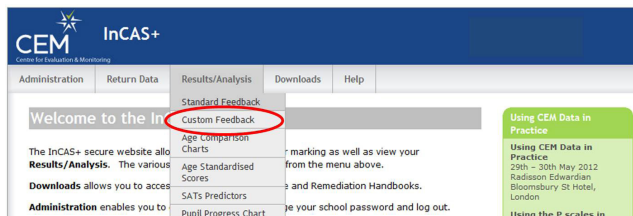
- Individual pupils
- Class
- Year Group
- School

Depending upon the option selected the feedback will then display feedback for either a single subject for all pupils in a class, year group or the whole school or all subjects for a single pupil.
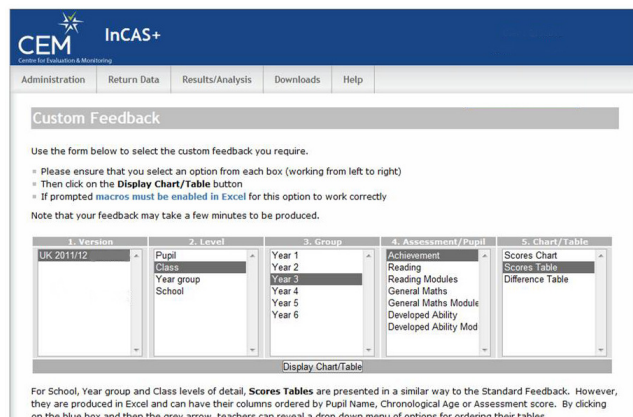
Subject choices are shown below

- Achievement (Reading and General Maths)
- Reading Modules (Word Recognition, Word Decoding, Comprehension, Spelling)
- General Maths Modules (Number 1, Number 2, Measures, Shape and Space, Data)
- Mental Arithmetic
- Mental Arithmetic Modules (Addition, Subtraction, Multiplication, Division)
- Developed Ability
- Developed Ability Modules (Picture Vocabulary, Non Verbal)
- Attitudes (Reading, Maths, School)

How to download Custom feedback

1 To view Custom feedback, log in to InCAS+ using the instructions in Step 2.

2 Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "Custom Feedback".

3 A page will appear that has a series of boxes.

4 Highlight the Version, Level, Group, Assessment/Pupil and Chart/Table that you are interested in (e.g. UK 2011/12, Class, Year 3, Achievement, Scores Table) and then click the "Display" button.

5 Either a Microsoft Excel or pdf document will open, depending upon the type of feedback selected.

Scores Tables

These can be obtained at Pupil, Class, Year Group and School Levels.

At the Class, Year Group and School level, these tables are the same as the ones given for Standard Feedback.

At pupil level the table reports all the assessment modules completed by the pupil. The table shows the date the pupil sat each component of the assessments, the pupil's age at test, their age equivalent score for each assessment and subsection and the age difference between their age at test and their score. Differences are not produced for attitudes.

Some pupils' age equivalent scores fall below the minimum or above the maximum score achievable. In these instances, the difference between the chronological age and age equivalent score is denoted by < - (less than) if the age equivalent score is below the minimum or > (greater than) if above the maximum.

Example pupil level scores table

Assessment	Assessment Date	Age (Yrs:Mths)	Age Equivalent Score (Yrs:Mths)	Age Difference (Yrs:Mths)
Reading	**07/03/2007**	**9:1**	**8:3**	**-0::10**
WordRecog	07/03/2007	9:1	8:3	-0::10
WordDecod	07/03/2007	9:1	8:11	-0:2
Comprehension	07/03/2007	9:1	8:3	-0::10
Spelling	07/03/2007	9:1	9:3	+0:2
DevelopedAbility	**09/03/2007**	**9:1**	**8:4**	**-0:9**
PicVocab	09/03/2007	9:1	9:5	+0:4
NonVerbal	09/03/2007	9:1	7:4	-1:9

Comments on the feedback

In this example, the pupil has completed Reading, Spelling and Developed Ability. The profile of the pupil can now be seen quite clearly.

- The Reading age equivalent score is 8 years and 3 months, which is 10 months behind her chronological age.
- Looking in more detail, her Word Recognition is much weaker than her Word Decoding, and this appears to be affecting her Comprehension.
- Her Spelling age equivalent score is slightly above her chronological age.
- Her Picture Vocabulary age equivalent score is 4 months above her chronological age but her Non-Verbal ability is 1 year and 9 months lower.

