



## WORLD CLASS ASSESSMENT EVERY STEP OF THE WAY

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# CEM

Working to promote evidence-based practice through tracking curriculum learning, feedback, diagnosis and provision of next steps advice.

Our assessments are grounded in research, developed with practitioners, and used extensively in the UK and around the world to help teachers improve the educational outcomes of their pupils.

## CEM Assessments

For 30 years CEM has been providing the highest quality, objective and statistically robust assessments to help teachers improve educational outcomes in UK and international state-maintained and independent schools.

CEM assessments support pupil progress across all age ranges and school stages from age 3 to 19.

## A cohesive system for assessment and monitoring

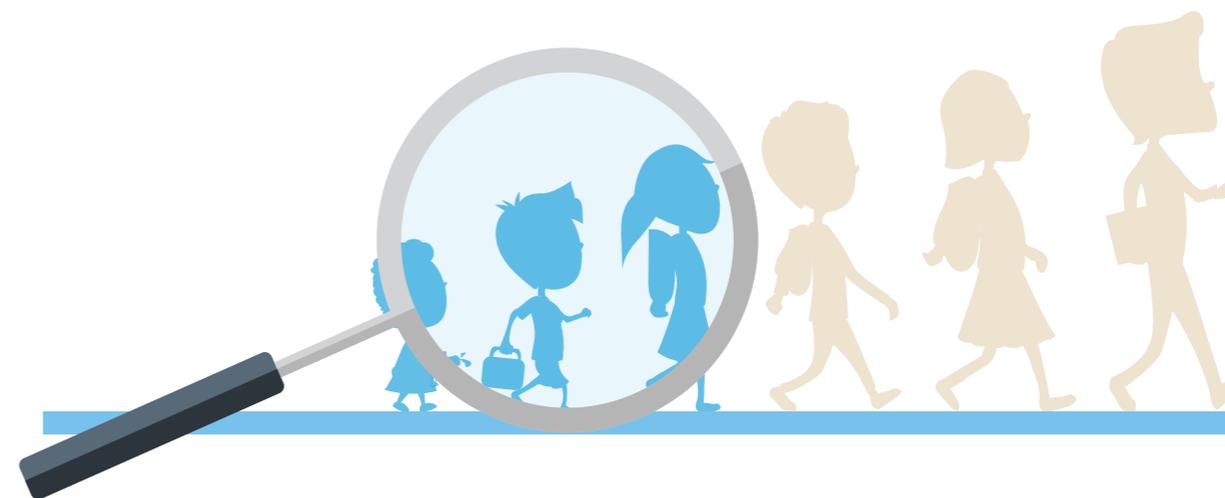
The CEM suite of assessments, from Nursery to Primary to Secondary to Post-16, can be used

individually or integrated to provide a cohesive and comprehensive picture of each individual's potential and progress in education.

## Unique computer-adaptive assessments

The entire suite of CEM assessments uses adaptive algorithms ensuring they are accessible for all learners at any developmental stage and provides assessments that are:

- Personalised
- Age-appropriate
- Tailored to each individual's developmental stage.



## Identify needs and monitor progress

CEM's advanced profiling system analyses student responses and generates comprehensive, detailed and holistic learner profiles, enabling teachers and headteachers to:

- Understand their pupils' strengths, weaknesses and underlying potential
- Tailor teaching and learning
- Set realistic and aspirational targets and carefully monitor student progress.

## Positive impact on teaching and learning

Assessment feedback is graphically presented with easy to interpret reports at a pupil, cohort and whole school level, providing\*:

- Baseline scores – comparing pupil progress in relation to the national, international and independent school averages
- Predictive scores and 'chances graphs' – showing how baseline scores can be used to indicate potential performance in GCSE examinations
- 'Value-added' feedback giving a measure of relative progress over time.

Reports are typically available to download promptly after completion and the data is compatible with school Information Management Systems.

*\*Information provided can vary depending upon the assessment system used.*

# FAQs

What you need to know.

## What are computer-adaptive assessments?

Computer-adaptive assessments treat each child as an individual. The questions are tailored to the individual ability of each pupil, which means that the questions they face are neither too easy nor too difficult.

