Seamer and Irton CP School
Progression Statement

At Seamer and Irton CP School we ensure that pupils know more, remember more and can therefore do more through meticulous planning across all subjects. The substantive knowledge and disciplinary knowledge across all subjects is carefully considered and planned to ensure the knowledge builds progressively, leading to no gaps in pupils' knowledge and understanding.

Substantive Knowledge – the knowledge produced by the subject – the specific, factual content, for example the properties of materials, rules of netball, how to stay safe whilst using the internet and key events in the life of Florence Nightingale.
We must start with the most fundamental, helpful and extending knowledge, not necessarily the easiest. Substantive knowledge, when it connects to more substantive knowledge, creates understanding. This means that prior knowledge must be re-visited before introducing new ideas, and misconceptions should be actively diagnosed.

Disciplinary Knowledge - the action taken within a particular subject to gain knowledge i.e. how we gain substantive knowledge. Also referred to as the knowledge of the subject as a discipline; this is knowing how we know for example, how historians come to conclusions and judgements, carrying out an experiment or writing persuasively – thinking like a historian/mathematician/geographer etc.

Skills progression documents for all subjects highlight how knowledge is progressed and built upon (see Curriculum page). Below is the definition we have adopted for substantive and disciplinary knowledge across each subject.

Subject	Substantive Knowledge	Disciplinary Knowledge
Art	Substantive knowledge is based on the key areas; drawing, painting, printing, textiles, clay and knowledge & history. The substantive knowledge within these elements is progressive from EYFS to Year 6 and builds essential knowledge and vocabulary. Substantive knowledge is also the knowledge of known artists/designers, their style and period of art. Purposeful and natural links to other elements of art and design/artists and designers as well as other subject areas are identified in order to connect essential knowledge.	Disciplinary knowledge in art and design is the interpretation of the elements, how they can be used and combined in order to create a specific and desired effect. It is also the critical evaluation of artists work; evaluating style and technique and having the ability to appraise a piece of work.
Computing	Substantive knowledge in computing is understanding how to use technology, how to be safe and knowing how to program. This is developed through deliberate practice and by children applying their knowledge of how to be computational thinkers. "Computational thinking is an important life skill, which all pupils now need to develop. It is central to both living in and understanding our digitally enriched world. It is a cognitive process involving logical reasoning by which problems are solved across the whole curriculum and through life in general." (Computing at School, 2015).	Disciplinary knowledge in computing is the use and interpretation of substantive knowledge in order to develop original digital content and programs. It is also referred to as the knowledge of the practices of computing (how to…).
Design & Technology	Substantive knowledge in design and technology is based on the knowledge of four key elements of the process of design (design, make, evaluate and technical knowledge). All of these elements will be taught from Reception to Year 6 and vocabulary is taught explicitly and will be	The process of enabling children to use their substantive knowledge of products and materials around them to make links between and across different areas of the curriculum. Knowledge in design and technology will equip the children with the

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<td>deliberately practised and applied through the 4 key elements:
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<tr><td>Design</td><td>Know how to design a product that is purposeful, functional and appealing to a specific group.</td></tr>
<tr><td>Make</td><td>Know how to cut, join and finish a range of increasingly complex materials, ranging from paper to wood.</td></tr>
<tr><td>Evaluate</td><td>Know how to investigate, evaluate and analyse a range of existing products and their own designs based on a specific design criteria.</td></tr>
<tr><td>Technical Knowledge</td><td>Know how to apply their knowledge of specific materials to meet the criteria listed above in the design, make and evaluate stages.</td></tr>
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<td>opportunity to explain how and why products have changed over time and how they might be further improved in the future.</td>
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<td>English</td>
<td>In reading, substantive knowledge is the ability to decode and sight-read words. This allows children opportunities to read for pleasure, including reading and reciting poetry, and develop their vocabulary. Children are then able to apply their knowledge of reading strategies to comprehend a range of texts. In writing, substantive knowledge is the ability to effectively plan, draft, and construct writing for different purposes. When constructing writing, this involves knowledge of structural, grammatical and linguistic features as well as knowledge of handwriting and spellings.

