ST GABRIEL'S CATHOLIC
VOLUNTARY PRIMARY ACADEMY

'Learning and Loving on our Journey with Jesus.'

Curriculum Handbook

As a Catholic primary school, St Gabriel's curriculum puts *'Christ at the Centre'* as we believe that our faith reaches out to the fullness of human experience and to its expression in a community of life in society. At the heart of this understanding of life is God, its creator, with the utmost intent of our curriculum being to *'Make Christ known to all people'*, in a definitive way through Jesus Christ. At St Gabriel's, we believe that Jesus Christ is *'the way, the truth and the life'* and that through Christ, the truth about Almighty God, and the human person is revealed.

<u>Intent</u>

"If it isn't in long term memory, it hasn't been learned."- *Chris Quigley, 2019*

At St Gabriel's Catholic Primary Academy, our curriculum aims to develop knowledge. We believe that children should be provided with a knowledge rich curriculum which is broad and balanced. Our intent is to build with children long term knowledge schemas (knowledge webs), through a curriculum which is designed for repetition of knowledge, as we affirm that "If it is not within long term memory, then the knowledge has not been learned."
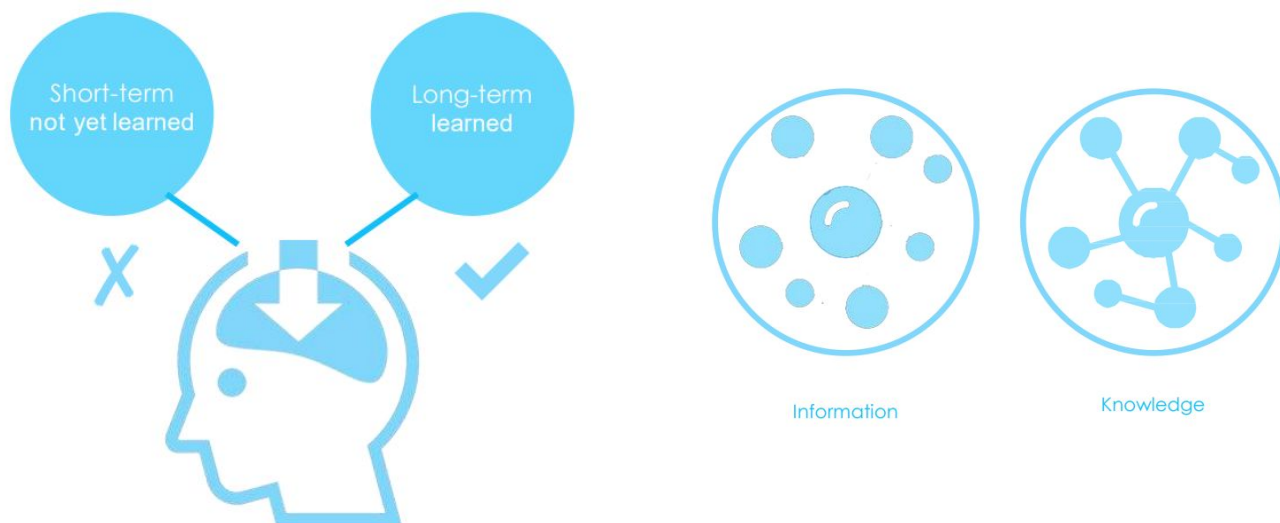

<u>Pedagogy</u>

Fundamental to moving children's knowledge from short term memory into long term memory, is our pedagogy. At St Gabriel's, children receive a knowledge rich curriculum centered on the **Episodic, Procedural and Semantic systems of teaching.**

Through Episodic teaching, our children recieve rich experiences which not only develop academic

knowledge and understanding but helps to shape our children's character at an age appropriate level, by having fun. This might include cultural visits or residentials, developing a child's personal interest or enabling the child to experience a new view of the world, through a text, artwork or object/artefact. Through Procedural teaching, children at St Gabriel's develop key procedural knowledge in areas such as handwriting, written mathematical methods, times tables and telling the time, and through Semantic teaching our children strengthen the storage and meaning of facts such as 5 + 5 = 10. However, to allow our children to develop strong knowledge schemas within long term memory, there must be continued repetition and practise linking both the Procedural and Semantic. Through the use of Episodic, Procedural and Semantic teaching systems, children at St Gabriel's develop large, knowledge rich webs rooted in long term memory. **This is Schema theory.**
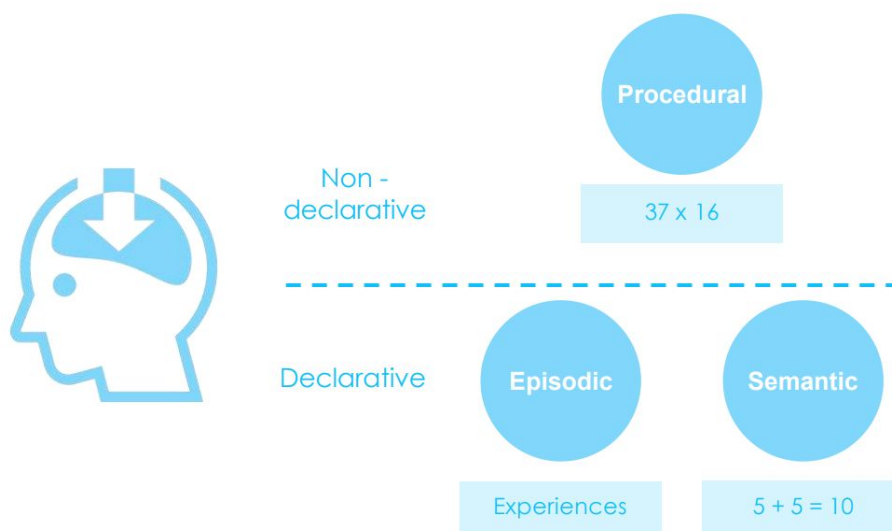
Curriculum Design and Content

