

Our Curriculum

1. Education makes us happier and healthier. The better educated we are, the better our chances of a long and contented life. This correlation is strong and consistent across all societies. Therefore, we want all our children to be well-educated.

2. The Casterton curriculum identifies the powerful knowledge we believe our children must learn to be well-educated.

3. Learning is a permanent change to long term memory. Everything else is mere performance and therefore, both transitory and illusory. Learning contributes to what we call **crystallised intelligence** i.e., intelligence based on accumulated and retained knowledge, as opposed to **fluid intelligence** which is inherited and unrelated to knowledge acquisition.[1]



4. Therefore, we believe ability is not fixed because crystallised intelligence isn't fixed[2]. Regardless of a young person's fluid intelligence, it follows that they can acquire knowledge and the more knowledge they acquire, the cleverer they become. Therefore we consciously refer to 'current ability' rather than plain 'ability', because ability is not fixed. It is also why we do not place labels on children, lower our expectations of them or limit their potential.

5. **Powerful knowledge** is the essential core knowledge necessary to build mental schemas in young people's minds. All other knowledge sticks to powerful knowledge but without it, that other knowledge makes little sense. Therefore, it is crucial that powerful knowledge is learned first. We identify powerful knowledge with **knowledge organisers**.

"If we wanted students just to learn facts, then they could be learnt in any order... We could just list all of the things that we wanted students to know, and they could be learnt in any order. However, that would not help students to see the connection between aspects of their knowledge. More important, the lack of connection between different aspects of knowledge means that students are less likely to remember what they have just learned. Connections between different aspects of knowledge are important both in themselves and as an aid to long-term memory." [3]

6. The national curriculum school identifies the powerful core knowledge **and culturally specific knowledge**[4] that 11-16 children must learn. Humans have evolved to naturally assimilate **primary knowledge** such as speech, but not secondary knowledge, such as the periodic table or trigonometry. The more specialised and academic the secondary knowledge becomes, the less likely we are to have acquired it through experience alone.

Biologically Primary and Secondary Knowledge

Cognitive Load Theory deals with learning in Secondary Knowledge

Primary Knowledge:

We have **evolved** to assimilate:

- Speech
- Recognising faces
- General problem solving
- Basic social relations
- Can Learn **without** conscious effort
- Little evidence that these things can be taught

Secondary Knowledge

We have **not** evolved to assimilate

- Must be **consciously** learned (unlike primary knowledge)
- Reading
- Writing
- Maths

Need to be **explicitly taught** (purpose of schools)

Geary, D.C. (1995)

7. Knowledge must be permanently secured in memory before new knowledge can be acquired, in a process known as **mastery**[5], i.e., to master something is to have permanently secured full and complete knowledge of it. Mastery teaching avoids superficial learning or teaching purely for the purpose of helping children perform in an exam. It should be seen as distinct from coaching, which is useful to enhance short-term performance, for example in the run-up to exams, but not the long-term object of education and therefore it should not dominate the curriculum.

Education is for life, not just for exams

8. Our teaching seeks to secure the permanent mastery of powerful knowledge. This knowledge is defined, revisited, and taught explicitly to ensure it is secure. There is no point moving on to new content until the content being taught has been mastered.

9. Assessment is a useful tool for measuring the extent of mastery, though the object of teaching is not assessment and should not be driven by it.

10. The sequence of topics taught in each subject starts with 'core powerful knowledge and vocabulary or the 'big picture' of that subject, before working outwards to more specialised knowledge in a manner that builds from a secure foundation. The order of topics should ensure that learning is logical to the learner, forming a **coherent narrative** where prior knowledge is used to learn new knowledge. This also helps learners understand the subject holistically and make links across it, rather than as a series of disconnected chunks that can only be learned by rote.

11. Instructional sequences need to be carefully designed not to overload students' working memories too quickly. One chunk of knowledge must be mastered at a time and the best way to do that is by **retrieval practice** [6]. In this process students revisit knowledge in a spaced or interleaved sequence to embed it over time.

