**STUDENTS & PARENTS**

# LEARNING WALKTHRUs

## BETTER LEARNING, STEP BY STEP

TOM SHERRINGTON
OLIVER CAVIGLIOLI

HOW WE LEARN
IN THE CLASSROOM
FEEDBACK & IMPROVEMENT
STUDY HABITS & TECHNIQUES
READING & WRITING
INDEPENDENT LEARNING
LEARNING IN SUBJECTS

70+ FIVE-STEP TECHNIQUES FOR SUCCEEDING AT SCHOOL



JOHN CATT
FROM HODDER EDUCATION

**WELCOME TO LEARNING WALKTHRUs |** It's a visual guide to key aspects of learning and studying at home and at school. Our books for teachers, *Teaching WalkThrus*, have been very well received, with over 3,500 schools in 50 countries joining our members' community. Each five-step WalkThru is a combination of short explanations of the most important ideas with visuals to bring them alive. This format allows people to access the ideas quickly and then to discuss how successfully they are being implemented. We've now turned our attention to students and parents, using the same format.

**STUDENTS |** This book is for you. It's a guide to how we learn and how to study effectively to help you make the most of your time at school. In the book you'll find sections about the theory of learning and memory, and the importance of motivation and healthy habits. We explore study techniques, aspects of feedback and how to improve your work, areas of independent learning, and reading and writing. We also look at some of the common activities that you're likely to engage with in the classroom to explain the rationale for them.

**PARENTS |** This book is also for you. We hope it will support you in the vital role you play in your children's education. Most of the WalkThrus are written addressed to the students, as they are the main focus. However, where it's obvious that the children would be too young to read the relevant material, we've addressed the WalkThrus to you, the adults. We hope you find the whole book useful as a guide to your children's learning and the issues they need to deal with, from learning to read and write and ultimately to study independently.

To help us write the book, we've drawn on the expertise of a number of co-authors, each with significant experience of working in schools and with teachers. We are deeply grateful for their excellent contributions:

**PEPS MCCREA** | An expert on education research and teacher coaching.

**SARAH COTTINGHATT** | An expert on learning and teacher development.

**EMMA TURNER** | An experienced primary school leader and expert on primary curriculum.

**JENNIFER WEBB** | A secondary English teacher and author of books on writing.

**SARA MILNE ROWE** | A former drama teacher and experienced executive coach.

**CHRISTOPHER SUCH** | An expert on primary curriculum and reading.

We would also like to thank Matt Stone, Jason Edwards, Nikki Sullivan and their colleagues for their suggestions.

There is obviously a lot to discuss on each issue but we hope this selection gives you enough material to help you on the way. *Learning WalkThrus* is a book you can read cover to cover or, more likely, dip into when you need it, focusing on one WalkThru at a time. In time there will be a linked website with further information and guidance via walkthrus.co.uk.

We hope you enjoy it and that you find it helps you to get the most out of school.

**Tom and Oliver**

## FOR STUDENTS

The idea of this book is to support you to be better informed about how you learn and how teachers plan lessons, so you can be better prepared for school and more aware of the things you can do to support your learning in class and at home. You're likely to dip in and out over time, so each WalkThru can be read by itself.

Familiarise yourself with the **HOW WE LEARN** section and check your understanding of how memory works; the way your knowledge forms and new ideas stick.

The **IN THE CLASSROOM** section will help you to understand how lessons are designed. Read this before school starts or as teachers introduce particular learning activities. Note how important it is to engage, think and practise!

When you're studying at home, perhaps revising for a test or learning independently, read the **STUDY HABITS & TECHNIQUES** and **INDEPENDENT LEARNING** sections, selecting the WalkThrus that are most useful to you.

Try to apply the techniques step by step. The **FEEDBACK & IMPROVEMENT** WalkThrus will help you as you aim for excellence in your work.

The **READING & WRITING** section is packed with advice about specific elements of writing that you might find useful at different points. Take time to study the detailed suggestions when you're involved in a writing task. Some of the WalkThrus are written to parents, but you will still find them interesting.

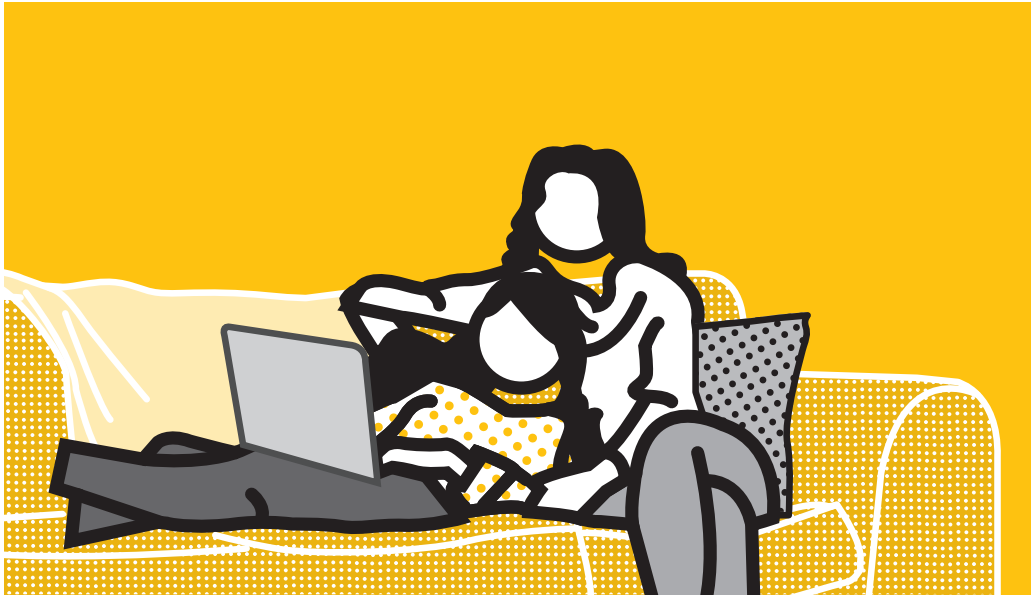
Finally, the **LEARNING IN SUBJECTS** section gives a broad overview of a range of subjects, with some key prompts for your study in those areas. Look for a WalkThru on the subject you're studying, to check your understanding and help plan your study and revision process.