Our curriculum at St Gabriel's , is a progressive learning curriculum model. The curriculum at St Gabriel's is designed for children to acquire knowledge first as this precedes creativity. Children must have the fundamental knowledge before this can be applied in creative ways.

Curriculum Drivers

St Gabriel's curriculum is driven by 3 drivers. They complement the Core Values that are at the heart of our school and reflect our Catholic Ethos. These are shown in the image below. These drivers not only help to provide essential knowledge but also help to establish breadth, depth and provide a learning curriculum which meets the future needs of our pupils and wider society whilst linking them closely with the communities in which they live.

Our drivers are identified as:

Faith and Spirituality: This helps to show our children how the faith we have impacts upon our lives. We aim to develop a strong connection with God through prayer and reflection and allow the children to demonstrate this in a variety of ways. We value the beliefs of others and understand how they have an impact upon the community we live in.

Possibilities: This helps our pupils to build aspirations and know available possibilities for their future lives. We allow children to explore and experience the world around them and make positive decisions which may impact their future lives.

Initiative: Throughout each year group we want to create independent and inquisitive learners who use their own initiative to problem solve and find creative solutions to complex problems. They will be able to apply a range of skills to a variety of contexts.

Cultural Capital

Cultural Capital plays a significant role through our 3 curriculum drivers. Cultural capital is the accumulation of knowledge, behaviours and skills a person needs to be an educated citizen. Children with a rich cultural capital will have the essential knowledge *"to prepare them for their future success." (OFSTED 2019).*

Therefore our curriculum has been designed to incorporate embodied cultural capital. Cultural capital at St Gabriel's includes the selection and complexity of texts children study, the progression of vocabulary children are exposed to, the acquiring and use of general knowledge, cultural experiences children receive and the acquiring of British values. **Cultural capital permeates through all our curriculum.** The school recognises that there are six key areas of development that are interrelated and cumulatively contribute to the sum of a student's cultural capital:

1. Personal Development
2. Social Development, including political and current affairs awareness
3. Physical Development
4. Spiritual Development
5. Moral Development
6. Cultural development
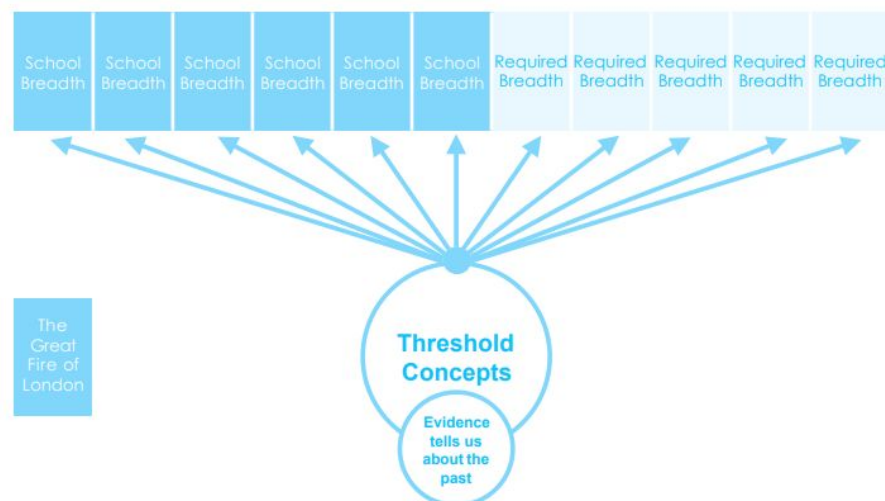
Curriculum Breadth and Threshold Concepts

In order to prevent a narrowing of the curriculum, the curriculum at St Gabriel's is designed using two key elements of the National Curriculum- The Programme of Study, which is where we focus on the breadth of the curriculum (often referred to as 'topics that children will explore') and the Purpose and Aims of Study which is where we use Threshold Concepts (These are the 'Big Ideas' which shape students thinking within each subject) and are our indicators of progress.