Typically, the assessments begin with a reasonably easy question for a pupil of their age. The pupil's response then determines the difficulty-level of the next question. If questions are answered correctly the pupil will progress to more challenging questions, but if answered incorrectly the questions will become less challenging.

Each individual is challenged at a level that is suitable for them. Computer-adaptive assessments are more:

- Enjoyable
- Age-appropriate
- Engaging
- Time-efficient

## What kinds of assessments are available?

CEM assessments are based on world-leading educational research and provide:

- Baseline assessments to evaluate ability at key threshold stages
- Follow-up assessments to measure progress made between stages
- Curriculum-based assessments to measure knowledge in core curriculum subjects
- Attitudinal questionnaires to understand pupil perspectives
- Entrance assessments to identify pupils who meet school selection criteria.

## What is actually assessed?

CEM assessments generally focus on key cognitive and attitudinal aspects that research shows are linked to later academic outcomes, such as:

- Reading, vocabulary and spelling
- Mathematics and mental arithmetic
- Non-verbal ability
- Perceptual speed and accuracy.

## What feedback do I get?

CEM assessment and monitoring systems provide a wealth of feedback and reports to support educational professionals at all levels: Teachers, Key Stage Coordinators, Subject Coordinators, Senior Leaders and Executive Headteachers as well as Education Authority and school group leads.

Reports broadly comprise:

- Baseline scores to evaluate ability at key threshold stages
- Predictive feedback indicating likely future outcomes
- 'Value-added' analysis of scores to measure progress made between stages
- Attitudinal responses to understand pupil perspectives, expectations and aspirations.

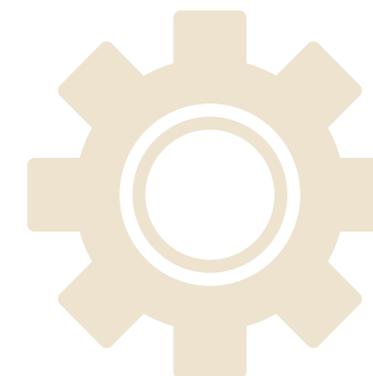
## What is meant by 'developing ability'?

An individual's 'developing ability' is the capacity each individual has to learn – their underlying potential. It is something that they develop over their lifetime and it will continue to develop.

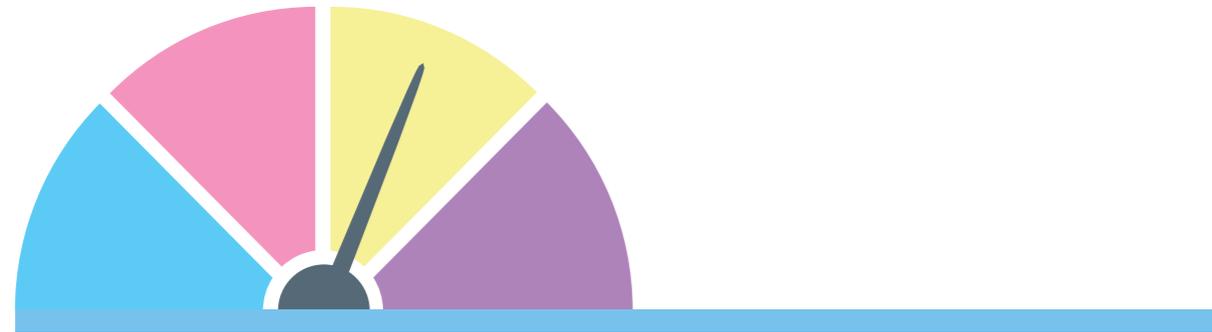
It is measured by using a combination of their language acquisition, mathematical and non-verbal ability\*. (This is a particularly useful measure for individuals for whom English is an additional language).

It is important to note that the 'developing ability' score is not a fixed quantity. It is a measure of each pupil's capacity to think quickly, solve problems and understand and learn rapidly.

It is not an IQ score and will change year on year as pupils develop skills.



\*Depending on the assessment being used, the basis of the measure of developing-ability may alter.



### How can I track pupil progress using CEM assessments?

CEM’s integrated sequence of assessments are designed to be flexible, offering schools the opportunity to assess and monitor each individual student’s progress at regular intervals, spanning their entire educational journey (see table page 9).