12. Research shows that while some feedback can help learning, some may also hinder it so feedback must be used carefully. The most effective feedback addresses fundamental errors or common misconceptions in understanding which are likely to be experienced by most students in a class at any one time. Good teachers have strong **pedagogical subject knowledge** of these fundamental errors and common misconceptions and address them in their feedback. Therefore, feedback does not always have to be individualised and is often more effective when given to a whole class.

13. Neither does feedback always have to take a written form. Individualised, written feedback can be both time consuming and ineffective when done badly. Where marking is written, we often make use of pre-prepared statements to ensure that the teacher's time is not wasted on low impact or counter-productive tasks. An exception to this might be in the identification of errors of spelling, punctuation, and grammar, although even here we put more emphasis on teaching children the rules and precedents involved rather than by simply correcting mistakes. We prefer children to correct their own spellings and understand the root of their mistakes when at all possible.

14. The best feedback is fully integrated into teaching and reinforced regularly over time so that it *prevents mistakes rather than just corrects them*.

15. Learning is a mental process invisible to the observer, so labels such as active or passive are misleading. Neither can it be assumed that if students are interested and enthusiastic, they are bound to be learning well, as neither guarantees a permanent change in memory, though of course, they may help motivate students to learn. While certain one-off activities or experiences might be memorable in themselves, it does not follow that anything important has been learned. For example, a student

may remember a lesson as being very enjoyable without having learned much in it. Mastery learning is usually built up over time rather than the result of a one-off experience or activity. For example, few of us remember being taught to read, but it is self-evident that we did so. Nevertheless, making learning enjoyable does motivate students to learn more.

16. We recognise that while experts tend to learn best through exploration and enquiry (sometimes erroneously referred to as active learning) **novices learn best through direct instruction** [7], often whole class instruction (sometimes erroneously referred to as passive learning). A common problem is that because teachers are the experts they assume that because it is better for students to learn through enquiry but we must guard against this. For example, no pupil could simply learn the periodic table through enquiry because it is the product of hundreds of years of research and must be taught directly.

However, direct instruction is different from lecturing, and involves skilfully explaining the knowledge through a process of questioning and discussion to a fully engaged class. For instance, whole class instruction may be mixed with opportunities for students to record and demonstrate what they have learned, for example by note taking or annotating as the teacher explains.

17. Differentiation, in the sense of setting different tasks for pupils in the same class, lowers expectations and we prefer to avoid it. Our teachers **teach to the top** of their class, as this sets the highest expectations for all pupils and stretches even the most currently able, in an approach sometimes referred to as the **Pygmalion effect**. Of course, additional support for students with special educational needs is provided to ensure they overcome identified cognitive or behavioural problems which would otherwise prevent them from accessing the curriculum, but that is different from simplifying the curriculum. We recognise that most children with special educational needs have excellent reasoning skills regardless of their specific difficulties and it is our responsibility to assist them in finding ways to overcome these difficulties and master the curriculum, nevertheless. In other words, we never give up on a student or think that they simply cannot do something so there is no point trying to teach them.

Teach to the Top

- Plan everything with the top 20% of current ability of the class in mind
- Know students with SEND well and apply the key support techniques for them
- Celebrate intellectual curiosity
- Never dumb down content for the currently middle and lower ability
- Make it normal to do things that are difficult, academic and challenging
- Do not talk down your knowledge or make a virtue of ignorance
- Expect properly explained answers in verbal and written form

18. In certain subjects, e.g., mathematics, or where there are very wide variations between current levels of understanding, it may be necessary to set pupils by current ability, but for the most part we avoid this. Evidence shows that except in special cases, children make more progress in classes where expectations are high, students work hard and are fully engaged in their learning. [8]