Difference tables

The difference tables show the differences between the pupil's age at test and their age equivalent score.

Tables are displayed by subject for a whole year group or class. Difference tables are not produced for attitudes.

The information in these tables can be sorted by first name, last name or scores by clicking on the blue box next to "Order by" at the top of the table and then clicking on the grey arrow to reveal a drop-down menu of options.

Some pupils' age equivalent scores fall below the minimum or above the maximum score achievable. In these instances, the difference between the chronological age and age equivalent score is denoted by < (less than) if the age equivalent score is below the minimum or > (greater than) if above the maximum.

Example difference table feedback

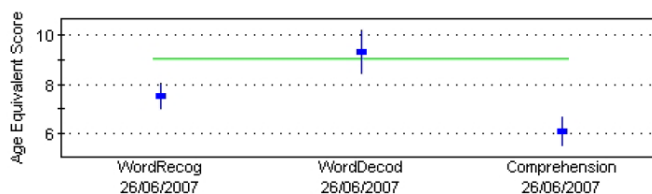| Difference Table InCAS : UK 2011/12 School : 1234567 Order by : First Name				
		Age Difference Scores (Yrs:Mths)		
		Reading Modules		
Name	Age (Yrs:Mths)	WordRecog	WordDecod	Comprehension
Adam Apple	7:2	+0:9	-1:1	-2:0
Bertie Banana	8:0	+2:9	+2:3	+2:7
Charlie Clementine	6:1	+1:2	+1:2	+0:7
Diedre Damson	7:0	<-3:0	0:0	-2:9

Scores Charts

The Scores Charts let you see the full profile of a child in a graphical format. They are presented in a Microsoft Excel file. This type of feedback has two types of charts:

- Cognitive profile charts (Reading, General Maths, Developed Ability, Spelling, Mental Arithmetic)
- Attitudes charts

Cognitive profile charts

Cognitive profile charts show the age equivalent score for each module that the pupil has completed.

The **blue squares** show the age equivalent scores and the lines above and below are the confidence intervals.

The **confidence intervals** (vertical blue lines) give an indication of the range in which a child might score on a different day. These show the range of 1 standard error, within which we are 68% confident the child's true score lies. On a different day, a pupil might have had a slightly different pattern of responses and therefore achieved a slightly higher or lower score. The length of the confidence intervals are determined by the consistency of the pupil's answers and the number of questions they have answered. A pupil who has been guessing at answers to questions will show longer confidence intervals than a pupil who has consistently answered questions, where the intervals will be small. If there is clear space between the end of the confidence intervals and the item being compared (e.g. pupil age at test or another score) then the difference can be considered to be statistically significant.

The **green line** is the pupil's actual age at the time of the assessment. If the confidence interval overlaps the green line, the age equivalent score is not significantly different to the pupil's chronological age.

A **red line** on the chart displays the minimum or maximum score achievable for that assessment. For Maths the minimum score is 3 years 0 months and for Reading it is 4 years 0 months. For all assessments the maximum score is 16 years 0 months.
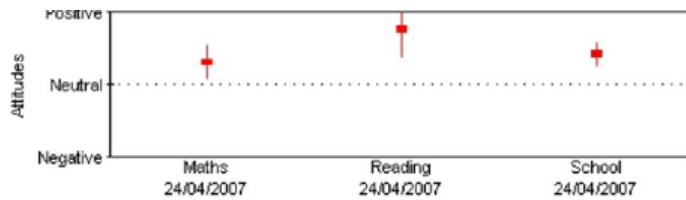
14

Comments about the feedback

In the example shown here the pupil is on track with Word Decoding but the Word Recognition and Comprehension age equivalent scores are lower than the chronological age.

Attitudes charts

The attitudes charts show the scores for Reading, Maths and School. These are on a scale from negative to positive.