CEM’s standardised assessments and the use of standardised scores across reports ensure accurate and meaningful comparisons can be made to offer a ‘through-school’ picture of progress from Primary through to Post-16 enabling teachers to:

- Compare individual and cohort performance
- Compare year-on-year performance and track progress over time
- Compare performance in each module or sub-section of assessment
- Compare performance to national averages.

### Overview of CEM assessments

AGE	YEAR GROUP	STAGE	CEM ASSESSMENT
3-4	Nursery	Foundation stage	<b>ASPECTS</b>
4-5	Reception		<b>BASE</b>
5-6	Year 1	Key Stage 1	<b>InCAS</b>
6-7	Year 2		
7-8	Year 3	Key Stage 2	<b>InCAS</b>
8-9	Year 4		
9-10	Year 5		
10-11	Year 6	Key Stage 3	<b>MidYIS</b>
11-12	Year 7		
12-13	Year 8		
13-14	Year 9	Key Stage 4	<b>INSIGHT</b>
14-15	Year 10		
15-16	Year 11	Key Stage 5	<b>YELLIS</b>
16-19	Year 12/13		
			<b>ALIS</b>

# ASPECTS

What's right for each child right from the start.

**ASPECTS** is a unique assessment which combines teacher observation with a computer-adaptive assessment and identifies what children in Nursery already know and can do.

**ASPECTS** has been specifically designed for children aged between 3 and 5 (36 to 60 months) and is aligned with crucial elements of the EYFS Prime and Specific areas of Learning and Development.

**ASPECTS** is a fun, child-friendly assessment that can be used as soon as each child has settled into Nursery to identify their starting point, and then again at the end of Nursery to measure their progress.

## Working towards Early Learning Goals

Observation as well as assessment is crucial in helping children reach their early learning goals as well as helping parents or carers and teachers to recognise and understand individual needs and to plan activities and support.

**ASPECTS** complements ongoing observational assessment practices yet provides the crucial added dimension of an unbiased and independent assessment that helps teachers understand children's needs without delay.

**ASPECTS** can be used to:

- Support practitioners' own observations
- Identify individual needs and inform planning
- Provide objective analysis of development
- Indicate school readiness.



Children develop and learn in different ways and at different rates.

The **ASPECTS** assessment is designed to give valuable one-to-one time between practitioner and child, using a computer-based storybook-style approach to assess aspects of EYFS Specific areas of Learning and Development:

- **Literacy** – including handwriting, vocabulary, concepts about print, phonological awareness, identifying sounds and identifying letters
- **Numeracy** – including ideas about maths, identifying shapes, identifying numbers and counting.

The **ASPECTS** assessment supports the principle that every child is unique and so incorporates assessment of EYFS Prime areas of Learning and Development using teacher observation:

- **Personal, Social and Emotional Development** covering areas such as independence, confidence, concentration, relationships and communication
- **Motor Development** – including finger movement, finger painting, sending and receiving, static balance and walking.

The **ASPECTS** assessment also offers an optional parental or carer questionnaire which can provide valuable information about home environment and relationships, covering areas such as likes and dislikes, family background, speaking and listening, independence and friendships.

In partnership with practitioners and parents or carers, the **ASPECTS** assessment can help identify learning and development needs which can be shared with other relevant professionals.



### ASPECTS Reports

When the computer-based and teacher-observation assessments are complete, the teacher simply uploads the information to the secure site and feedback is available to download within 48 hours.



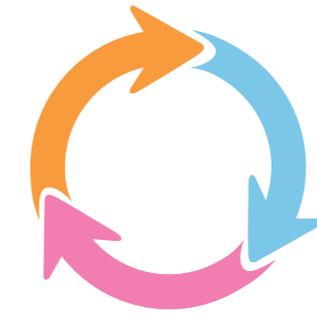
### Planning for effective teaching and learning

Immediate feedback establishes a baseline developmental measure which enables teachers to reflect on their practice and plan a challenging, enjoyable and effective experience for each child in all of the areas of learning and development.

Reports comprise graphical presentations of results in easy-to-interpret tables of scores and scatterplots, including:

- Literacy and Numeracy development scores for each individual child and the whole class
- Motor development scores for each child
- Progress made in Literacy and Numeracy development from the beginning to the end of Nursery.