The breadth of the learning curriculum at St Gabriel's is created to build meaningful knowledge in a child's time here. The breadth of the curriculum links directly to cultural capital and the experiences a child receives. However the problem with this is that students can sometimes form knowledge which is disjointed, meaningless or confusing. Therefore, the use of Threshold Concepts helps all the breath and cultural capital come together in a meaningful way and helps to make 'knowledge stick' in long term memory.

Developed on research by Jan Meyer and Ray Land (2003), the use of Threshold Concepts in our curriculum are used to capture the most important essence (knowledge) of the subject. The Threshold Concepts enable children to open up a previously new and inaccessible way of thinking about something, much like the lense of a magnifying glass helps us to see a closer and clearer image.

The same Threshold Concepts are explored in every year group and students will gradually increase their understanding of them. At St Gabriel's, the term 'Threshold Concepts' has replaced 'objectives' because the term objective implies that there is a target to be met. Instead of meeting objectives, we now advocate exploring Threshold Concepts as we believe that the exploring of the concept will never be complete- students will continue to study these concepts as long as they continue to study the subject. Children explore the Threshold Concepts at an age appropriate level meaning as they revisit , they apply new knowledge and understanding.

The image below shows how the Threshold Concept is taught throughout the curriculum, therefore providing breadth of learning.

Curriculum Progression and Milestones

In order for children to retain knowledge which is flexible, tacit and interconnected children must experience the threshold concepts in order to move from novices to experts. **At St Gabriel's , we believe that the difference between a novice and expert is the flexibility of knowledge**. Novices tend to have inflexible knowledge which is explicit but unconnected, whereas experts have strong knowledge schemas which are interconnected and are able to apply this knowledge confidently across different situations or areas of the curriculum.

To help facilitate the progression and deepening of this knowledge within subjects, we use **Milestones** (KeyStage endpoints), to move children from the novice learner to the expert learner. For each Threshold Concepts there are three Milestones, each of which includes the procedural and semantic knowledge children require to understand the concepts. Within each Milestone, students gradually progress in their procedural and semantic strength through 3 cognitive domains: **Basic, Advancing and Deep.** The goal for students at St Gabriel's, is to display sustained mastery at the 'advancing' stage of understanding by the end of each milestone and for the most able pupils to have a greater depth of understanding at the 'deep' stage . **The timescale for this sustained mastery or greater depth is therefore over two years of study.**
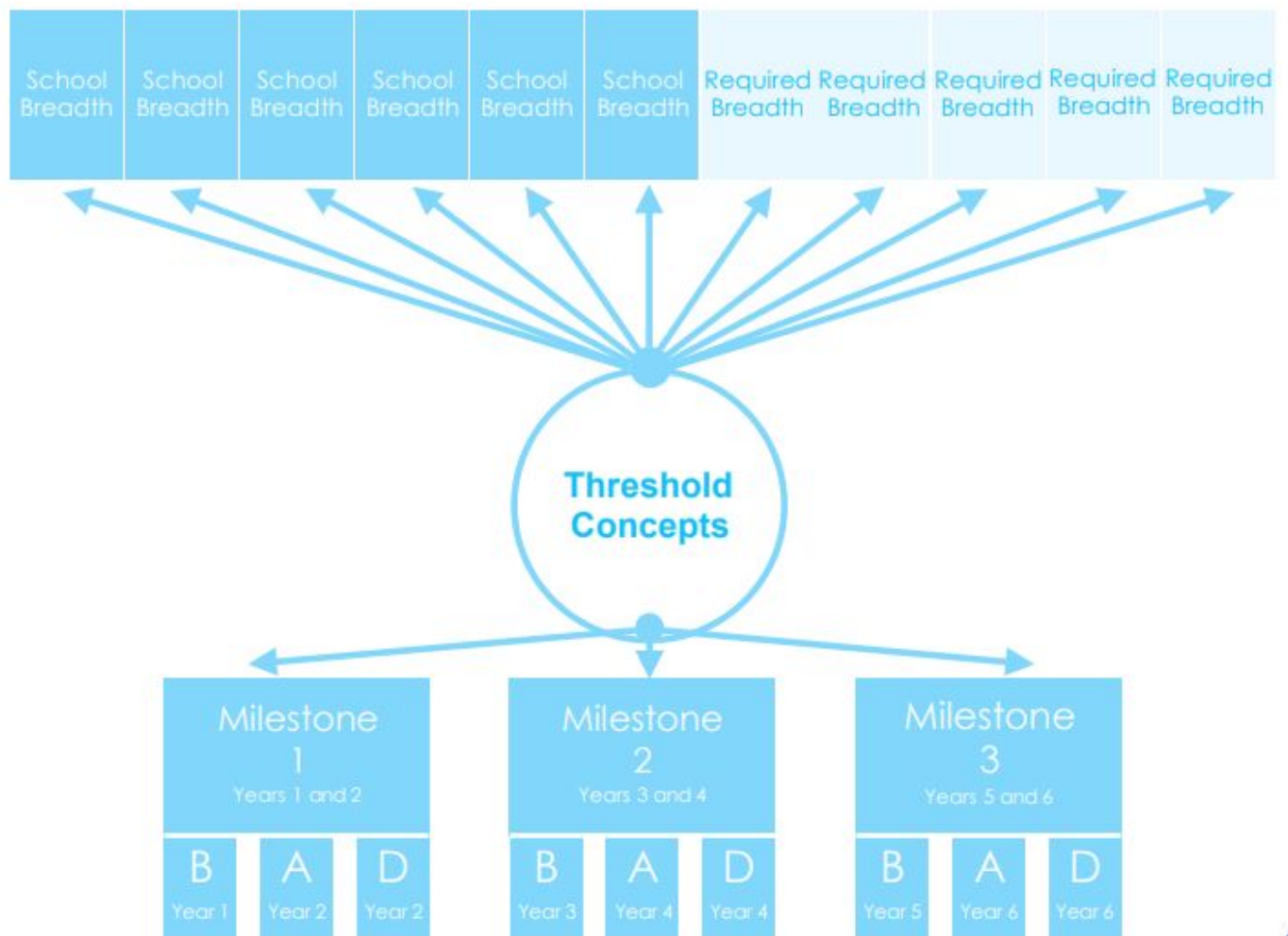
The following table below provides further details on the difference between the Basic (novice)learner, Advancing and Deep (expert) learner at St Gabriel's.