The **red squares** represent the attitude score and the lines above and below are the confidence intervals.
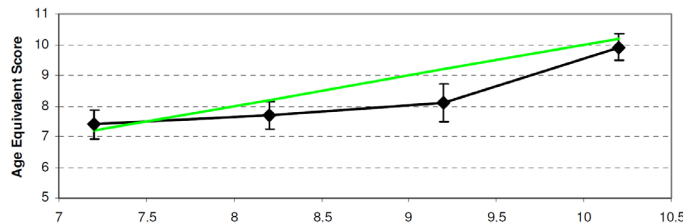

Longitude Charts

Longitude Charts show the progress that a child makes over a period of time. They start to become increasingly valuable as pupils are assessed year on year.

Longitude Charts are available for

- Reading
- General Mathematics
- Mental Arithmetic
- Developed Ability.

The horizontal axis shows the age of the pupil at the time they sat their InCAS assessments.

The vertical axis shows the age equivalent score. The scale on both axes automatically adjust to show the full range of the pupil's age equivalent scores. It is therefore sometimes shown as half years and sometimes as whole years.

The **black diamonds** show the pupil's age equivalent score plotted on the graph against their age when they sat the assessment.

The **green line** is indicative of the national average. Because the scores are age equivalent scores, it is therefore the case that pupils aged 8 years would be expected to have an age equivalent score of 8 years and pupils aged 9 years would be expected to have an age equivalent score of 9 years, etc.

The bars above and below the diamonds represent the **confidence intervals** and give an indication of the range in which a child might score on a different day (see 'Scores Charts' for further explanation of the confidence interval).

A **red line** on the chart displays the minimum or maximum score achievable for that assessment. For Maths the minimum score is 3 years 0 months and for Reading it is 4 years 0 months. For all assessments the maximum score is 16 years 0 months.

Occasionally, a pupil's score on a previous assessment will be higher than his/her latest score. This is usually within the confidence intervals, and so the two scores are not significantly different. Very rarely, this difference will be a significant one and this would tend to apply to children with special educational needs. It may be that the pupil was lucky in the first assessment, selecting correct multiple choice answers by chance and the later assessment is a more accurate reflection of their achievement or ability.

Comments on the feedback

The example on the previous page shows a Longitude Chart for Reading, i.e. the composite score derived from Word Recognition, Word Decoding and Comprehension.

The pupil was approximately 7 years and 3 months old when he completed his first InCAS assessment. At that time his Reading age equivalent score was approximately 7 years and 6 months, which was slightly higher than his chronological age but within the confidence interval.

The second assessment was completed when the pupil was approximately 8 years and 3 months old. His Reading age equivalent score was approximately 7 years and 9 months, so he had fallen behind the expected level for his age, just outside the confidence interval.

At the third assessment his Reading score was still lower than would be expected for his chronological age, and significantly so, but by the fourth assessment it was back in line with expectations.

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Step 5: Age Comparison Charts

What is available on an Age Comparison Chart?

Age Comparison Charts present the feedback as vertical box and whisker plots in Microsoft Excel. They show the age and assessment score distributions for the pupils in a cohort.

The feedback can be displayed for
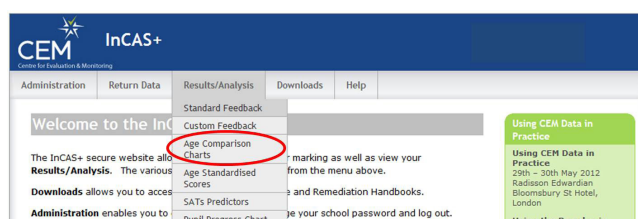
• Class

• Year Group

• School

Depending upon the option selected the feedback will then display feedback for all pupils in a class, year group or the whole school.
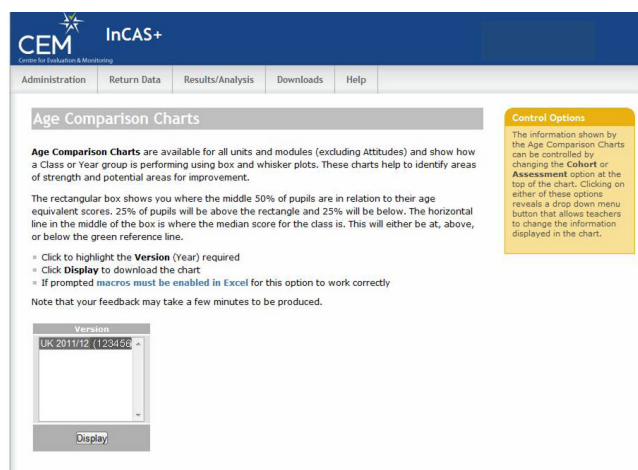
Subject choices are shown below