19. It is essential that teachers and teaching assistants have a good understanding of the main learning difficulties experienced by young people, so we provide every teacher with a SEND handbook 'The Inclusive Classroom' and train them in how to support pupils with SEND with reference to five C's (Classroom, Clarity, Content, Checks, Completion of Tasks). This covers dyslexia, autism, moderate learning difficulties (MLD), attention deficit hyperactivity disorder/attention deficit disorder (ADHD/ADD), Speech, Language and Communication Needs (SLCN), English as an Additional Language (EAL) and Social, Emotional and Mental Health (SEMH) difficulties. Teachers have information and guidance on the learning difficulties of every child they teach on the SEND register. This helps them to select the right approach from the handbook to support the right child. Each pupil with SEND also has a link teaching assistant who communicates with their parents and provides them with regular feedback. A strong emphasis is put on links with parents, so we have a complete picture of every pupil with SEND.

20. We regard it as essential to explicitly teach subject specialist **tier 3 academic vocabulary** to build powerful core knowledge, since that knowledge can only be understood with mastery of the correct terminology. Powerful vocabulary of this sort is essential to create mental schemas that secure knowledge in the long term. Each subject has different priorities for vocabulary, for example in science it is important to establish the precise meaning of words, where in English it may be more important to understand different layers of meaning as well as a metaphors and synonyms that create variety and interest. In History the meaning of certain words changes over time and may only be properly

understood in a particular context, whereas in Languages the word itself is the point of study. All of these are part of the powerful academic language we want our children to acquire. We call our approach to teaching reading and vocabulary, **Every Word Matters**.

21. Disadvantaged children are less likely to be exposed at home to the rich and varied vocabulary taken for granted in more advantaged households and more likely to struggle with specialist academic vocabulary. Tier 1 vocabulary are the most frequently-used words used in daily conversation, tier 2 words are more formal, specialist terms used across disciplines and tier 3 vocabulary are subject specialist words. Teaching tier 2 and 3 vocabulary in each subject alongside powerful core knowledge is particularly important in helping to close the gap in progress between disadvantaged children and the rest.

22. While exposing children to a powerful specialist academic vocabulary through the regular reading of fiction and non-fiction texts is important, children can only fully master texts, if they understand the meaning of at least 90% of the words they encounter.

Sublist 1 of the academic word list

Group 1	Group 2	Group 3	Group 4
analyse	authority	constitute	define
approach	available	context	deliver
areas	benefit	contrast	distribute
assess	concept	contract	economy
assume	consist	create	environment
		data	
Group 5	Group 6	Group 7	Group 8
establish	finance	indicate	labour
estimate	formula	individual	legal
evidence	function	interpret	legislate
export	identity	involve	major
factor	income	issue	method
Group 9	Group 10	Group 11	Group 12
occur	proceed	role	source
percent	process	section	specific
period	require	sector	structure
policy	research	significant	theory
principle	respond	similar	verify

23. Teaching vocabulary means putting an understanding of words, particularly specialist academic words, at the heart of the curriculum and showing pupils that these words really matter. Pupils should be encouraged to explore words, use them in different contexts, understand their origins (etymology) and break them down into prefixes and suffixes (morphology). Evidence shows this unlocks access to powerful knowledge. [9]

24. Our teachers use powerful specialist academic words in their interactions with pupils and revisit and reinforce them wherever possible. We also teach them spelling. Knowledge organisers make it explicit to pupils what vocabulary they are expected to master.

Breadth and Depth

25. Any curriculum is necessarily a balance between breadth and depth. Too much breadth leads to superficial understanding, too much depth leads to a narrow education.

26. Our taught school week is 29 hours, 4 hours more than the 25 typical in most English secondary schools. Each day consists of 5 lessons except Friday when there are 4 adding up to 6 additional weeks of learning a year, or 32 weeks of teaching over five years, which is almost an entire extra year of education. [10]

27. In line with the national curriculum, our curriculum is divided into two stages: KS3 (Y7-9) and GCSE (Y10-11).

28. KS3 is a natural progression from Year 6 of the primary curriculum. Research from Cambridge University suggests that up to 40% of children regress in Year 7, so our teachers work closely with primary colleagues to *establish a deep understanding of the primary curriculum* and plan for an effective and rapid progression into KS3. Every child at Casterton notices a significant step-change in their learning from Year 6 to Year 7 and again into Year 8 and 9 but they are supported throughout. Children that need to catch-up in literacy and numeracy are given intensive additional intervention by our learning support department so that by the end of Year 8 few if any are behind age expected levels. We call this work basic skills. Progress is measured by the regular testing of all students using GL assessments, a reliable and nationally benchmarked system.