## FOR PARENTS

As parents, you play a vital role in your children's education and we hope *Learning WalkThrus* will provide a guide as your children move through school.

A few of the WalkThrus apply specifically to aspects of learning where the children are too young to read this for themselves. For example, in the **HOW WE LEARN** section, the WalkThrus on **How Your Child Learns | Theory** and **How Your Child Learns | Practice** are addressed to you directly. However, most of the book is addressed to the students.

We hope you find the content interesting in general, including the overviews of the curriculum. We know there are more subjects but this core set will give you a sense of the material your child is aiming to learn. You can support your child at home by reading through a WalkThru and then checking their understanding of it. Do they know what the **HOW WE LEARN** section tells them? Do they know the most appropriate study technique for a certain subject? Do they know how to improve their writing? Have they looked at each step in the subject guides in the final section? If you're up to speed with the ideas yourself, you'll be better prepared to support your child.



# CONTENTS

WALKTHRU SERIES

# HOW WE LEARN



If you have a good understanding of how you learn, you're more likely to engage in classroom activities and study tasks in a way that will help you to succeed. This section includes WalkThrus about how memory works and different ways you learn as you grow up. It also covers a range of issues related to motivation, forming good habits and looking after your general health.

# THE LEARNING MODEL

**A lot of research has been done to explore how we learn and the reasons why, sometimes, we find this difficult. The study of how we think is called cognitive science or cognitive psychology. As a student, it can be helpful to understand the key findings, using a simplified model of the process. The model we use is based on the work of cognitive scientists such as Professor Daniel Willingham. It also draws on some of the ideas in cognitive load theory. This theory helps us to understand a lot of the challenges we face when learning something new.**

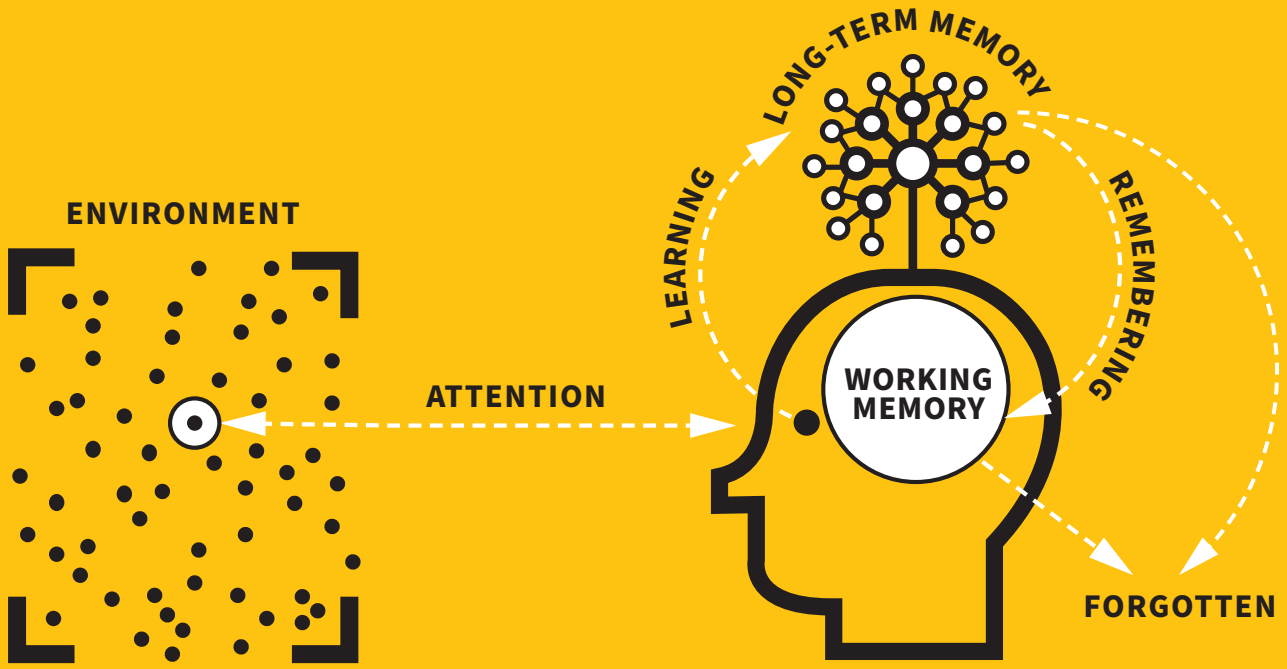
1

## SCHEMA IN LONG-TERM MEMORY

Our brains have the capacity to store vast arrays of information, capturing our knowledge and experiences. Memory is a complex, dynamic, organic system, not a physical place in your brain or a set of fixed files like in a computer — but it helps to think of a web of interconnected knowledge linked by pathways that can be weak or strong.

As we accumulate knowledge, we connect it to what we already know so it makes sense. A set of related ideas can be called a schema. For example, you might have a schema for *making toast*, *football* or *pets* or *Paris* or *poverty* or *Macbeth*.

You access your long-term memory every time you try to remember something or perform a complex skill.


ENVIRONMENT
ATTENTION
LONG-TERM MEMORY
LEARNING
REMEMBERING
WORKING MEMORY
FORGOTTEN

## 2

### THINKING IS THE KEY TO LEARNING

Willingham tells us that *memory is the residue of thought*. This means that we only usually remember things that we think about — or, conversely, it's the things we think about that we tend to remember. It sounds obvious but it is worth using this idea to focus your learning.

For example, if you just copy something down or repeat what someone has said without really thinking, you can write it or say it now but almost immediately forget it. If you spend ages fiddling with the animation tools on a slide presentation, you may not be focusing enough on the content — you're just learning about the animation tools.

## 3


### WORKING MEMORY IS LIMITED

Working memory is where you do your thinking — it handles your conscious thought process as you retrieve existing knowledge and explore new knowledge. All of us can only handle a limited amount of information at once in our working memory. The thinking space a task takes up is sometimes referred to as cognitive load. If that is too great, we can struggle. If we waste space with irrelevant information or tasks, learning is harder. We can make learning easier by making best use of our working memory:

- Break new ideas down into small steps so we're not overloaded at any one time.
- Remove distractions and don't try to multitask — we're not good at that.
- Use images as well as words to capture information (this is called dual coding).
- Capture transient information (i.e. things that pass by quickly) so you have more time to think about it, e.g. by writing down notes soon after someone has explained something.