• Achievement (Reading and General Maths)

• Reading Modules (Word Recognition, Word Decoding, Comprehension, Spelling)

• General Maths Modules (Number 1, Number 2, Measures, Shape and Space, Data)

• Mental Arithmetic

• Mental Arithmetic Modules (Addition, Subtraction, Multiplication, Division)

• Developed Ability

• Developed Ability Modules (Picture Vocabulary, Non Verbal)

• Attitudes (Reading, Maths, School)

How to download Age Comparison Charts

1   To view the Age Comparison Charts, log in to InCAS+ using the instructions in Step 2.

2   Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "Age Comparison Charts".

3   A page will appear that has a box listing all years ("Version") in which the InCAS assessment has been sat at the school.

4   Highlight the "Version" that you are interested in e.g. UK 2010/11 and then click the "Display" button.

5 A Microsoft Excel document will download.

6 Once inside the document you can select which feedback you would like to view by selecting options from one of the two drop down menus. The chart can be controlled by changing the Cohort or Assessment at the top of the chart. Clicking on either option reveals a drop down menu. The Cohort option has choices for all pupils, each class and each year group, while the Assessment option has choices for each unit and module.

> • In order to display all the modules of an assessment (e.g. Reading Modules, Maths Modules etc.) a single year group or class must be selected. This option is not available to view for the whole school at once.

How to interpret Age Comparison Charts

The Age Comparison Charts show how a class or year group are performing using box and whisker plots.
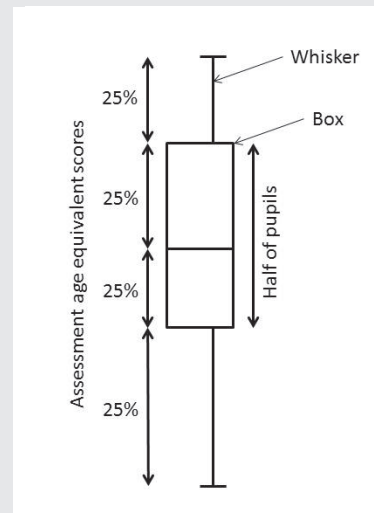
TIP: *Box and whisker plots*

This gives a picture of the range of scores achieved in each class. Each name (or dash if pupil names are hidden) represents one child. Each year group or class has one box and whisker plot associated with it.

The horizontal positioning of the names represents the pupils' ages at the time of the assessment. The younger children appear towards the left of the box and the older children to the right. The width of the box shows the range of ages for the middle half of the class or year group. The horizontal position of the whisker on the box shows the middle age of the class or year group.

The top whisker of the chart holds 25% of the children in the class or year. The box holds the next 50% of the children in the class or year, and the bottom whisker holds the final 25%.