Basic	Advancing	Deep
Acquiring knowledge.	Applying knowledge.	Reasoning with knowledge.
Knowledge is explicit and unconnected.	Knowledge is explicit and connected.	Knowledge is connected and tacit.
Relying on working memory.	Drawing on long-term memory, freeing working memory to consider application.	Relies on long-term memory, freeing working memory to be inventive.
Procedures processed one at a time with conscious effort.	Procedures becoming automatic.	Automatic recall of procedures.
Understands only in the context in which the materials are presented.	Sees underlying concepts between familiar contexts.	Uses conceptual understanding in unfamiliar situations.
New information does not readily stick. Schemas are limited.	New information is linked to prior knowledge. Schemas are strong.	Readily assimilates new information into rapidly expanding schemas.
Struggles to search for problem solutions. Relies on means-end analysis.	Combines searching for problem solutions with means-end analysis.	Draws on a vast store of problem solutions.
Requires explicit instructions and models.	Uses models effectively.	Prefers discovery approaches to learning.

Furthermore each subject area has a **Knowledge Progression Sheet** detailing the progression of knowledge children should experience as they journey from EYFS to finishing in Key Stage 2.

Implementation

"Proficiency takes practise"- Emmet Fox

At St Gabriel's our curriculum is organised based on the evidence of cognitive science. Three main principles underpin our curriculum organisation:

- Learning is most effective through **spaced repetition**
- **Interleaving** helps pupils to discriminate between topics and aids long term memory.
- **Retrieval** of previously learned content is frequent and regular, which increases both storage and retrieval strength.

Spaced Repetition

Rooted in research by Ebbinghaus (1885) instead of 'blocking' our curriculum, we use **spaced practice**. This may involve some initial blocking at first but only as an introduction. Thereafter the idea of our curriculum organisation is to allow children to practise and practise- over time. This helps to create what is known to cognitive scientists as **'desirable difficulty'**. Within our classrooms at St Gabriel's the use of spacing and desirable difficulty for children may appear to suggest that students are not learning, but evidence shows that this practise over time leads to **slower but more permanent retention of knowledge.**

Interleaving

Interleaving of topics is another feature of how the curriculum is organised at St Gabriel's. Instead of retrieving as much knowledge as possible from one topic at a time, students are asked about multiple topics. Although this may be difficult, it is another example of establishing 'desirable difficulty', as students are required to discriminate between different aspects of content as **the topics are studied in parallel rather than blocks.** An example of this is shown by the design of our Science curriculum below for Key Stage 1.

Milestone 1

Year 1

Autumn				Spring				Summer			
Plants	Animals & Humans	Materials	Light	Animals & Humans	Materials	Plants	Sound	Animals & Humans	Materials	Living Things & Habitats	Plants
Seasonal Changes				Seasonal Changes				Seasonal Changes			

Year 2

| Autumn				Spring				Summer			
Living Things & Habitats	Plants	Animals & Humans	Materials	Light	Animals & Humans	Living Things & Habitats	Materials	Plants	Sound	Animals & Humans	Living Things & Habitats
Seasonal Changes Electricity				Seasonal Changes				Seasonal Changes			

Retrieval Practice

Retrieval Practice is another metacognition strategy used at St Gabriel's , to help call information to mind and boost learning. This deliberate **recalling of information forces the children to pull knowledge 'out' and examine what they know.** This 'struggle' or challenge is what improves our children's working memory. By trying to recall information from working memory, the children exercise and strengthen this memory, whilst helping Senior Leaders and Curriculum leaders to identify gaps in children's learning. Within classrooms this might take the form of No-stakes quizzes, Show-me boards or Exit tickets.