Key features of our KS3 Stage include: Transition Week

Year 6 pupils spend an entire week with us in July, so we get to know them really well, put in the right groups and provide them with the right support from their very first day.

DEAR (Drop Everything and Read)

Pupils have a *guaranteed 20 minutes silent reading in class every day* until to the end of Year 9. We also ask them to read at home for a further 20 minutes a day making a guaranteed minimum of 40 minutes a day or 3.3 hours per week.

Accelerated Reader (AR)

Every pupil reads a suitably challenging book that they have chosen themselves (at a level above their current reading age). When they are finished, they take an online comprehension quiz. Their scores are monitored closely and displayed on a progress ladder displayed outside the library, with prizes for those who make the most progress. Our scheme has been nationally recognised by Renaissance Learning who promote it on their website as model for other schools to follow. Consequently, reading ages rise at a significantly faster rate compared with similar children nationally.

Basic Skills Programme

English and Maths in Year 7 and 8 have a generous time allocation to support every pupil appropriately. For some of that time all students are taught together, but for the rest they are taught in small groups, either to help them catch-up or to stretch even the most currently able students in more advanced classes. Evidence from GL assessments and accelerated reader data shows this works extremely well (see para.34)

Academic Essays

Specialist academic writing is taught in every subject, using subject designed writing templates that teach our children to write in the *academic style most appropriate for that subject*. For example, in science they are taught to write like scientists, while in history they are taught to write like historians. Children write at least three academic essays in every subject throughout the year. The essays also require children to use highlighted tier 3 specialist academic words that are fundamental to the study of that subject. Finally, children also have a *challenge question* which requires deeper or broader knowledge to stretch the most currently able.

Core Knowledge Tests

Pupils build their powerful knowledge through a series of core knowledge tests sat in every subject up to six times a year. We believe skills only emerge when children have mastered core subject knowledge to the point where they are proficient. *Prior knowledge* is regularly revisited in these tests to re-enforce its retention and mastery. Core Knowledge Tests are stored in exercise books and reported to parents. Teaching Core Knowledge is at the heart of the Casterton Curriculum.

Reading for Meaning Tests

These take place in every subject up to six times a year and test pupil's comprehension of the vocabulary they have learnt. Pupils must read and interpret academic texts in these tests. Once again, there is great emphasis placed on the use and understanding of vocabulary. The content builds on and extends powerful core knowledge and often exposes pupils to real life examples of academic writing.

Knowledge Organisers

Knowledge organisers define the powerful core knowledge pupils are expected to master in each subject. Subjects use their own preferred style of presentation to reflect the priorities of their own subjects, but powerful core vocabulary is in every knowledge organiser.

Cultural Capital

Cultural capital matters and without it even the most currently able pupils will fail to realise their potential in adulthood. We expose pupils to cultural capital through a knowledge-vocabulary rich curriculum, a strong sense of national identity, a vibrant community of arts and a well-planned approach to personal, social, physical, spiritual, moral, and cultural development. One result of our KS3 curriculum is that more of our students now take up creative arts subjects than ever before, for example our GCSE Music groups are the largest they have ever been while Art, Drama and Language numbers are thriving and extra-curricular participation in these subjects is extensive. We also maintain a cultural capital calendar to track which activities and experiences are on offer.

Our children are eager to learn, fully engaged in their learning, and make sustained and rapid progress at KS3. Classroom behaviour is consistently excellent and there is no low-level disruption.

Pupils do not start learning GCSE until Year 10 to ensure they receive their full entitlement to the KS3 national curriculum.