The line in the middle of the box is called the median and represents the middle score when all the scores are placed in order. The whiskers normally extend to the highest and lowest scores in the class. However, sometimes pupils will be shown on the graph outside this range if they have exceptionally high or low scores.
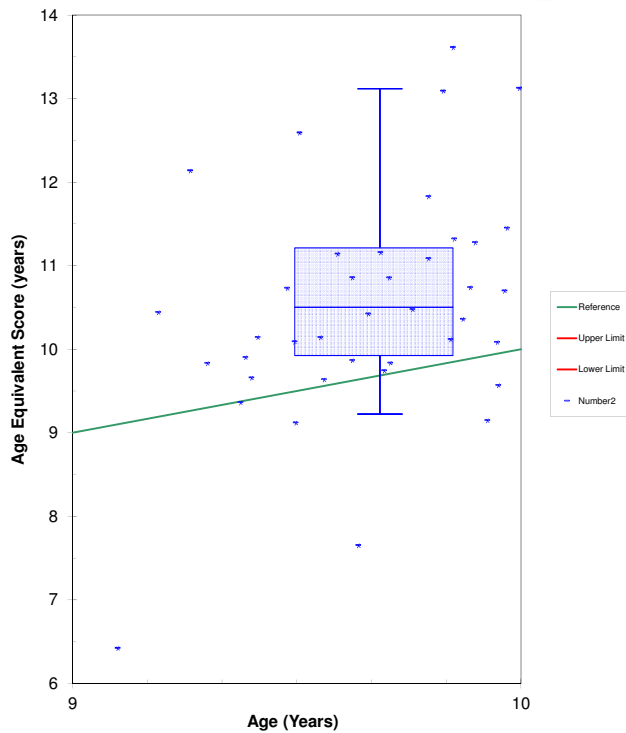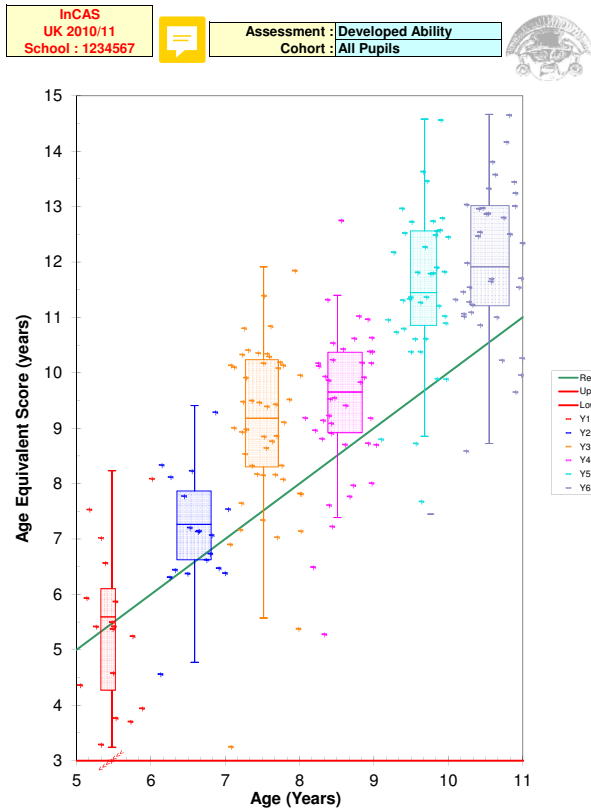
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The **green line** is indicative of the national average. Because the scores are age equivalent scores, it is therefore the case that pupils aged 8 years would be expected to have an age equivalent score of 8 years and pupils aged 9 years would be expected to have an age equivalent score of 9 years, etc. When only a single year group is shown on the chart, the green line is indicative of the average age of the cohort.

A **red line** on the chart displays the minimum or maximum score achievable for that assessment. For Maths the minimum score is 3 years 0 months and for Reading it is 4 years 0 months. For all assessments the maximum score is 16 years 0 months.

Example Age Comparison chart showing feedback for the General Maths: Number 2 module for a single year group

InCAS
UK 2010/11
School : 1234567

Assessment :	Developed Ability
Cohort :	All Pupils

Example Age Comparison chart showing feedback for the Developed Ability assessment for all year groups

Legend:
— Reference
— Upper Limit
— Lower Limit
-- Y1
-- Y2
-- Y3
-- Y4
-- Y5
-- Y6

InCAS
UK 2010/11
School : 1234567

Assessment :	>General Maths Modules
Cohort :	Y5

Example Age Comparison chart showing feedback for the General Maths modules for a single year group

Legend:
— Reference
— Upper Limit
— Lower Limit
-- Data
-- MSS
-- Number1
-- Number2

Step 6: Age Standardised Scores

What is available in Age Standardised Scores?

Age Standardised Scores present the feedback as standardised scores with a mean of 100 and standard deviation of 15. This means that 68% of all pupils will have a score between 85 and 115. 14% will have a score between 115 and 130, and 14% will have a score between 70 and 85. Pupils with scores below 70 or above 130 are exceptional and are in the bottom or top 2% of pupils sitting the assessments, respectively.
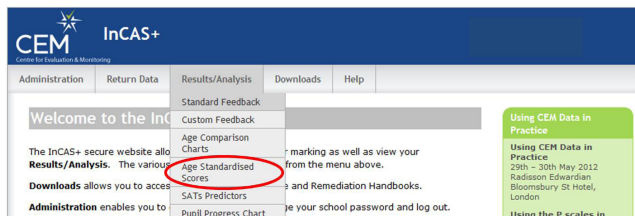
The feedback is displayed by Year Group.