Teaching and Learning

In addition to the three principles mentioned above we also understand that **learning is invisible in the short term and that sustained mastery takes time**. Our teachers are the 'champions' of knowledge. Teachers at St Gabriel's plan teaching sequences of spaced repetition and interleaved lessons rooted in Schema pedagogy and the principles of cognitive science, to provide **practise for permanence.** To help visitors understand what they should see in lessons we have broken the expertise into 8 key areas:
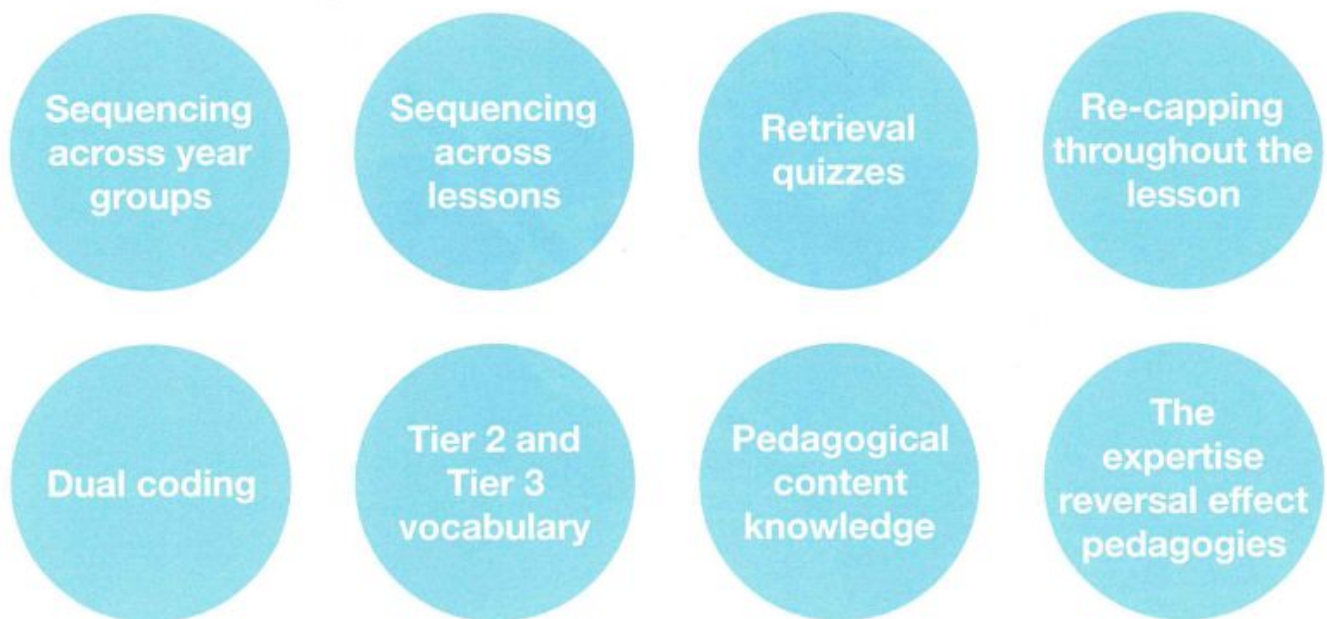
Retrieval Quizzes

This is a common strategy used by teachers within St Gabriel's. Teachers at St Gabriel's ensure that children take part in No-stakes quizzes, Show-me boards and use exit tickets. **These are not assessment tools,** but are a way to help pupils strengthen storage and retrieval of essential knowledge. Plenaries and mini-plenaries are also a form of this practice. The importance is getting knowledge out rather than getting knowledge in.

Dual Coding

Within classrooms, teachers also consider the presentation of new learning **using slides or resources to effectively combine visual images and words to help the brain process new information.** Founded on research by Oliver Caviglioli, within classrooms visitors and leaders should see:

- Visuals presented in an efficient way
- Images chosen for clarity, to enable pupils to gain a rapid gist of the meaning; leaving them with more cognitive resources to engage in higher order thinking.
- less content per slide, and information presented in chunks with clear heading.
- Use colours and fonts with restraint.

Concrete Examples

In order to help move learners through from novice to expert, teachers also use concrete examples. **Concrete examples are examples that can be touched or sensed.** Teachers at St Gabriel's will often use concrete examples in lessons such as Maths and Science but this is not exclusive.

These **concrete examples help to provide a 'bridge' between the pictorial and abstract ways of learning new knowledge**. Therefore concrete examples help to 'solidify' knowledge within a child's working memory. Within the classroom this might be the use of mathematical equipment such as Base ten, Place value counters or counting beads which in turn can be used by children to illustrate their knowledge of a particular Threshold Concept or Milestone.