GCSE

We encourage students to follow the **English Baccalaureate (Ebacc)**, though it is not compulsory, and some are better served with other combinations. Nevertheless, the vast majority of our students follow all parts of the Ebacc except a language, where the current participation rate is around 60%. All pupils remain on site throughout KS4 and there is no 'alternative provision' because we know they can do well. We never enter pupils for exams early or 'off roll' them, and except for exceptional medical reasons, never put them on a reduced timetable or early study leave. Our students are in GCSE lessons for the equivalent of 320 hours more than most students nationally and we believe this is shown in the progress they make and the results they achieve. Disadvantaged students make fantastic progress with us which opens a world of opportunities up to them they might otherwise have never had access to.

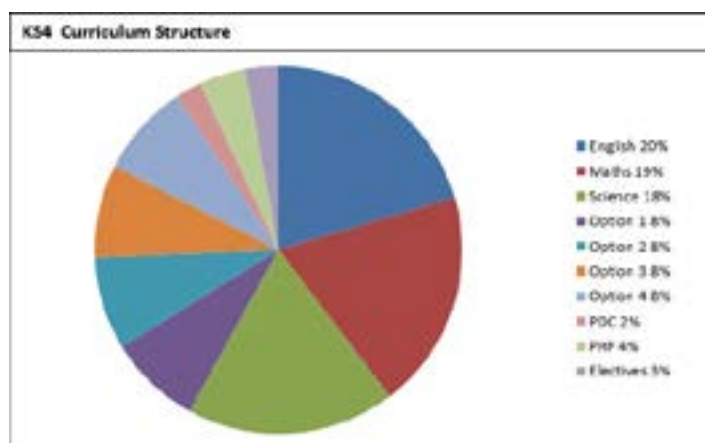
29. Pupils also follow a planned personal development curriculum led and managed by a team of four personal development directors (PDDs) known as the personal development team.

30. The taught element of spiritual, personal, moral, and social education is mainly delivered through a highly interactive weekly lesson known as the Friday debate and a programme of assemblies using the Votes for Schools package. It is based around the themes of identity, culture and community and aims to ensure students develop an inclusive sense of national identity based on their heritage and British values. It is led by a dedicated personal development director for Identity, Culture and Community who also leads on related events and displays.

31. Personal and health education, including sex, and relationships education (SRE) is led by another personal development director and taught by a specialist team supplemented by a range of outside speakers and events, visits, and experiences in a dedicated programme of lessons for every year group.

32. Careers education is led by another personal development director who is also the lead for our pupil premium strategy. Careers is taught to all year groups in their personal and health education lessons but also in Friday debate lessons to year 11. The PDD for careers, opportunities and disadvantage is a permanent year 11 tutor.

33. Careers education is planned through 5 years and delivered through a wide variety of talks, workshops, visits, and mock interviews. We ensure students have a chance to meet all local post 16 providers and understand the importance and role of apprenticeships alongside more traditional academic and vocational routes. Our STEM programme provides many opportunities for career development in related areas, and we use speakers for schools and Cambridge University to offer advice and guidance to our students. Our careers programme is tracked against the Gatsby Benchmarks which all staff are aware of and supported by the *Careers and Enterprise Service*. The PDD for Careers, opportunities and disadvantage is fully careers trained.



The Gatsby Benchmarks



34. Teaching staff engage with research through our weekly Raising Achievement Time training (**RAT**) on Friday afternoons. This high quality CPD ensures we have a lively professional learning community in school. RAT is a very well established and popular feature of staff development. We closely follow the Early Careers Framework for new teachers and ensure that all new staff have a chance to fully understand our approach to the curriculum when they join us.