Individual scores are also shown in comparison with peers in the same class and against national averages of children of the same age.



### Support information-sharing with parents and colleagues

ASPECTS reports provide parents or carers and practitioners with a well-rounded picture of a child's knowledge, understanding, abilities and helps to keep them up-to-date on progress.

Additionally, ASPECTS reports can reveal trends and patterns over time to aid future planning of learning and development requirements and the direction of the whole nursery.

ASPECTS is the first stage of CEM's uniquely structured sequence of computer-adaptive assessments designed to assess and monitor learning and development from age 3 to 19.

# BASE

BASE is an assessment designed for reception-aged children.

**BASE** is an assessment designed for reception-aged children and identifies individual developmental levels when they enter Reception and then tracks their progress throughout their first school year.

**BASE** combines teacher-observation with a computer-adaptive assessment in EYFS Prime and Specific areas of Learning and Development:

- Literacy
- Numeracy
- Communication and Language
- Personal, Social and Emotional Development.

**BASE** is DfE accredited and documents key information on children's development for practitioners, parents and schools inspectors.

## Reinforcing teacher observations

Observation as well as assessment is crucial in helping children reach their early learning goals as well as helping parents, carers and teachers to recognise and understand individual needs and to plan activities and support.

**BASE** complements ongoing observational assessment practices and

- Involves no teacher marking or data entry
- Does not require training to use
- Does not require the teacher to leave the classroom
- Can be stopped and re-started whenever necessary.

**BASE** takes just 20 minutes to complete and is designed to give valuable one-to-one time between practitioner and child, using a computer-delivered storybook-style approach.



**BASE** can help teachers to discern individual needs that may be overlooked by observation alone.

## Observation...Assessment... Planning

The **BASE** assessment focuses on EYFS Specific areas of Learning and Development to support each child in:

- **Literacy** – including handwriting, vocabulary acquisition, understanding reading fundamentals, phonological awareness, letter, word and pattern recognition and comprehension
- **Numeracy** – including ideas about maths, quantity and spatial position, identifying numbers, counting, identifying shapes, problem solving and simple arithmetic.

**BASE** also supports the principle that every child is a unique child and incorporates assessment of EYFS Prime areas of Learning and Development using teacher observation.

- **Personal, Social and Emotional Development** covering areas such as independence, self-confidence and self-awareness, concentration, managing feelings and behaviour and making relationships
- **Communication and Language** covering areas such as listening and attention, following instructions and understanding, speaking and interaction in conversations.

The **BASE** assessment supports the significance of the prime areas in building each child's capacity to learn, form relationships and thrive, and therefore schools can assess PSED and Communication and Language both on entry and at the end of the year.

### More than just a reception baseline assessment

BASE is available in three formats – BASEline, BASE Progress and BASE Inspection Ready – allowing schools to select the form of assessment which best suits their existing assessment practice.

	BASEline	BASE Progress	BASE Inspection Ready
Start of Year assessment	Literacy Numeracy	Literacy Numeracy PSED Communication and Language	Literacy Numeracy PSED Communication and Language
Optional End of year assessment		Literacy Numeracy PSED Communication and Language	Literacy Numeracy PSED Communication and Language
Reporting	DfE scaled score for government-funded schools in England	Reports at pupil, class and school level	Advanced interactive reports

### Sharing best practice

BASE provides a solid platform for documenting key information, planning progress and keeping parents and colleagues up-to-date on each child’s progress.

**BASE can be used to:**

- Support practitioners’ own observations
- Identify individual needs and inform planning
- Recognise patterns in whole class needs
- Provide objective analysis of development
- Provide an indication of ‘school readiness’
- Support the partnership between school and home life.

### BASE Reports

When the computer-based and teacher observation assessments are complete the information is automatically returned to CEM for analysis. Feedback and reports are available to download promptly.

All reports are available via the secure website and the data can be exported into school information management systems.

For government-funded schools in England, scaled scores for Literacy and Numeracy are sent directly to the Department for Education.