Tier 2 and 3 Vocabulary

Within classrooms, teachers consider carefully the vocabulary they use with the children. As soon as children arrive at St Gabriel's in EYFS through to leaving at the end of Key Stage Two, teaching staff use high level vocabulary through classroom practise and discussions with the children. **Vocabulary is the way we conceptualise and express knowledge.** This high level vocabulary is essential for building strong knowledge schemas, providing children with rich cultural capital experiences and helps the child to prepare the child for future successes. **This vocabulary can be divided into three tiers, each playing a significant role in the teaching and learning.** Visitors and leaders should hear a range of Tier 2 and 3 vocabulary being used depending on the subject, time of day and milestone stage of the learner(s). The image below explains what we class as Tier 2 and 3 vocabulary at St Gabriel's. Furthermore, each individual subject area has a **Vocabulary Progression sheet** showing the changes in Tier 2 and 3 words as children progress from EYFS to the end of Key Stage 2.
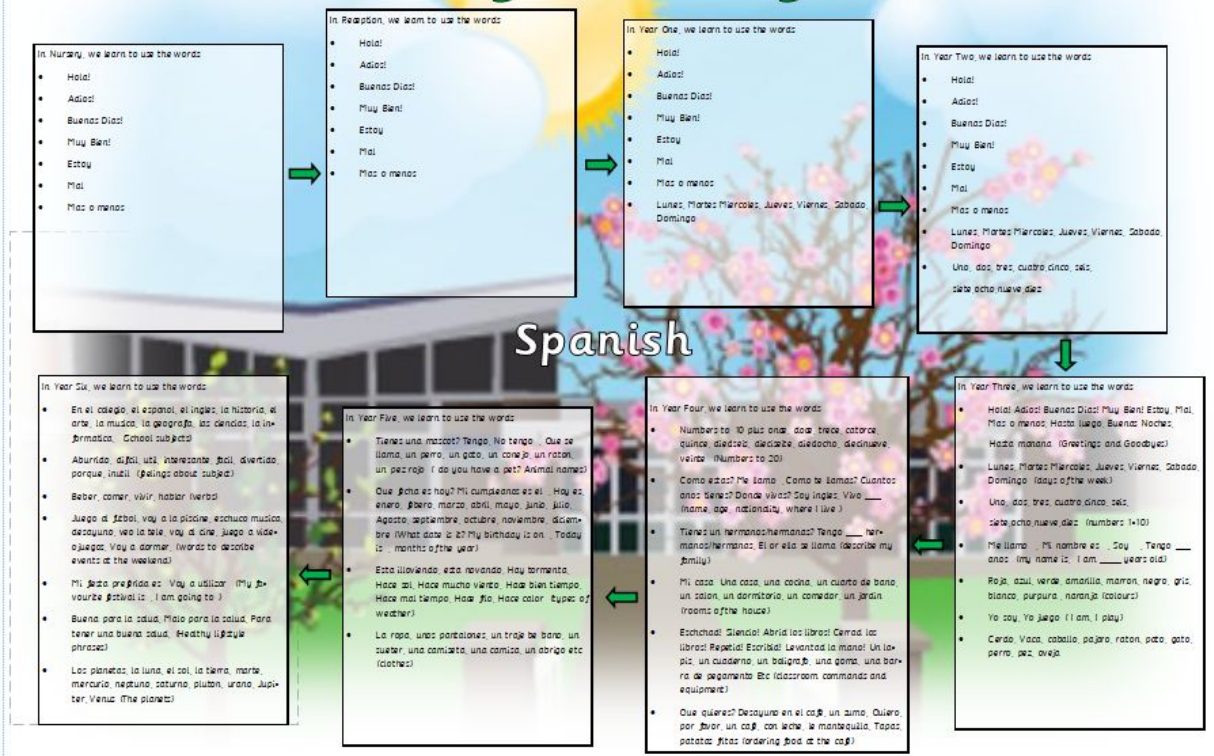
Pedagogical Content Knowledge (PCK)

All staff at St Gabriel's Catholic Academy have closely developed the curriculum alongside Senior Leaders. All staff have received a robust induction into the use of school systems and policies and had opportunities to receive continuous professional development opportunities (CPD) . This enables staff at St Gabriel's to

have a strong and up-to-date pedagogical content knowledge, through which staff can explain how the curriculum is designed in relation to the context of the school, needs of the individual children in their class and also considering the most effective teaching strategies and classroom practices to help children retain knowledge in long term memory. At St Gabriel's we have created termly overviews which show clearly the Threshold Concept and Milestones being taught across a term. These are monitored closely by Curriculum and Senior leaders and are then published on our school website. An example can be found below.

Picturing the Past — Year 5 / Spring Term

ST GABRIEL'S — Part of Nicholas Postgate Catholic Academy Trust — Topic Overview

Learning Challenge: Key Questions & Enquiry
How has Middlesbrough changed over time and what were the most important times of change for our town?
What evidence is there of extinct creatures in our local area?
Why are they important to finding out about life on Earth?
What artefacts help us to understand historical societies?

Memorable Experiences
Visits: Dorman Museum – Walk like an Egyptian
Specific Events: Industrialisation of Cleveland Hills
Science Themed Day: Fossils in local area

Learning Environment
Greek pottery art exhibition
3D DNA model linked to evolution and inheritance

Inspirational People
Francis Meadow Sutcliffe

Resources
OS Survey Maps
Examples of artefacts from Ancient Rome, Greece and Egypt
A range of older cameras

Enriching Texts
The Whitby Witches
Robin Jarvis

Coverage Summary
As geographers we will:
- Communicate geographically creating maps of our local area, identifying land use and population densities.
- Investigate patterns comparing land use and population densities of Middlesbrough's twinned-town Oberhausen, Germany.