35. Transition to Casterton is vital and about a great deal more than settling in or managing the transfer of records. Year 6 join us for a whole week of transition activities in July and undertake a series of nationally benchmarked literacy and numeracy **tests (GL Assessments)**, which are repeated twice a year until they are 15 years old. This way, we precisely know the learning needs of every child when they join and can monitor their progress in literacy and numeracy as the impact of our support takes effect. This is our main method of assessing pupils at KS3 because not only is it accurate and consistent over time, but it also underpins success in across the whole curriculum. All pupils who join us mid-year also undertake these tests on entry. Our extended transition programme ensures that children get off to a flying start from their very first day.



36. The Casterton Curriculum is always evolving. It is reviewed every year and we ask for feedback from parents, pupils and teachers annually. Recent stakeholder surveys (**Kirkland-Rowell Surveys**), parent panel discussions and feedback from parents' evenings suggest strong support for our curriculum arrangements.



37. Governors are consulted on the curriculum and receive regular training updates at meetings. We have specialist governors for the currently most able/ HE, SEND and disadvantaged pupils. We also have an equalities governor to consider how well the curriculum promotes equal opportunities and mutual understanding.

Key Terms

Basic powerful knowledge - KS3 powerful knowledge

Biological primary knowledge - Knowledge learned in everyday life

Cognitive Load Theory - The idea that working memory capacity is limited

Crystallised intelligence - Intelligence based on accumulated and retained knowledge

Culturally specific knowledge - knowledge rooted in a specific culture

Current ability - Crystallised intelligence at a particular moment in time

Direct instruction - Explicit teacher led instruction

English Baccalaureate - Performance measure showing the proportion of students who achieve grade 5 or higher in the core academic subjects of English, Maths, Science, History, Geography, Computing, and a Language

Every Word Matters - Casterton approach to the teaching of vocabulary

Fluid intelligence - Inherited ability

Gatsby Benchmarks - Eight hallmarks of good quality careers education

GL Assessments - Tests in basic skills such as reading, comprehension and numeracy

Intermediate powerful knowledge - KS4 powerful knowledge

Kirkland-Rowells Survey - Online survey of parents, staff and students benchmarked against other schools

Knowledge organiser - List of powerful knowledge students need to learn

Mastery - permanently secured full and complete knowledge

Novices - learners new to a topic or subject

Pedagogy for Performance (PFP) - Casterton team that promotes research and disseminates examples of good teaching approaches

Pedagogical subject knowledge - Knowledge of how to teach a subject (and how students learn it)

Powerful knowledge - The fundamental knowledge that underpins a subject

Pygmalion effect - Idea that high expectations lead to high performance

Raising Achievement Time (RAT) - Casterton Friday afternoon programme of continuing professional development

Retrieval practice - Idea that bringing information to mind e.g., through testing boost learning

Secondary knowledge - Knowledge which would not normally be encountered in everyday life (or at home)

Start big, go small - Casterton approach taken to curriculum sequencing

Teach to the Top - pitching the lesson at the top 20% of the current ability range

Tier 1 vocabulary - words used in everyday conversation

Tier 2 vocabulary - academic words common to most or all subjects

Tier 3 vocabulary - academic words used primary or exclusively in one subject domain

Further Reading

Daisy Christodolou, Severn Myths about Education

David Didau, What If Everything You Knew About Education Was Wrong?

Dylan Wiliam, Creating The School Our Children Need

Daniel Willingham, Why Don't Students Like School

References

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- [2] Carol Dweck, US psychologist, Growth Mindset Theory
- [3] Michael Young, British Educationalist, Knowledge and the Future School
- [4] David Geary, Evolutionary psychologist, The Origin of the Mind
- [5] Benjamin Bloom, US Psychologist, All Our Children Learning
- [6] Kate Jones, Retrieval Practice
- [7] Engelmann and Becker, Direct Instruction
- [8] Education Endowment Foundation, Teaching and Learning Toolkit 2018
- [9] Alex Quigley, Closing the Reading Gap and Closing the Vocabulary Gap
- [10] House of Commons Briefing Paper 07148, The School Day and Year (England), 2019

Should you have any questions regarding the curriculum please contact Mr Rawes, Vice Principal at Enquiries@castertoncollege.com