	BASEline	BASE Progress	BASE Inspection Ready
Reports	DfE scaled score	DfE scaled score  Standardised scores  Pupil, Class and Whole school profiles  National comparisons  Pupil progress measures	DfE scaled score  Standardised scores  Pupil, Class and Whole school profiles  National comparisons  Pupil progress measures  Parental Reports  Interactive Reporting <ul style="list-style-type: none"> <li>• Inspection Ready</li> <li>• School Comparison</li> </ul> Year-on-year comparisons

### Tracking the progress journey

BASE Progress and BASE Inspection Ready reports also include:

- Detailed insight into individual, class and school progress
- Comparison to national averages



### Keeping parents and colleagues up to date

**BASE** reports provide practitioners and parents with a detailed and well-rounded picture of each child's knowledge, understanding and abilities and helps to keep them up-to-date on progress.

The **BASE** Inspection Ready option also provides parental reports to share key information with parents or carers.

### Primary assessment and accountability

The computer-adaptive **BASE** assessment is statistically proven to be a strong predictor of Key Stage 1 and Key Stage 2 attainment.

The reception baseline score is the first step in tracking progress throughout the primary years to ensure that each child has the best possible start in education and the support that enables them to fulfil their potential.



### **BASE** Inspection Ready reports also offer schools:

- Information filtered by key interest groups (eg Pupil Premium, EAL, SEN)
- Comparison to similar schools with similar pupils
- Evidence of whole-school progress to aid with inspection.

**BASE** reports can reveal trends within cohorts and patterns over time which will inform future planning of learning and development requirements, aid inspection and support school improvement plans.

**BASE** is part of CEM's uniquely structured sequence of computer-adaptive assessments which have been specifically designed to assess and monitor each individual child's learning and development from age 3 to 19.

# InCAS

An innovative, computer-adaptive assessment.

**InCAS** is an innovative, computer-adaptive assessment designed to help teachers identify each individual's development and personalise learning.

**InCAS** is used to monitor the progress of each individual child from end of Year 1 to Year 6 in key developmental areas which research shows are linked to later academic outcomes.

**InCAS** has been designed for all children between the ages of 6 and 11 and offers schools the flexibility of choosing when to assess.

#### Use InCAS to assess each child

- Just once between Year 1 and 6
- Every year between Year 1 and 6
- Chosen years, eg Year 1, Year 3 and Year 5.

## Connecting Reception to Primary

**InCAS** is part of a uniquely structured and sequenced system designed to assess and monitor pupil progress, ensuring a smooth transition between Reception and the Primary years.

#### InCAS allows teachers to:

- Evaluate performance
- Monitor progress
- Identify potential.

## Assessing what matters

**InCAS** has been created so that it can be administered to a whole class at once and it contains six distinct modules so you can choose which parts of the assessment are appropriate at which times.



Each module takes approximately 20 minutes and is made up of a range of subsections creating a comprehensive and well-rounded profile of each individual pupil. Modules include:

- **Reading** – including word recognition, word decoding and comprehension
- **Spelling**
- **Maths** – including counting, place value, fractions, patterns, problem-solving, measures, shape and space and data handling
- **Mental arithmetic** – including addition, subtraction, multiplication and division.

## Addressing individual needs

**InCAS** also supports the principle that each child develops and learns in different ways and at different rates and therefore incorporates an added individual dimension with the assessment of:

- **Developing ability** – measures the current potential for learning and is determined by evaluating a combination of their language acquisition and non-verbal ability
- **Attitudes** – attitudes towards reading, maths and school.

## Next steps guidance

As part of the InCAS assessment, CEM also provides research-based guidance in the form of two booklets to assist teachers in using the InCAS software to help with diagnosing & remediating Mathematical and Literacy difficulties.

## More than just an assessment

The **InCAS** assessments are designed to be administered to a whole class at once without the need for close supervision. Using individual computers and headphones **InCAS** is child-friendly, fun and guides the child through the quiz with easy-to-follow instructions.

The computer-adaptive nature of the assessments means that the questions are tailored to the individual pupil so that the assessment is not too difficult or too easy and each child encounters a personalised assessment that is suited to them.

Pupil responses can be automatically uploaded and returned to CEM for analysis.

Feedback is available within 48 hours of each component being completed.