As historians we will:
- Understand chronology using dates and times accurately in describing the Viking invasion of Northumberland.
- Build an overview of world history describing the characteristics of the experiences of men, women and children within the Roman Empire, the Viking era, Ancient Egypt, Ancient Greece and the locality of Middlesbrough.
- Understand chronology mapping out the development of photography as a technological change.

English in Context
As writers we will:
- Use imaginative description Diary entries as a character from The Whitby Witches.
- Write with purpose Creating reports on the lives of citizens in ancient civilisations.
- To present writing Presentations about how our local area has changed throughout history.

Maths in Context
As mathematicians we will:
- Use statistics Create and interpret bar charts and line graphs for data relating to our local area (for example, population densities over time).

Computing
As users of technology we will:
- Code Use operators within spreadsheet software to calculate and present information.
- Code Use audio editing software to add effects to compositions.

Science in Context
As scientists we will:
Work scientifically & understand Biology
- Understand evolution and inheritance.

SMSC
Using our British Values we will:
- Spiritual – An appreciation of the intangible. For example, beauty, truth, love, goodness, order.
- Moral – A considerate style of life.
- Social - Participate in activities relevant to the community.
- Cultural – Willingness to participate in, and respond to, artistic and cultural enterprises.

Catholic Social Teaching
As followers of Christ we will:
- Care for God's creation – Participate in activities which 'Care for the Earth'. Show an understanding of the need to work globally to protect our planet and all of God's creation. Show an understanding of the current issues facing our planet.

Art & Design Technology
As artists and designers we will:
- Master techniques Use ceramic materials to create Roman-style mosaics.
- Master techniques Use digital media to edit and present our own photographs.
- Master techniques Use different stitching techniques to create textile-based products.

Music
As musicians we will:
- Compose Use digital technology to transcribe and refine our pieces.

Furthermore all Curriculum leaders receive CPD within the subject that they lead and monitor standards. This may be through an on site/off site or online provider. This enables staff at St Gabriel's to identify misconceptions that children may have about a Threshold Concept and identify 'learning traps' where advice and guidance can be provided to colleagues to support teaching of this concept and to help children's knowledge progress.

Finally with strong pedagogical knowledge, quality CPD and understanding of misconceptions and possible pitfalls children may experience, teachers at St Gabriel's create a curriculum that is subject specific. We teach geography, history, art and other foundation subjects not Topic like some schools. (This can also be seen in the image above). This enables our teachers to use their knowledge and best practices to support children to make intra curricular links and further strengthen their subject schema. Continuous provision in the form of daily routines, replaces some aspects of the curriculum and, in other cases, provides retrieval practice for previously learned content.

Reversal effect pedagogies

Our intent at St Gabriel's is to help children progress their knowledge through the Milestones through 3 cognitive domains: Basic, Advancing and Deep. As part of this progression, teaching staff use different pedagogical styles for each of the cognitive domains. This is based on research by Sweller, Kirshner and Rosewhine, who argue the importance of direct instruction in the early stages of learning (Basic) and discovery based approaches later (Deep). Therefore within a teaching environment, visitors and leaders may see both direct instruction and problem based discovery learning. This is by cognitive scientists as the reversal effect.

Below is an example of our Lesson Visit Proforma:

Lesson Feedback

Date:	Observer:	Teacher:
Class:	Room:	Time:

Aspect	Score	Comments
Curriculum		
Does the teachers demonstrate subject expertise, knowledge and practical skills to provide learning opportunities?		
Does the teacher relate the lesson to concepts visited in earlier year groups?		
Does the teacher relate today's lesson to previous lessons?		
Is there a logical sequence to the lesson? (connect activity, clear LO, success criteria, demonstration and review)		
Teaching		
Does the teacher demonstrate effective communication skills through the clarity of their instruction and by modelling correct written and spoken Standard English?		
Does the teacher constantly focus the students back to the key take-aways of the lesson?		
Does the teacher assist long term memory through 'no-stakes' retrieval quizzes?		
Does the teacher emphasise academic and subject-specific vocabulary?		
Does the teacher assist in reducing extraneous cognitive load through dual coding?		

understanding required in the curriculum expectations?	
Behaviour	
Teachers create supportive classrooms focused on learning.	
Pupils' exhibit positive learning behaviours; their behaviour is positive, on-task contributes to the focus on learning.	
Pupils' books are well presented, demonstrating pride in their learning.	

Strengths	Areas for Development

Observer: _____   Teacher: _____

Explanation of Scoring System

4	3	2	1
This aspect is embedded in practice (many examples of exceptional teaching)	This aspect is embedded with minor points for development.	This aspect is sufficient but there are some weaknesses overall in number of examples.	Major weaknesses evident or this aspect is absent in practice.