4

## FORGETTING IS NATURAL; RETRIEVAL STRENGTHENS MEMORY

A key challenge in learning is just how easy it is to forget things. It's part of being human — everyone has trouble with forgetting and we have to take action to avoid it.

The main thing we have to do to avoid forgetting is to make sure we connect ideas to what we already know, then practise retrieving them repeatedly, ideally in different ways. Information we access regularly in a variety of ways becomes easier to remember. If you know something fluently, like your dominant language or your times tables, you can recall things effortlessly. But for other things you only use occasionally, it requires more effort to retrieve the information you need.

Leaving a gap of a few days between when you learn something and when you retrieve it again can help to make the memory stronger in the long run. Regular rehearsal and practice strengthen recall, with numerous benefits for learning even more.

5

## FOCUSING ATTENTION REQUIRES EFFORT & MOTIVATION

There can be many things competing for your attention out in the learning environment — for example, a TV screen or people talking around you. You also have multiple thoughts in your head competing for attention. To learn well, you need to try to focus your attention, minimising distractions. This requires effort and motivation. It's easier to do if:

- You have enough knowledge to follow the new learning reasonably easily.
- You invest in predicting what happens next, motivating you to find out.
- You are rewarded by success. This is more likely if there's some challenge, but not so much that you struggle all the time and want to give up.

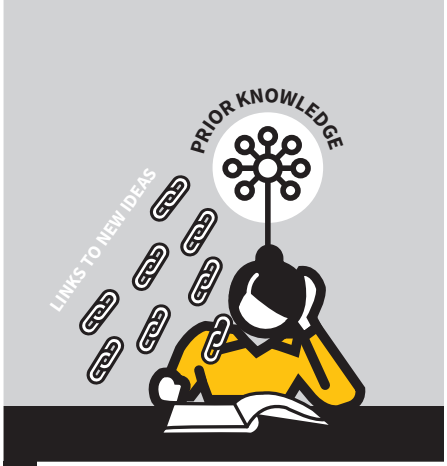
Keeping focused is something you can control if you keep your motivation high and make changes to avoid distractions.

## MAKING MEANING & MENTAL REHEARSAL

You want to be able to remember the important ideas you're taught so you can access them in future lessons and build on what you know. To do this, you must invest effort in making the important ideas meaningful in the first place. We make meaning when we connect new ideas to relevant ideas we already know — the more relevant the connections, the better. They help to anchor the new ideas so we don't forget them and enable us to build upon ideas to form more complex understanding.

SARAH COTTINGHATT

THE LEARNING MODEL 12 | **MAKING MEANING & MENTAL REHEARSAL 16** | GENERATIVE LEARNING 18 | SOME MYTHS & WEAK STUDY HABITS 20 | HOW YOUR CHILD LEARNS – THEORY 22 | HOW YOUR CHILD LEARNS – PRACTICE 24 | PREDICTION & CONSOLIDATION 26 | MOTIVATION 28 | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40



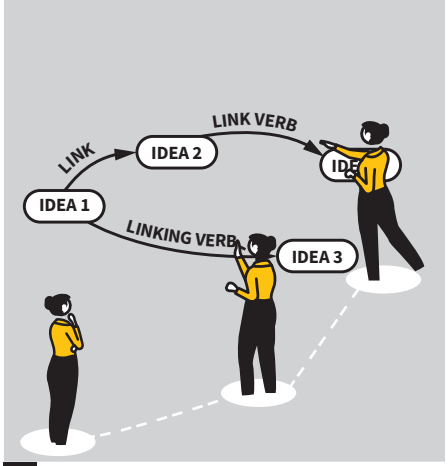

1

### MAKE EXPLICIT LINKS

Before the lesson, recap what you learned in the previous lesson so it's fresh in your mind ready to build upon.

Often your teacher starts their explanation with relevant ideas you will already know. Listen out for them and the connections to the new idea.

When you read a text, think about what you already know about the topic. As you read, keep this in mind and pay attention to how the writer builds your knowledge.




2

### MENTAL REHEARSAL

Mental rehearsal is when you practise and check your links between new ideas and your knowledge.

**WRITTEN/VERBAL REHEARSAL** | Write down or discuss the new idea and how it links to relevant ideas you already know.

**CONCEPT MAP** | Write down the new ideas and your relevant existing knowledge. Draw arrows between them to show how they relate. On each arrow, explain the relationship.

Finally, check the accuracy of your links.


3

## RETURN TO KEY IDEAS

Set aside time to test yourself on the important ideas you've learned and the connections you've made.

**RETURN TO KEY IDEAS OVER TIME** | Space out your revision of key ideas, leaving time in between for some forgetting to happen. This helps to strengthen the ideas in your memory.

**RETRIEVE KEY IDEAS** | Avoid looking at your notes and try to retrieve key ideas from memory. You can create flash cards with questions or prompts to support you to recall the answers.


4

## CHECK FOR LOST DETAILS

When we learn meaningfully, we tend to remember the main idea and the details are most easily forgotten. If it's important we remember details (e.g. specific examples of a concept), we need to check whether we can recall them.

As you learn new content, write yourself some questions targeting the important details you're likely to forget. Test yourself on these questions periodically to keep these details accessible in mind.


5

## MOTIVATE YOURSELF TO LEARN MEANINGFULLY

Keep motivated to learn meaningfully:

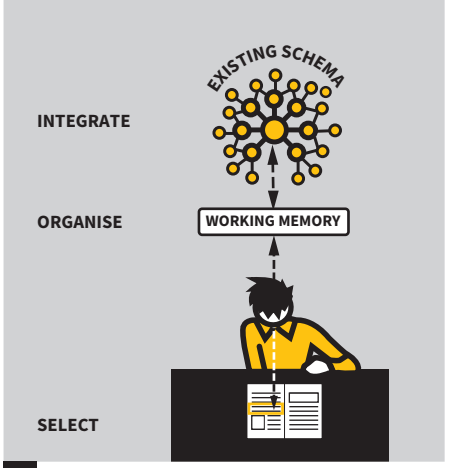
- Remind yourself that extra effort upfront to create meaningful connections pays off in better recall later. It's easy to assume that just listening or reading something means you'll recall it, but this is rarely true.
- Track your success by taking note of what you can recall and the understanding you develop. Success may look like your marks improving on tests or assignments, or feeling more able to contribute answers in lessons.