Through deliberate practice, this substantive knowledge becomes automatic and fluent leading to mastery.</td>
<td>In reading, the disciplinary knowledge is the interpretation and comparison of themes and conventions, using text to back up arguments and discussions and evaluating the intentions of the author.

In writing, it is the ability to evaluate and edit text and apply substantive knowledge to effectively write for a range of purposes. In both reading and writing, it is the process of thinking critically and creatively using the automaticity of substantive knowledge.</td>
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<td>EYFS</td>
<td>In the EYFS, substantive knowledge is the understanding and use of knowledge across the seven areas of learning. In the prime areas, this is how to listen, speak and communicate effectively, how to manage self-care needs including dressing, managing their hygiene and how to control their bodies. It also refers to personal, social and emotional development including how to make and maintain relationships, manage feelings and behaviour and build confidence and self-esteem. In the specific areas, substantive knowledge is the area specific understanding and use of key concepts which are taught sequentially through adult-led teaching and those which also naturally arise through child-initiated learning. Development of the substantive knowledge is achieved through deliberate practice so that children develop fluency in their knowledge and understanding. We embed this as part of our Topic Based Curriculum, as well as our Phonics and Mastering Number sessions, to give pupils the chance to purposefully practice the skills.</td>
<td>In the EYFS, disciplinary knowledge is the interpretation and independent use of learnt knowledge and skills. Embedded learning is identified by assessing what a child can do consistently and independently in a range of everyday situations. Disciplinary knowledge is also represented by children’s independent use and application of the prime and specific areas of learning. Examples include; using substantive knowledge of colour mixing in their own paintings or applying phonic knowledge to read their own independent writing. Disciplinary Knowledge is often developed during child-initiated time with high quality adult interactions.</td>
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French	Substantive knowledge in French is based on the acquisition of the knowledge of how to listen, speak, read and write in the language. This knowledge is vital in learning how to speak and understand the language effectively.	Children are taught linguistic disciplinary knowledge such as how to look up and research language they are unsure of and how to utilise language they do know to express themselves effectively in French.
Geography	Substantive knowledge is organised into four interrelated forms locational knowledge, place knowledge and human and physical processes and geographical skills and fieldwork to ensure that pupils' knowledge, skills and understanding are built upon through successive years towards clearly identified year group learning outcomes.	This considers how geographical knowledge originates and is revised. It is through disciplinary knowledge that children gradually become more expert by *thinking like a geographer.* Disciplinary knowledge is used when pupils consider where geographical knowledge originates, and how they can learn the practices of geographers.
History	Substantive knowledge refers to knowledge of the past: people, events and ideas. It is linked to key concepts; chronological knowledge & understanding, continuity and change, similarities & differences and locality. This includes the understanding and deployment of key historical vocabulary.	Disciplinary knowledge refers to knowledge of history as a discipline: the methods of historians. In history, the disciplinary knowledge is the interpretation of some of the key concepts. It involves applying second-order concepts such as historical thinking, reasoning and argument. It requires a meta-cognitive approach. For example, when children have an understanding of the impact of a significant event during the Roman era, they would develop the disciplinary knowledge by interpreting other possible outcomes.
Maths	Substantive and disciplinary knowledge are intertwined in maths like in no other subject. Substantive knowledge concerns the key facts, concepts, principles and explanatory frameworks in a subject. Disciplinary knowledge needed in order to think, process and understand the subject. Children need substantive knowledge such as knowing their number bonds and multiplication facts in order to be able to successfully tackle more challenging concepts and ideas. Deliberate repeated practice helps children to build confidence, fluency and efficiency in order to secure this substantive knowledge into their long-term memories. Children are also taught to make links across different mathematical components to build this substantive knowledge in their long-term memory. Substantive and disciplinary knowledge are intertwined in all maths lessons with pupils learning key skills before applying them in problem solving activities.	
Music	Substantive knowledge focuses on developing children's skills and knowledge required for them to develop as musicians. This is achieved through deliberate practice and allows children to develop and demonstrate fluency of knowledge. It involves learning about music across a range of historical periods, genres, styles and traditions, including the works of the great composers and musicians.	Disciplinary knowledge in music is the interpretation on the interrelated dimensions of music and how this knowledge is used when singing, playing instruments, improvising and composing, to develop creative and original pieces and performances. Children work independently and collaboratively to interpret and combine the dimensions of music to create a specific and desired effect.
PSHE	This is the content that teachers teach as established fact, the information that pupils can then use to apply to real world situations and use to inform decisions. The knowledge shared becomes increasingly complex and is age-specific.	Disciplinary knowledge in PSHE is the pupils interpretation of themselves and how to support themselves and others through changes. They will have opportunities to make their own choices about how to do something and will be able to evaluate what they have learnt and tried and how to improve for their future.