Standardised scores are displayed for

- Reading
- General Maths
- Mental Arithmetic
- Developed Ability

How to download Age Standardised Scores

1 To view the Age Standardised Scores, log in to InCAS+ using the instructions in Step 2.

2 Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "Age Standardised Scores".

3 A page will appear that has a box listing all years ("Version") and "Year Groups" for which the InCAS assessment has been sat at the school.

4 Highlight the "Version" and "Year Group" that you are interested in e.g. UK 2011/12, Year 6 and then click the "Display" button.

5 A Microsoft Excel document will download.

Example Age Standardised Scores

Name	Reading	GenMaths	Mental Arithmetic	Developed Ability
		Age Standardised Scores		
Adam Apple	102	108	*	123
Bertie Banana	123	117	103	131
Charlie Clementine	116	124	106	134
Deadrie Damson	78	88	*	102
Elizabeth Elderberry	110	104	93	112
Fiona Fig	93	110	93	104
Georgia Grape	116	104	99	123
Harrold Huckleberry	103	109	99	124
James Jojoba	127	127	129	133
Kevin Kiwi	108	121	112	138
Laura Lemon	95	97	78	115
Mark Mango	102	102	90	113
Natalie Nectarine	111	111	110	127
Olivia Olive	125	122	110	125
Paul Pineapple	107	118	107	115
Quentin Quince	119	104	102	127
Robert Raspberry	77	91	98	75

Key to symbols
* Pupil has not completed a particular module

How to interpret Age Comparison Charts
Age standardised scores are available with a mean of 100 and a standard deviation of 15.

<70	Well below average
70 – 85	Below average
85 – 115	Average
115 – 130	Above average
>130	Well above average

Step 7: SATS Predictors

This type of feedback is only relevant to schools who follow the English National Curriculum.

What is available in SATS Predictors?
SATS Predictors or "Chances" tables show the chance of gaining each Key Stage level in the next statutory assessment. The chances are calculated separately for each child using their InCAS scores as a predictor.

The feedback is displayed by Year Group. SATS Predictors are available for the following subjects:
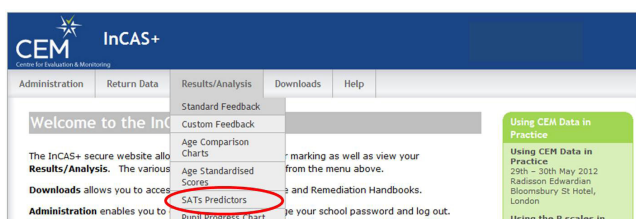
KS1 Predictors (from Year 1 and 2 InCAS scores)
- Maths
- Reading
- Writing
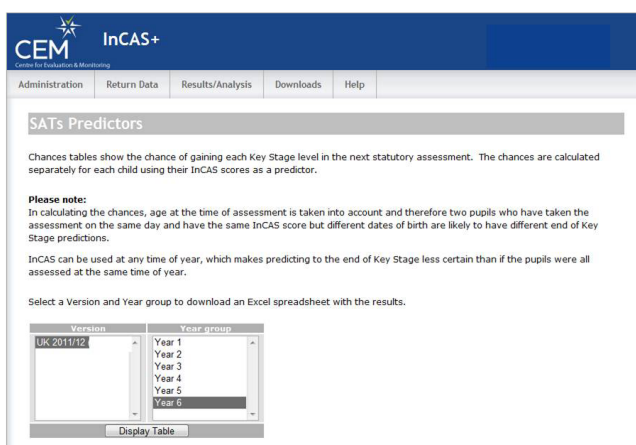
KS2 Predictors (from Year 3 onwards InCAS scores)
- Maths
- English
- Science

How to download SATS Predictors
1. To view the SATS Predictors, log in to InCAS+ using the instructions in Step 2.
2. Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "SATS Predictors".

3. A page will appear that has a box listing all years ("Version") and "Year Groups" for which the InCAS assessment has been sat at the school.
4. Highlight the "Version" and "Year Group" that you are interested in e.g. UK 2011/12, Year 6 and then click the "Display" button.

5. A Microsoft Excel document will download.

How to interpret SATS Predictors
The SATS predictor tables show the pupils' percentage chance of gaining each Key Stage level in the next statutory assessment. The chances are calculated separately for each pupil using their InCAS scores as a predictor.