## GENERATIVE LEARNING

Sometimes people talk about *absorbing* information or *letting things sink in*. However, this isn't actually how we learn. We learn by engaging with information actively in various ways, linking new knowledge to what we already know. Generative learning is a good way of understanding the process.

The key idea in generative learning is that, instead of only receiving information, you interact with it and generate a response; you produce a mental or physical output. Actively thinking about ideas in certain ways can deepen your understanding.

THE LEARNING MODEL 12 | MAKING MEANING & MENTAL REHEARSAL 16 | **GENERATIVE LEARNING 18** | SOME MYTHS & WEAK STUDY HABITS 20 | HOW YOUR CHILD LEARNS – THEORY 22 | HOW YOUR CHILD LEARNS – PRACTICE 24 | PREDICTION & CONSOLIDATION 26 | MOTIVATION 28 | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40




1

### THE S-O-I MODEL

Researchers Logan Fiorella and Richard E. Mayer use a simple SOI model to explain how we learn generatively.

**SELECT** | Specific ideas are selected from all the available information.

**ORGANISE** | Ideas are arranged in working memory so they make sense, for example in a sequence or to fit a pattern of categories.

**INTEGRATE** | We connect our generated ideas with our existing schema.

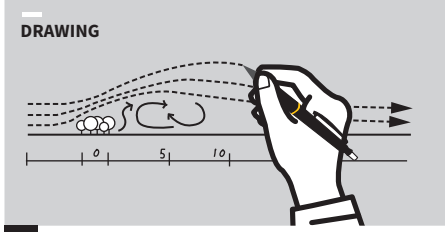
Fiorella and Mayer's eight strategies involve all three of these elements.


2

### SUMMARISING & MAPPING

**SUMMARISING** | Restate the key ideas in the lesson in your own words. Run through the main points and ideas as if you were telling a friend who missed the lesson. Jot down your summary or do this mentally.

**MAPPING** | Organise the key concepts into a word diagram showing how the different ideas connect with each other (see the **Mapping | Word Diagrams** WalkThru on page 94).

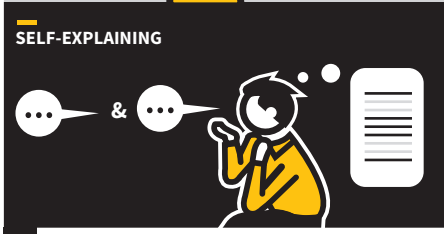




3

## IMAGINING & DRAWING

**IMAGINING** | Create internal mental images of the concepts or processes you've explored in the lesson. For example, imagine the scene in the play or how the molecules are interacting in the reaction.

**DRAWING** | Use sketches or diagrams to capture and illustrate the ideas you're studying. This can reveal how ideas relate to each other and how processes work, including a sequence of events.


4

## SELF-TESTING & SELF-EXPLAINING

**SELF-TESTING** | Check your knowledge by asking yourself questions and checking your answers. The questions could be your own or from a study resource (see **Self-Quizzing** on page 80).

**SELF-EXPLAINING** | As in the **Elaborative Questioning** (page 84) and **Practise Explaining** (page 86) WalkThrus, this involves explaining ideas to yourself, starting with a prompt and elaborating on the ideas mentally.


5

## TEACHING & ENACTING

**TEACHING** | Try to teach the material or skill you've been learning to someone else — a class partner or a friend. This makes you think hard about the ideas and how to explore them in a logical sequence.

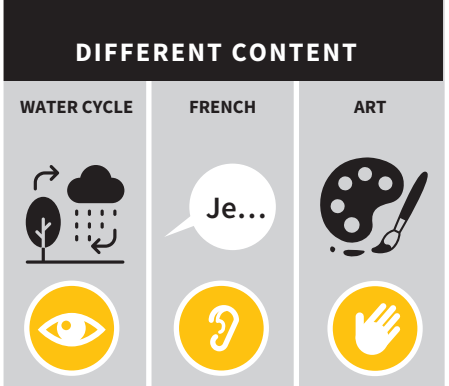
**ENACTING** | This involves using physical movements associated with the material you're learning, putting theory into practice in a practical subject, or using your body or hands to emphasise key ideas.

## SOME MYTHS & WEAK STUDY HABITS

There are lots of things we might believe about learning that feel very intuitive and even comforting. For example, we may think we have a preference for learning in a certain way, such as by listening to things, or we may think we were born to be better at certain subjects than others and there's not much we can do to change that. Sometimes these beliefs can hold us back, especially when they aren't supported by research. We may also believe we're using the best study habits to aid our learning. It may surprise us to find out that there are better ways to learn.

SARAH COTTINGHATT

THE LEARNING MODEL 12 | MAKING MEANING & MENTAL REHEARSAL 16 | GENERATIVE LEARNING 18 | **SOME MYTHS & WEAK STUDY HABITS 20** | HOW YOUR CHILD LEARNS – THEORY 22 | HOW YOUR CHILD LEARNS – PRACTICE 24 | PREDICTION & CONSOLIDATION 26 | MOTIVATION 28 | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40




1

### FORGET ABOUT LEARNING STYLES

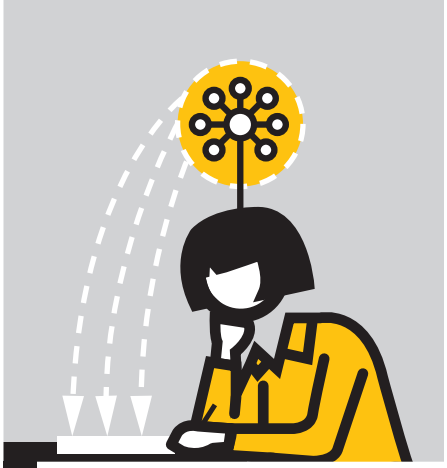
It's tempting to think we learn best in a certain learning style, e.g. by hearing things, seeing things or physically experiencing them. It turns out this isn't the case. While you feel you may have a preferred learning style, research suggests we actually don't remember things better when they're delivered in our *preferred* style. What does matter is that the style works best for the content you're trying to learn. For example, if you're learning about the water cycle, you'll want to see it visually, and if you're learning how to speak French, you'll need to hear the pronunciation of the words.