Impact

"Learning is creation, not consumption. Knowledge is not what a learner absorbs, but something a learner creates."- George Couros (2015)

What will I see in books?

At St Gabriel's we are often asked the question "What will I see in books?" However because learning is a change to long term memory it is impossible to see impact in the short term. This can also be said for progress in the short term within a lesson. Instead, Senior Leaders and curriculum leaders use probabilistic assessment based on deliberate practise. This means that we look at the practices that take place to determine whether they are appropriate, related to our goals and likely to produce results in the long term. Senior and Curriculum leaders also use comparative judgements in two ways: in the tasks we set and in comparing a student's work over time.

Therefore Curriculum leaders when carrying out work scrutiny will focus on the following four areas below:

Coverage

Tasks focused on concepts

Pedagogical content knowledge

Depth pedagogy

These are embedded within our Work Scrutiny proforma shown below:

Book Look Record – NPCAT Work Scrutiny

In order to conduct the work scrutiny, the teacher undertaking the scrutiny should keep the following in mind:

- A sufficient sample of books /folders from each class should be viewed to ensure that there is confidence in each judgement made. *A minimum of 10 pupils, including a range of ability, SEND, disadvantaged and an even mix of gender, should be considered from each class.*
- In assessing whether or not each expectation below has been met, the teacher undertaking the scrutiny should apply a 'best fit' judgement. If 80% or more of the student books /folders (across all classes) demonstrate that the expectation is being met, the expectation would be ticked as achieved (*although a comment should still be provided to make the class teacher aware that there are some pupils for whom this is not the case or some classes that do require attention*).
- The first criterion written in bold on each section must be viewed as non-negotiable. If teachers are failing to meet these criteria this is a serious concern. Appropriate feedback must be given to the teacher immediately and another work scrutiny arranged to follow up the issues.

Teacher:	Teacher undertaking work scrutiny:
Date:	Subject:
Year Group /Year	

Curriculum Coverage		X	Comments
	The sequence of work and content coverage (knowledge/mastery) in books matches the LTP/SOW.		
	There is evidence of pupils completing appropriate formative assessments / questions at all Key Stages.		
	Are tasks at a suitable depth, based on curriculum progression model?		
	Work is appropriately matched to the individual needs of the pupils.		
	Tasks allow pupils to deepen their knowledge of their subject, moving from simple to more abstract concepts.		
	Pupils are regularly given opportunities to revisit and practise applying prior knowledge.		
	Pupils are able to recall learning and information effectively.		
	There are regular opportunities to complete extended pieces of work, including extended writing where appropriate.		

AFL Processes and P.C.K.		X	Comments
	The teacher marks in line with whole school policy.		
	Teacher assessed pieces of work enable pupils to understand the strengths of the work and area(s) for development. (This may or may not involve teacher written comments).		
	Does the work reflect good knowledge of the subject and how it is best taught?		
	Where teacher comments are provided, these are appropriate to the specific student(s).		
	Pupils consistently respond effectively to teacher assessed pieces and the quality of their response ensures progress.		

Book Look Record – NPCAT Work Scrutiny

		X	Comments
	There is evidence of misconceptions being addressed.		
	There is evidence to show that pupils have overcome any misconceptions in future work.		
	Pupils consistently complete all tasks set.		
	Where peer/self-assessment is used, it is well-structured to support student progress.		

Presentation		X	Comments
	Student work is presented neatly.		
	Exercise books, assessments and folders are organised neatly.		
	Pupils respect their books and they do not contain any graffiti.		
	If there is a deterioration in the quality of a student's handwriting or general presentation, there is evidence that this has been addressed by the teacher.		

Below is a space for you to add any additional criteria specific to your school. You may leave this blank if you wish.

School Specific Criteria		X	Comments
	ENGLISH AND RE: There is evidence of feedback undertaken using Seesaw which the children have responded to.		

Pupil's comments about their books		X	Comments

What do students remember?

Our pupils provide the best source of information to this question. Therefore all leaders undertake **Pupil Voice interviews to ascertain pupils' engagement in a curriculum subject, the cultural capital experiences they have received and the knowledge webs they have developed.** Leaders at St Gabriel's ask carefully designed questions that help to pull out knowledge from a sample group of children. Curriculum leaders focus on three key questions:

1. Do students remember what they have learned over time?
2. How well do the students relate subject knowledge to concept knowledge?
3. Does the students depth of knowledge match the curriculum expectation?

NPCAT Pupil Voice Record 2019 - 2020

Date:		Staff Conducting SV:	
Year Group(s):		Subject:	Science

No. Present	M	F	PP	SEND	G&T	EAL

Question	Pupil Response
What do you think Science is?	
What areas of Science have you studied? What have you enjoyed?	
What are you currently doing in Science?	
Why are you learning this?	
Have you completed any experiments?	

Do you think you are good at Science? How do you know?	
Do you like Science? Why or why not?	
What do you know/can you do that you couldn't before?	
What helps you to learn?	
What stops you from learning?	