## InCAS Reports

**InCAS** reports allow teachers to:

- Evaluate pupil needs
- Identify each individual pupil's specific strengths and weaknesses
- Identify suitable interventions
- Compare performance between modules and between subsections.

The **InCAS** assessment can also help to identify more able pupils or pupils with additional needs, and clearly indicates where further investigation is required.

Reports provide both standardised scores as well as age-equivalent scores. Each score is compared to national averages.

## Plan the next stages

InCAS reports enable teachers to see a breakdown of ability scores for individual pupils in each module as well as each subsection (for example scores for the fractions subsection of the Mathematics module), providing comprehensive profiles and predictions for Key Stages 1 and 2.

**InCAS** data can be exported into schools' information management systems and can provide a valuable basis for discussion of future needs with colleagues and parents.

### Standard feedback includes:

- Standardised and age-equivalent scores
- Predictions to end of Key Stages
- Pupil progress charts showing a summary of an individual pupil's progress over multiple years.

**InCAS** also provides personalised reports which present pupil scores in a range of different forms including:

- Scores tables and charts allowing you to see the full profile of a child in a graphical format
- Analysis of the differences between the pupil's age at test and their age-equivalent score.

*\* Longitudinal reporting available from 2016*

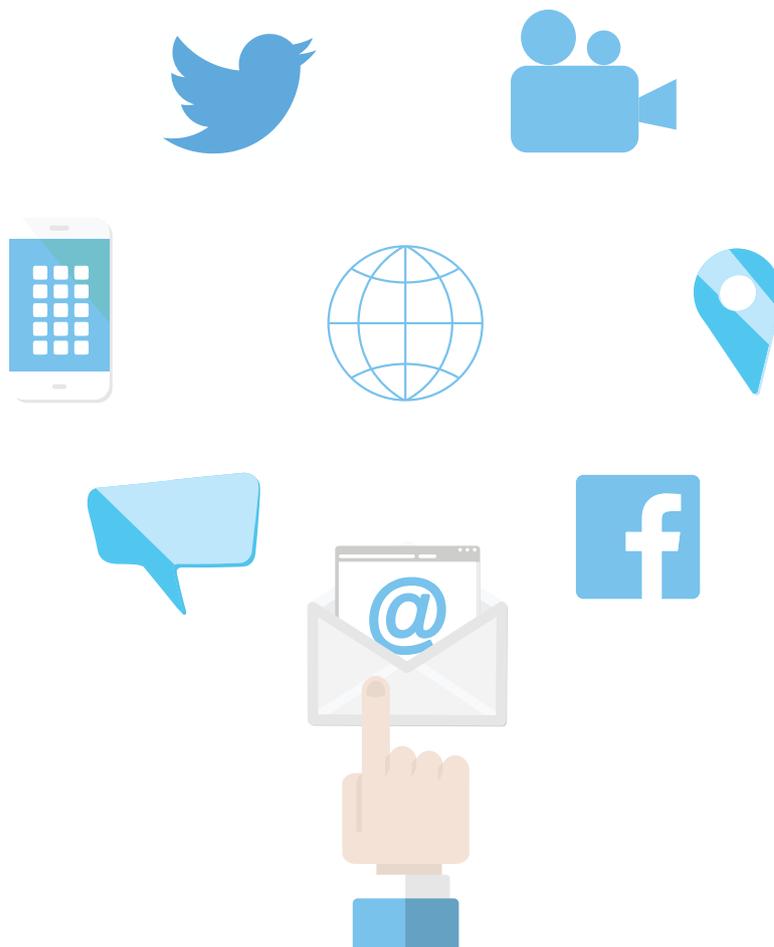
## Tracking progress

Tracking an individual's **InCAS** scores over a number of years helps to provide a valuable picture of their progress and development.

The **InCAS** 'Longitude Charts' show the progress that each child makes throughout their primary education and help teachers to identify patterns.

The Longitude Charts can also compare each child's performance against 'expected' progress.

The **InCAS** assessments are part of an integrated longitudinal system of computer-adaptive assessments that track individual progress from age 3 to 19.\*



For more information about these assessments,

Telephone **0191 334 4223**

Or email **[primary.support@cem.dur.ac.uk](mailto:primary.support@cem.dur.ac.uk)**

**[www.cem.org](http://www.cem.org)**

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