2

### INTELLIGENCE ISN'T FIXED

We can sometimes fall into the trap of thinking we aren't very good at certain subjects and there's not much we can do to change it. The good news is, this isn't the case. There's plenty of scope to improve in all the subjects we learn at school.

Our intelligence is governed in part by our genes but also by our environment: this means we can work at growing our intelligence. While there's far more to learning than just believing you can improve, it may be helpful to keep this in mind when you find learning challenging.

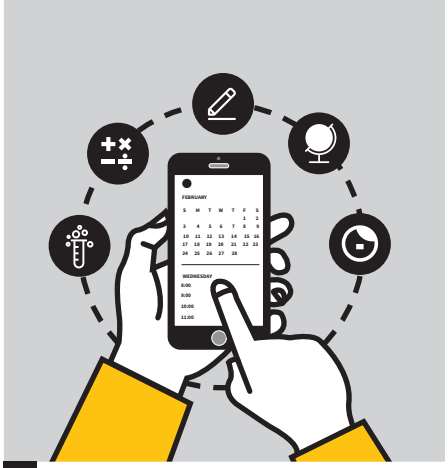


3

## RETRIEVING BEATS REREADING

When you're studying, rather than simply rereading your notes, try instead to test yourself on the key ideas. Do this by writing a series of questions about the topic and trying to recall the answers from memory and then checking the answers.

Simply rereading your notes may trick you into thinking you'll remember them. This is because the contents will feel familiar. But when you come to recall them, you're likely to struggle. If you test yourself instead, the act of retrieving the ideas helps to strengthen them in memory and improve recall later on.



4

## SPACE YOUR STUDYING, DON'T CRAM IT

Get organised with your studying by mapping out when you'll revisit each topic over time. To do this, look at how much time you have until your exam and space out your studying of each topic to create time to forget in between. For example, if you don't know a topic very well, leave a short gap of a week between study sessions, then leave longer gaps.

Giving yourself some time to forget and then retrieve key ideas will strengthen them in your memory far more than cramming your study into a short period of time.

5

## FOCUS, DON'T MULTITASK

If you're going to remember what you're studying, it needs your full attention. This means focusing fully rather than multitasking. Here are a couple of ideas to help you focus:

**BANISH YOUR MOBILE PHONE** | Turn your phone off or on silent and put it in another room. If you can see your phone (even if it's off!), it zaps attention away from your studying.

**OPT FOR A QUIET SPOT** | If possible, study in a quiet environment and without music. If you feel you need music, try music without lyrics.

## HOW YOUR CHILD LEARNS | THEORY

This pair of WalkThrus is for parents/carers. If you're a student, you might also find them interesting. Each of the five sections has a theory section and a corresponding practice section on the page. Between entering formal education up to adolescence, children will go through many changes. Some are easily observable, such as growth or coordination; others are less obvious but have an impact on learning. Understanding how children learn, and the stages they go through, can help them in their learning.

EMMA TURNER



1

### PLAY

Often play is seen as something to do when the hard work is done, but play is fundamental to healthy and successful human development and is a key way in which young children learn and make sense of the world.

Opportunities for a wide range of play activities both inside and outdoors help children to develop physically and psychologically, to develop social skills, resilience, problem-solving, understand risk-taking, develop vocabulary and foster independence. Uninterrupted time to play is fundamental to their development. For young children, playing *is* learning.

2

### ATTENTION

Unless we're paying attention to something, it's unlikely that we'll remember or learn it. However, the brain's control of attention develops gradually in children and until they are into early adolescence it is not fully developed.

The younger the child, the less able they are to voluntarily sustain attention and the more likely they are to be distracted. By around age 6, children can voluntarily choose to attend to one thing, but the length of time they can sustain this voluntary attention is not completely mature until around age 13.

3

## TYPES OF KNOWLEDGE

A simple model provides us with two broad categories of how learning happens:

**BIOLOGICALLY PRIMARY KNOWLEDGE** | Linked to basic human development, it can be learned but not easily taught: movement, communication, social cues.

**BIOLOGICALLY SECONDARY KNOWLEDGE** | Learnable and teachable, these aspects of learning wouldn't develop in children on their own: knowing historical facts, mathematics or musical notation. Successful development of biologically primary knowledge supports future success in biologically secondary knowledge.

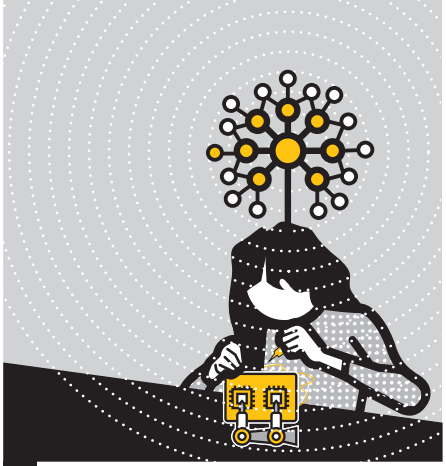
4

## VOCABULARY

Children's development of vocabulary and language is fundamental to their success in reading and across much of the wider curriculum. We can view the development of children's understanding of language in two ways:

**RECEPTIVE LANGUAGE** | The vocabulary that children hear, understand and can make sense of. This is often a much greater number of words than their…

**EXPRESSIVE LANGUAGE** | The vocabulary and associated gestures that children use in their own speech.



5

## CONNECTIONS

As explained in **The Learning Model**, when we learn something new, it connects in the brain to the things that we already know. These connections form networks that are referred to as *schema*. As children learn and practise new things, their schema will become more complex and highly connected.

Making links is therefore a key way in which children make sense of and understand their learning and the world around them. They will do much of this themselves, but adults can help them to make connections that they might not otherwise make.

## HOW YOUR CHILD LEARNS | PRACTICE

This WalkThru is for parents/carers to read following on from the previous pages.