PE	Substantive knowledge in PE is based on deliberate practice and development of specific skills that can be used in a variety of disciplines, sports and games e.g.: • Running, jumping, throwing and catching • Tactics within a team game e.g. strategies for attacking and defending • Being able to perform specific actions, balances and movements in line with year group expectations	Disciplinary knowledge in PE comes through opportunities for the children to choose and apply their own actions, balances, movements and skills. Once they have mastered the specific skills, they have opportunities to apply these within sports and games and therefore have to choose different strategies and the best way to approach different challenges. As they move through school, their skills and knowledge around tactics become more complex and they have to work collaboratively to make decisions. There are lots of opportunities for the children to evaluate their performances and reflect on how they will improve next time.
RE	In RE, the substantive knowledge is the content covered, the information about the range of world religions and beliefs covered. It is the facts about each belief and can be assessed through retrieval and recall. It will enable pupils to recognise the diverse and changing religious and non-religious traditions of the world.	Disciplinary knowledge is the knowledge that comes from how RE 'works'. If we were to look at those who study RE at an academic level, it is the ways that they work within their discipline and the 'ways of knowing'. It comes through key questions that challenge the way pupils think during each lesson.

Science	This is knowledge of the products of science, such as models, laws and theories. In science, this is the knowledge produced by the academic subject. This involves concepts which form the underpinning structure of the subject, e.g. respiration, evolution and the idea of a force as well as the scientific vocabulary needed. This is specified as the scientific knowledge and conceptual understanding in the National curriculum.	The knowledge of the practices of science. This teaches pupils how scientific knowledge becomes established and gets revised. Importantly, this involves pupils learning about the many different types of scientific enquiry. It should not be reduced to learning a single scientific method. In science, this is the knowledge needed to collect, understand and evaluate scientific evidence. It's the scientific method, i.e. changing one variable whilst keeping everything else the same – and seeing what happens. It is the ability to develop cognitive skills related to science such as acquiring scientific language, making observations, taking measurements, gathering, analysing and interpreting data, making generalisations, creating models, communicating and carrying out investigations. We identify the best substantive contexts to teach specific disciplinary knowledge and pupils are not expected to acquire disciplinary knowledge simply as a by-product of taking part in practical activities; disciplinary knowledge is taught. The 4 areas of disciplinary knowledge from the National Curriculum that we strive to introduce and lay the foundations of before pupils move to secondary school are: 1. **Knowledge of methods that scientists use to answer questions.** This covers the diverse methods that scientists use to generate knowledge, not just fair testing, which is often over emphasised in science classrooms and curriculums. For example, use of models, chemical synthesis, classification, description and the identification of correlations (pattern-seeking) have played important roles, alongside experimentation, in establishing scientific knowledge. 2. **Knowledge of apparatus and techniques, including measurement.** This covers how to carry out specific procedures and protocols safely and with proficiency in the laboratory and field. This is a particularly important area for enabling progression on to science courses beyond GCSE and at university. It includes the accurate measurement and recording of data. Pupils learn that all measurement involves some error and scientists put steps in place to reduce this. 3. **Knowledge of data analysis.** This covers how to process and present scientific data in a variety of ways to explore relationships and communicate results to others. Pupils learn about different types

		of tables and graphs and how to identify correlations. 4. **Knowledge of how science uses evidence to develop explanations.** This covers how evidence is used, alongside substantive knowledge, to draw tentative but valid conclusions. It includes the distinction between correlation and causation and knowing that explanation is distinct from data and does not simply emerge from it. Pupils learn how scientific models, laws and theories develop over time, including the importance of technology and the role of the scientific community in peer review.