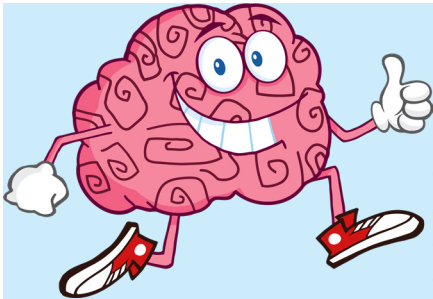




# The Wilkie Way

## Newsletter March 2025

[www.wilkieway.co.nz](http://www.wilkieway.co.nz)



### Sciences of Learning

First and foremost there is no one science of learning - there are many different sciences that feed into how a person learns. These sciences are diverse and interdisciplinary, combining insights from neuroscience, cognitive science, educational psychology, behaviour science, developmental science, sociocultural theory and instructional design.

**Neuroscience** of learning involves the interaction of multiple brain regions, neurotransmitters, and plasticity mechanisms that allow us to acquire, retain and recall information.

- **Brain mechanisms** examines which brain areas are activated during learning, such as the hippocampus for memory formation, the prefrontal cortex for executive functions and the amygdala for emotional learning.

*My daughter has an inverted hippocampus - discovered during a brain scan for a head injury in the USA. It was automatically assumed she would have had learning difficulties associated with memory - absolutely not - she has a phenomenal memory!*

- **Synaptic Plasticity** focuses on how synapses (the connections between neurons) change their strength over time.
- **Neurotransmitters** studies how chemicals like dopamine, serotonin and glutamate affect learning processes from motivation to memory consolidation.

Neuroscience identifies you cannot “instruct” for understanding. You provide learning opportunities to develop understanding.

**Cognitive science** is the study of mental processes such as perception, memory, reasoning, problem solving and language.

- **Cognitive psychology** focuses on understanding internal mental processes involved in learning, such as attention, memory and information processing.
- **Cognitive Load Theory** investigates how the brain manages and processes information during learning and how instructional design can minimize overload.
- **Mental representation** studies how knowledge is stored in the brain and how it is retrieved during learning tasks.

**Education Psychology** focuses on understanding how people learn in educational settings and how teaching methods can be optimized for various learners. This field emphasizes the interaction between cognitive, emotional and social aspects of learning and how they influence academic achievement.

- **Motivation** investigates what drives learners to engage and persist with learning tasks.
- **Learning Theories** cover models such as constructivism (learning as active construction of knowledge) and behaviorism (learning as a response to stimuli and reinforcement)
- **Assessment & Feedback** looks at how assessment, feedback and formative evaluations influence learning and skill development.

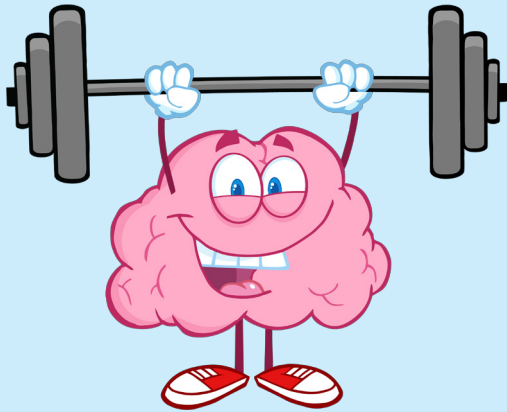


**Behavioural Science** examines how learning is influenced by external stimuli, rewards and reinforcements.

- **Classical conditioning** involves learning through associations.
- **Operant conditioning** involves learning through rewards and punishments.

**Developmental Science** studies how learning abilities evolve across the lifespan, from infancy through adulthood. It investigates the impact of age, maturation and experience on cognitive abilities and learning capacities.

- **Critical Periods** focuses on times when the brain is particularly sensitive to certain types of learning, such as language acquisition during early childhood.
- **Lifespan learning** explores how learning abilities change across the lifespan, including age related declines in learning capacity and how continued learning can improve cognitive function in older adults.