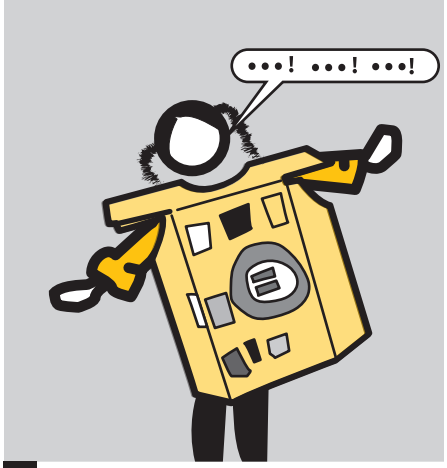
This section contains suggestions for practical ways in which parents can support younger children as their attention, language and understanding develop, linked to the matching theory section on the previous pages.

Some websites that might be of interest are:

- playscotland.org/learn/what-is-play
- playengland.org.uk/charter-for-play
- speechandlanguage.org.uk/talking-point/parents/ages-and-stages

EMMA TURNER

THE LEARNING MODEL 12 | MAKING MEANING & MENTAL REHEARSAL 16 | GENERATIVE LEARNING 18 | SOME MYTHS & WEAK STUDY HABITS 20 | HOW YOUR CHILD LEARNS – THEORY 22 | **HOW YOUR CHILD LEARNS – PRACTICE 24** | PREDICTION & CONSOLIDATION 26 | MOTIVATION 28 | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40




**1**

### PLAY

Parents can support effective play by providing access to indoor and outdoor spaces that spark imagination and encourage children to move and use tools and resources in inventive and child-led ways. Children do not need expensive toys to support their play. Natural materials, sand, water, mud, old rugs and blankets, real-world objects with a variety of textures, shapes and sizes, old clothes and hats for dressing up, blocks and simple items for stacking and construction, paper and a variety of tools for mark-making will all provide excellent prompts for play.

**2**

### ATTENTION

Because the ability to sustain attention develops over time, short bursts of learning activities are likely to be better than extended periods with younger children. The length of these sessions can then build up over time until adolescence.

When completing an activity that requires focus and attention, providing a calm environment which is as distraction-free as possible will also help children to be able to voluntarily orient and sustain their attention.

3

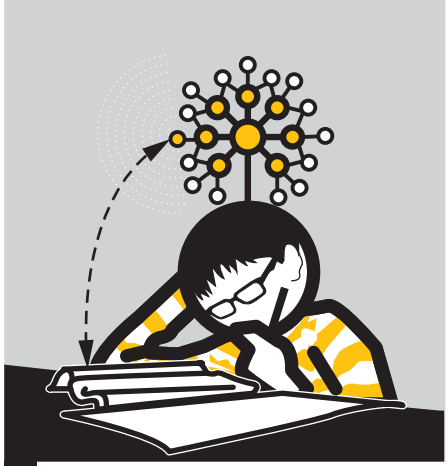
## TYPES OF KNOWLEDGE

It's important to recognise that young children's successful development through biologically primary knowledge supports future success in biologically secondary knowledge but is not usually taught. This means we need to focus on creating the conditions in which it can flourish. This is through access to play, playful activities and environments rich in talk, movement and social interaction. Talking, playing, being active and reading widely with children will therefore help to underpin their academic success in the biologically secondary aspects.

4

## VOCABULARY

Giving children opportunities for multiple back-and-forth conversations, modelling correct use of a range of language, will help to develop their receptive and expressive language. It's important that children have conversations with eye contact, focused attention and opportunities for real conversations, rather than just listening to recordings or videos. This helps to develop the associated social skills of communication. It's also important to model good listening as well as talking. Talk about real-life, imagined or fantasy events. Talking about the events or information in books is an excellent way of developing vocabulary and language.



5

## CONNECTIONS

Helping children to make sense of and understand the world is underpinned by connection. In day-to-day talk with your child, point out how objects, times, people or places are connected. Simple conversation starters such as *Remember when*… or *Can you see how*… or *I just noticed that*… can all help to develop the language of and a focus on connection.

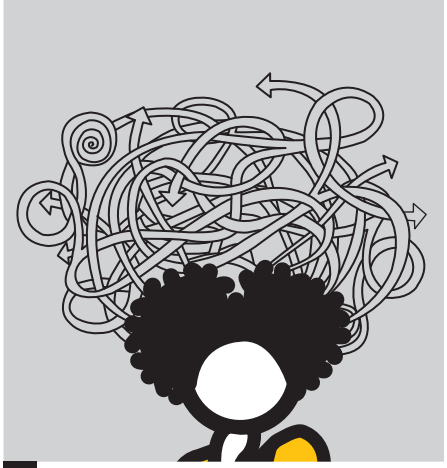
Modelling how you notice and make connections yourself by thinking aloud about day-to-day events or books you read together also helps to model this focus on connection.

## PREDICTION & CONSOLIDATION

As humans we've evolved such that we are continually engaging with our environment, keeping hold of the information we need to survive. Without realising it, you're always thinking ahead, making predictions about what might happen next. To keep safe, you anticipate that a fire might burn you or that a fast car might cause you harm. In social situations, you anticipate other people's behaviours so that you can engage with them effectively.

To learn how to thrive in the world, we rely on schema that are reasonably accurate to base our predictions on, so we need to refine our models when new information tells us that our predictions are wrong.

THE LEARNING MODEL 12 | MAKING MEANING & MENTAL REHEARSAL 16 | GENERATIVE LEARNING 18 | SOME MYTHS & WEAK STUDY HABITS 20 | HOW YOUR CHILD LEARNS – THEORY 22 | HOW YOUR CHILD LEARNS – PRACTICE 24 | **PREDICTION & CONSOLIDATION 26** | MOTIVATION 28 | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40



1

### MEMORY IS DYNAMIC

A key idea to keep in mind is that your memory isn't rigid; it flexes and changes all the time. New knowledge and experiences will influence the way we view previous knowledge. Sometimes you learn something that suddenly makes a whole concept or phenomenon or text make sense.

We can't always trust our memory to be accurate and different people will explain the same events from their own perspective. Making predictions and testing them helps us to adjust our models and consolidate more secure schema. It's helpful to embrace this as part of a learning process.


2

### MAKING PREDICTIONS

The predictions we make might be practical: judging how long it takes a kettle to boil, planning the best clothes to wear for the weather or making moves in any kind of sport.