In calculating the SATS predictors, the pupil's age at the time of assessment is taken into account. Therefore two pupils who have sat the assessment on the same day and have achieved the same age equivalent scores but have different dates of birth are likely to have different end of Key Stage predictions.

The SATS predictors do not show the level at which the pupil is performing at the moment, but how they are predicted to achieve in the SATS assessments at the end of their current Key Stage.

Example KS1 SATS Predictors

InCAS
Year 1
KS Chances

School : 1234567

first name	last name	Maths						Reading						Writing					
		W	1	2C	2B	2A	3	W	1	2C	2B	2A	3	W	1	2C	2B	2A	3
Whole Group		**1**	**9**	**27**	**33**	**23**	**5**	**3**	**16**	**22**	**30**	**20**	**7**	**5**	**21**	**32**	**28**	**11**	**1**
Adam	Apple	1	7	26	36	25	5	2	14	22	33	22	7	4	19	33	31	11	2
Bertie	Banana	1	7	26	36	25	5	2	14	22	33	22	7	4	19	33	31	11	2
Charles	Clementine	0	2	13	30	40	15	0	5	12	30	33	20	1	7	23	38	25	6
Deidre	Damson	3	16	36	30	14	1	6	26	27	27	12	2	11	30	34	20	5	0
Elizabeth	Elderberry	3	13	35	32	15	2	5	23	27	29	13	3	9	28	35	22	6	0
Fiona	Fig	2	9	31	35	20	3	3	18	26	31	18	4	6	23	35	27	8	1

Chances Tables for UK 2011/12 KS1 (%)

Example KS2 SATS Predictors

InCAS
Year 6
KS Chances

School : 1234567

first name	last name	Maths				English				Science			
		2	3	4	5+	2	3	4	5+	2	3	4	5+
Whole Group		**0**	**8**	**55**	**38**	**0**	**8**	**47**	**45**	**0**	**3**	**43**	**54**
Adam	Apple	0	21	70	9	0	22	65	13	0	9	70	21
Bertie	Banana	0	9	71	20	0	10	62	28	0	3	58	39
Charles	Clementine	0	2	52	46	0	2	42	56	0	0	33	67
Deidre	Damson	0	0	13	87	0	0	8	92	0	0	5	95
Elizabeth	Elderberry	0	2	52	46	0	2	42	56	0	0	33	67
Fiona	Fig	0	11	72	17	0	12	64	24	0	4	61	35

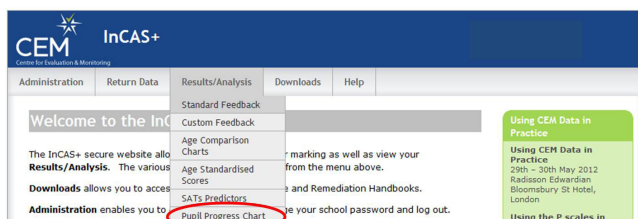Chances Tables for UK 2011/12 KS2 (%)

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Step 8: Pupil Progress Charts

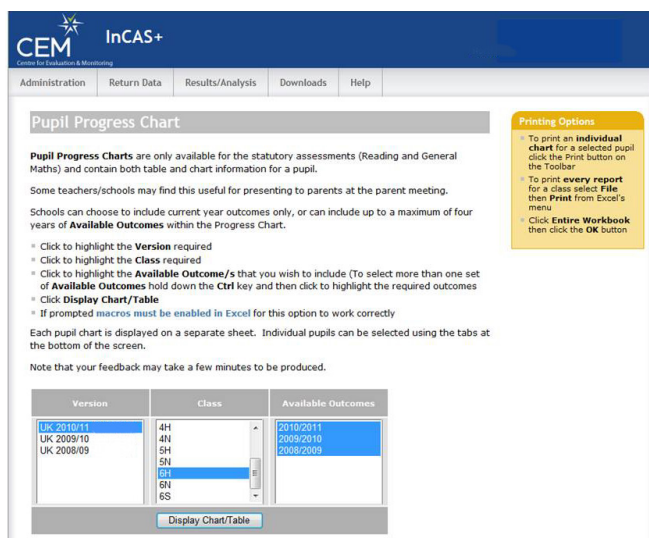### What is available in Pupil Progress Charts?

Pupil Progress Charts show a summary of an individual pupil's InCAS scores and longitudinal progress over multiple years (where assessment data is available).