**Sociocultural Learning Theories**, influenced by scholars like Vygotsky, emphasise the social and cultural contexts in which learning occurs. These theories highlight the importance of interaction with others, language and social practices in shaping learning.

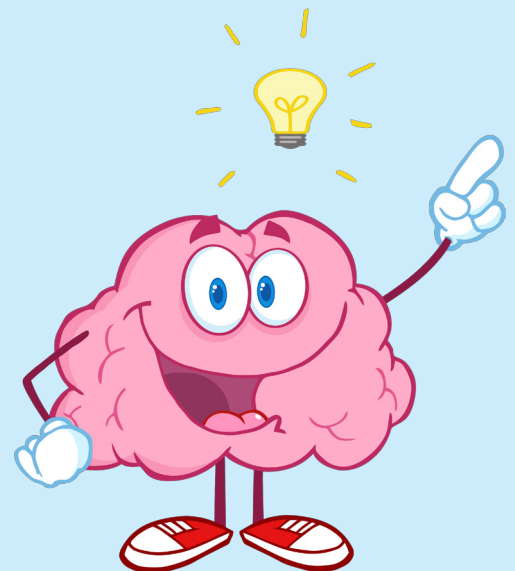
- **Zone of proximal development** refers to the range of tasks a learner can perform with the help of a more knowledgeable person (e.g teacher, peer). The “sweet spot” for optimal learning.
- **Scaffolding** describes the support provided by a teacher or peer to help a learner perform tasks they cannot yet complete independently.
- **Cultural tools** examines how tools, language and practices from a learners cultural environment influence learning.

**Instructional Science** focuses on the design, development and evaluation of teaching methods and educational technologies that enhance learning.

- **Instructional design** studies the process of creating effective and efficient instructional materials and curricula.
- **Technology in education** investigates how digital tools, online learning and adaptive technologies can support personalized and collaborative learning. (*see [sensiblescreenuse.org](https://sensiblescreenuse.org) to see reviews of the research behind digital device use in education*)
- **Collaborative learning** looks at how group based learning and peer interactions contribute to knowledge acquisition and problems solving.

Te Mātaiaho states (page 5) “**The science of learning informs curriculum sequencing and teaching practice. The curriculum builds on scientific understanding to identify five characteristics of how we learn. (Only 5!)**

- We learn best when we experience a sense of belonging in the learning environment and feel valued and supported.
- A new idea or concept is always interpreted through, and learned in association with, existing knowledge.
- Establishing knowledge in a well organised way in long term memory reduces students’ cognitive load when building on that knowledge. It also enables them to apply and transfer the knowledge.
- Our social and emotional wellbeing directly impacts on our ability to learn new knowledge
- Motivation is critical for wellbeing and engagement in learning.



# New Resources for Wilkie Way Members

## Annual Subscriptions purchased at the online store at [www.wilkieway.co.nz](http://www.wilkieway.co.nz)

Individual \$55 - paid via paypal

NZ School paid via invoice - complete form at online store  
 Under 30 Students \$60 + GST 30 to 100 students \$160+GST  
 101 - 300 students \$260 + GST 301- 500 students \$360 +GST  
 501 - 700 Students \$460 + GST 701+ Students \$560 + GST  
 Non NZ School \$660 - paid via paypal



Welcome to the new schools subscribing this year.

Sorry to see schools going - but I understand the need to get your heads around the new curriculum, but I hope you soon realise that access to a wide range of resources and resource types enhance any "programme" . Wilkie Way has realigned resources to fit with the phase structure of the new curriculum.

The feedback on the new look directory page for 2025 is very positive - friendly and easy to navigate. I have used a simple colour coding - pink for phase one, blue for phase two and green for phase three.

The planning and assessment has been reorganised by year group - there is now an overview plan for each year group and unit plans to support the overview plans. All plans are in "Word" for you to be able to cut and paste to meet the needs of your particular context.

**NO ONE CAN DO YOUR PLANNING FOR YOU** - your students should be central to your planning not the programme you are delivering. A good unit plan should enable you to construct your weekly or daily plan and continually reflect on your students learning to identify where you need to adjust your planning. Consider what further learning opportunities your students need to develop their understanding or are they able to move on to something new.