They might be emotional: anticipating the things that cause pain or sadness or joy and happiness for ourselves and others, such as when reading a novel.

They can also be linked to concepts, such as when solving problems in algebra or conducting an experiment or writing an essay attempting to make a persuasive case.

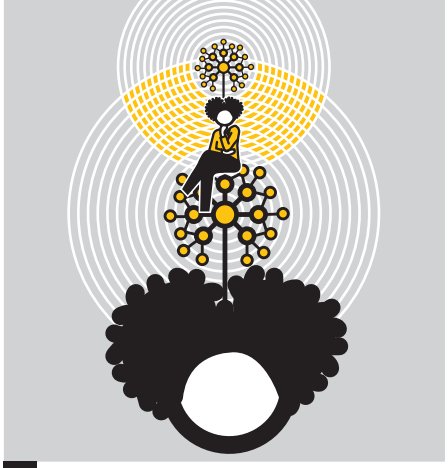

3

## EVALUATION & RESPONSE

Predictions either turn out to be correct or they turn out to be incorrect or only partially correct.

If we're correct then our model of the world is reinforced. We'll probably make similar predictions in future.

If our predictions don't match what actually happens then we're forced to re-evaluate our models for the world. We need to refine or change the predictions we make to have a better chance of being correct the next time the same situation arises. Our models become increasingly subtle and sophisticated.



4

## CONSOLIDATION

Once we've used our working memory to think about something, the *residue* of our thinking is that our schema for the ideas has changed to take account of that thinking. This will include the success of our predictions or the changes we need to make to our models.

Repeated exploration of similar ideas leaves us with more secure schema with stronger pathways and connections. This is what consolidation means: we reinforce ideas so that they are more secure and easier to access later.

5

## RECONSOLIDATION

Importantly, every time you revisit your memory, perhaps explaining why it rains or reviewing your knowledge of a historical figure or retelling a story from your past life, the things you focus on in that retelling will be reconsolidated in your memory. If you make errors in recalling information without checking for accuracy, you risk reconsolidating false information or misconceptions. So, it pays to check your thinking and retrieval against trusted sources when studying to avoid misconceptions or distortions in your memory forming.

## MOTIVATION

Motivation is critical for learning. It's a bit like fuel for learning — if you're not motivated then you'll find it hard to put in the effort to keep learning hard things. Some people think that motivation is a personality trait, that everyone is either a motivated person or not. But that's not true — we can *all* change our motivation levels for different things by changing the way we think about those things and by changing how we experience them. For example, I can gradually increase my motivation for running by running slower to begin with, running with friends, and giving myself a reward every time I finish.

**PEPS MCCREA**

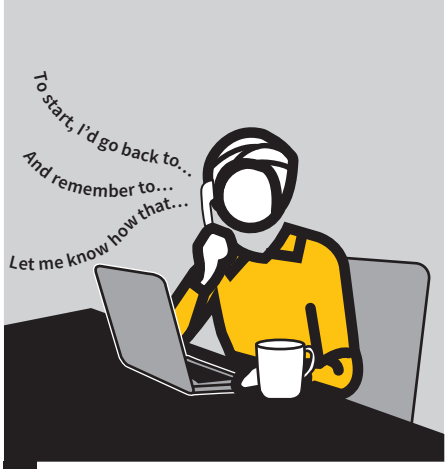
THE LEARNING MODEL 12 | MAKING MEANING & MENTAL REHEARSAL 16 | GENERATIVE LEARNING 18 | SOME MYTHS & WEAK STUDY HABITS 20 | HOW YOUR CHILD LEARNS – THEORY 22 | HOW YOUR CHILD LEARNS – PRACTICE 24 | PREDICTION & CONSOLIDATION 26 | **MOTIVATION 28** | HABITS 30 | SELF-REGULATION & METACOGNITION 32 | GOAL-SETTING 34 | MINDSETS, ATTITUDES & EMOTIONS 36 | MAXIMISING TIME & EFFORT 38 | HEALTHY LEARNING – THE SHED METHOD 40

1

### MAKE IT ENJOYABLE

The first thing we can do to increase our motivation is to make the thing we want to do more satisfying. When we enjoy doing something, our brain is happier to come back and do it again.

For example, we could make our study space a really comfortable place to be and have our favourite food and drink while we're studying. And we can give ourselves a reward when we finish.




2

### MAKE SURE YOU SUCCEED

The second thing we can do to increase our motivation levels for something is to be successful at it! But how do we do this, especially for hard things we're learning about?

For example, say we were trying to increase our motivation for mathematics. We could break the topic down into even smaller bits. We could make sure we get confident in the basics before attempting harder parts. And we could ask someone to help us check our work.

3

## MAKE IT A HABIT

The third thing we can do is to turn our studying into a habit. When we study in exactly the same way, in the same place, at the same time, we'll eventually find it much easier to study.

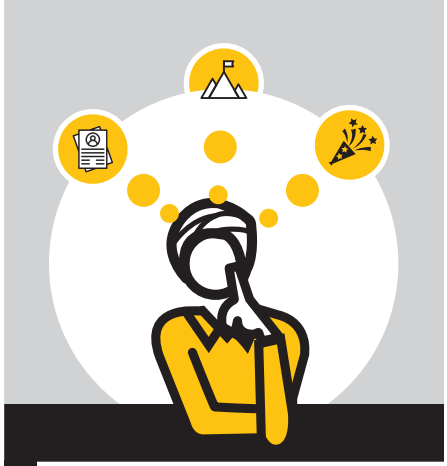
This is because our brain makes it easier for us to do things that we repeatedly do. It's like riding a bike. To begin with, we have to put in *lots* of effort. But after repeating it lots, we can do it with little effort.

4

## DO IT WITH FRIENDS

When we study with other people, it's much more likely that we'll end up doing it (as long as they are up for studying properly, and not just messing around).

You could stay behind after school with some mates in the library, or you could even hang out with someone on a video call. You don't even have to talk. Just *being* together is enough. And if you have no friends who study, check out *studytubing* on YouTube.



5

## REGULARLY REMIND YOURSELF WHY

Studying can wear us down. We can *top up* our motivation by reminding ourselves *why* we're studying hard. What is it that you hope to achieve as a result of studying hard?