How to download Pupil Progress Charts

1   To view the Pupil Progress Charts, log in to InCAS+ using the instructions in Step 2.

2   Hover over "Results/Analysis" on the menu bar at the top of the screen and from the drop down menu that appears, select "Pupil Progress Chart".

3   A page will appear that has a box listing all years ("Version"), "Class" and previous assessment years ("Available Outcomes") for which the InCAS assessment has been sat at the school.

4   Highlight the "Version", "Class" and the "Available Outcomes" that you would like to appear on the longitudinal charts e.g. UK 2011/12, 6H, 2008 - 2011 and then click the "Display" button.

5   A Microsoft Excel document will download showing the Pupil Progress Charts for all pupils in that class.

How to interpret Pupil Progress Charts

Often teachers find Pupil Progress Charts useful for presenting to parents at parent meetings. The chart gives a summary of the pupil's scores in Reading and General Maths as well as plotting longitudinal progress charts for these two subjects.

You can choose to display only one year of feedback on a chart, or can include up to a maximum of four years on the Progress Chart.

The **black diamonds** show the age equivalent scores and the lines above and below are the confidence intervals.

The **confidence intervals** (vertical black lines) give an indication of the range in which a child might score on a different day. These show the range of 1 standard error, within which we are 68% confident the child's true score lies. On a different day, a pupil might have had a slightly different pattern of responses and therefore achieved a slightly higher or lower score. The length of the confidence

intervals are determined by the consistency of the pupil's answers and then number of questions they have answered. A pupil who has been guessing at answers to questions will show longer confidence intervals than a pupil who has consistently answered questions, where the intervals will be small. If there is clear space between the end of the confidence intervals and the item being compared (e.g. pupil age at test or another score) then the difference can be considered to be statistically significant.
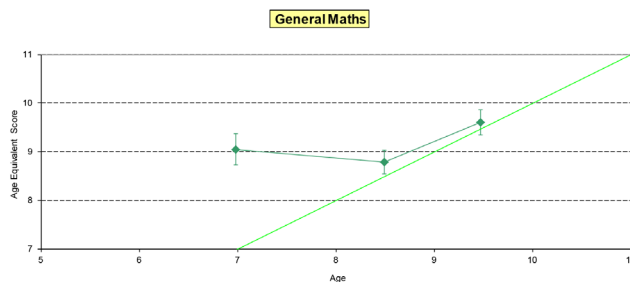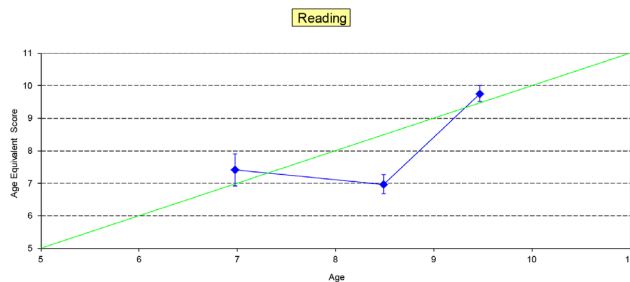
The **green line** is indicative of the national average. Because the scores are age equivalent scores, it is therefore the case that pupils aged 8 years would be expected to have an age equivalent score of 8 years and pupils aged 9 years would be expected to have an age equivalent score of 9 years, etc.

A **red line** on the chart displays the minimum or maximum score achievable for that assessment. For Maths the minimum score is 3 years 0 months and for Reading it is 4 years 0 months. For all assessments the maximum score is 16 years 0 months.

Example Pupil Progress Report

InCAS

| School: | Example School | Class : | Year 5 |
| Pupil: | Mark Mango | Date of Birth : | 08-Apr-02 |

Academic Year	Age	Reading	General Maths
2011-2012	9:5	9:9	9:7
2010-2011	8:5	6:11	8:9
2008-2009	6:11	7:4	9:0

* Pupil has not completed a particular module

InCAS+ Website (www.incasproject.org/plus)

InCAS+ provides a range of additional services for users of the InCAS assessments. You can also download feedback.

To gain access to the InCAS+ website first go to the InCAS website at www.incasproject.org/plus where you will be prompted to enter your user name and password. If you have lost your user name and password please email *primary.support@cem.org* giving your school name and school code. A reminder letter will then be sent to the InCAS coordinator at your school.