Write down a list of how your life will be better if you're successful, pin it to your desk, and read it aloud at the start and end of every study session.

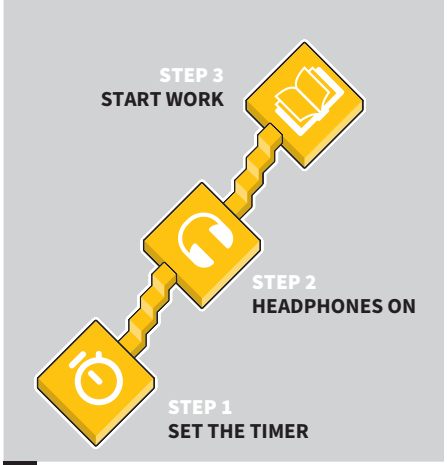
## HABITS

Habits are a powerful force when it comes to our behaviour. When we make something a habit, our brain does it automatically, without really having to think about it.

As you know, bad habits like biting your nails or staying up late can be *really* hard to change. However, the same is true of *good* habits. If we can make studying into a habit then we'll find ourselves doing it more often, finding it easier to do, and even enjoying it more.

Making something a habit just requires us to follow a bit of a formula. Here it is.

**PEPS MCCREA**

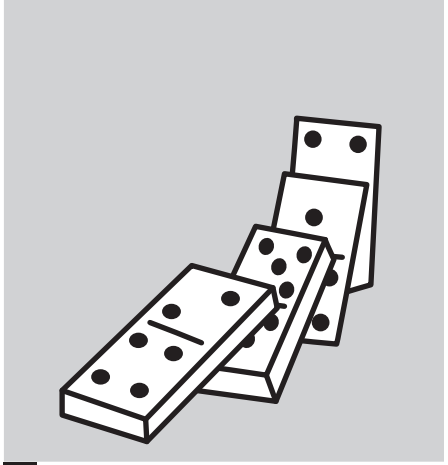



**1**

### DECIDE THE SEQUENCE OF ACTIONS

First, we just need to decide exactly what it is that we want to make a habit. Write down your list so it's clear in your head. Aiming for about 3-5 steps in the habit is best. And the more detailed you can be about each step, the more likely the habit will take hold and stick.

For example, you might want your study habit to be going up to your room, putting on some noise-cancelling headphones, taking a deep breath, setting your countdown timer for 20 minutes, and then opening your book.



**2**

### IDENTIFY THE FIRST DOMINO

An important part of any habit is the thing that kickstarts the rest of the actions. Think of it like the first domino. Unless the first domino falls, the rest won't fall either!

For example, your first domino for your study habit could be finishing dinner, or after you have breakfast at the weekend, or whenever your 6pm alarm goes off. It doesn't really matter what it is, as long as it's the same thing each time.

3

**REPEAT YOUR HABIT**

How does a habit become a habit? Basically, just by repeating it enough times. The reason that biting our nails becomes a habit is just because we do it lots! We can apply the same idea to studying.

The more often we do our series of study habit actions, following our first domino, the more our brain will find it easier to do and the less effort it will take. Eventually, we'll find ourselves going to study without even noticing we're doing it!

4

**JUST SHOW UP**

We can increase the chances that a habit sticks by focusing on *just showing up* to begin with and worrying less about the quality of our actual studying — this can come later, once the habit is in place.

For example, if I want to make *running* a habit, to begin with, I should just go out every day for a super-easy run (or even walk). Once this starts to feel easy, I can then begin to push myself harder.

5

**ADD A FINISHER'S REWARD**

We can sweeten the deal for our brain by making the last action in the habit sequence a *giving ourselves a reward* action.

For example, after doing 20 minutes of studying, we could give ourselves one of our favourite sweets and listen to our favourite music track.

It's important that we give ourselves the reward *straight away* after finishing. We can make this strategy even more powerful by giving our brain a surprise reward, such as a sweet from a lucky dip tin.

**GLENN WRIGHT**

**Head of sixth form, teacher of science**

As a teacher, *Learning WalkThrus* has been an invaluable resource in empowering teachers to maximise student learning. This groundbreaking resource not only equips students with essential metacognitive skills, but also offers practical tools for meaningful consolidation and revision. Embracing this resource will drive every student towards academic success and prepare them for higher education and future careers.

**SAMANTHA PRESLEY**

**Lead practitioner, head of Spanish**

*Learning WalkThrus* is an invaluable resource for parents who want to support their child's learning at home; it demystifies the learning process by providing accessible and clear step-by-step guides to the strategies that our children use in school. I highly recommend *Learning WalkThrus* both as a teacher and as a parent of three children who have all been through school and the exams process!

**JASON EDWARDS**

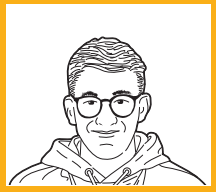
**Coaching lead**

This is the toolkit that students have always needed! *Teaching WalkThrus* proved a gamechanger in the way that it empowered teachers. Now Tom and Oliver have produced *Learning WalkThrus*: a beautifully illustrated, accessible and practical guide that will empower and inspire a generation of students to achieve greater success and fulfilment from their education.

**HILLY DROK**

**Trainer & consultant, Toetsrevolutie, Netherlands**

For students to become independent, confident and self-regulated learners, they need to know how to learn effectively. *Learning WalkThrus* can help teachers and parents provide young people the support they need towards independence. And it gives students powerful tools to organise their learning effectively. This book is an excellent guide for learners, using five clear steps accompanied by beautiful illustrations. Highly recommended!



**IDRIS KHEDAPA**

**Student**

Having this amazing resource to support me in my studies would be a dream. The techniques within *Learning WalkThrus* are so informative and in-depth, allowing for maximum efficiency while learning. I would highly recommend this great learning tool to anyone who wants to transform their independent study and know a bit more about how learning happens.

**SYDNEY SMITH**

**Student**

I'm excited about the potential of this book to help me develop the habits to succeed, as I start my GCSE courses. *Learning WalkThrus* will help me to get the most from my lessons and to find the best ways to study independently. Developing the study habits described here, such as managing and using my time effectively, will help me not just to pass but to excel.

JOHN CATT
+44 (0)1394 389850
education@hachette.co.uk
johncattbookshop.com

ISBN 978-1-0360-0726-3