Student tracking sheets are also realigned to year groups rather than curriculum levels.

Learning progressions, while available under the dark blue section in each heading are also collectively found under the Learning Progressions heading.

I have started work on the Maintenance Sheets for years 3 - 8 the first sheets for year 5 (3A Maths Aotearoa) are uploaded. Maintenance means just that - maintaining what I have learnt previously, not recently but from last year.

Click on the 3A book in the first row to access these maintenance sheets and the 3A practice workbooks.

### Wilkie Way Maintenance

Name: \_\_\_\_\_ Date \_\_\_\_\_

**3A**  
**3.**

**A.**

1.  $40 + 80 =$   
 2.  $60 + 70 =$   
 3.  $30 + 110 =$   
 4.  $90 + 50 =$   
 5.  $70 + 40 =$   
 6.  $20 + 90 =$   
 7.  $70 + 70 =$   
 8.  $80 + 60 =$   
 9.  $90 + 90 =$   
 10.  $40 + 90 =$

**B. Write the number**

1. two thousand six hundred and forty nine  
 \_\_\_\_\_

2. four thousand seven hundred and six  
 \_\_\_\_\_

**C. Draw the lines of reflective symmetry**

H
X

**D.**

1.  $24 \div 4 =$     2.  $18 \div 2 =$     3.  $25 \div 5 =$   
 4.  $60 \div 6 =$     5.  $15 \div 3 =$     6.  $16 \div 2 =$   
 7.  $45 \div 5 =$     8.  $32 \div 4 =$     9.  $18 \div 3 =$

**E.1.** Megan has saved \$218. She wants to buy a bicycle costing \$300. How much more money does she need?

**E.2.** A box of chocolates holds 8 chocolates. If you bought 3 boxes how many chocolates would you have?

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## The Wilkie Way Numeracy Games

[www.thewilkieway.co.nz](http://www.thewilkieway.co.nz)

**Set 5:**  
**Beginning Place Value.**

1 of each game included.

Copyright © 2014 NC Wilkinsons Limited. All rights reserved.  
 Designed and produced in New Zealand. All games played with dice and counters (not included).

At present the other icons have only the practice workbooks.

All Wilkie Way dice and counter games are now available to download but I still have some sets of ready printed and laminated games in the online store at just \$12 for a set of 4 different games around the same knowledge area. Some sets are already out of stock and others have just one or two sets left. Once gone they will not be reprinted for sale.



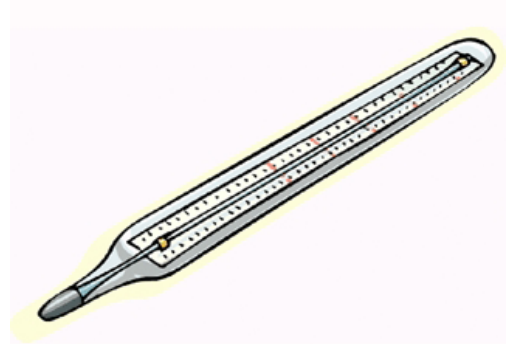
# The Wilkie Way Teacher Challenge



## Thinking about averages

The average temperature for five days, Monday to Friday is 18°C

What is the average temperature from Monday to Wednesday if the temperatures on the five days are consecutive numbers?



For those of you using PAT assessments there is now a guide to the “average” score on the central scale for each year group for testing in February and the expected scale score gain from one year to the next.

From this you can work out the average scale score for each year group for a second assessment in term 4 by finding 75% of the average progress and adding it to the first average scale score.

Average progress by year:

Year 3 - 4	Year 4 - 5	Year 5 - 6	Year 6 - 7	Year 7 - 8	Year 8 - 9	Year 9 - 10
7.1	7.2	6.1	3.3	4.5	4.2	4.6

These are the average scale scores by year group for a February test and a term 4 test.

	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
February	25.4	32.5	39.7	45.8	49.1	53.6	57.8	62.4
Term 4	30.7	37.9	44.3	48.3	52.5	56.8	60.9	65.8

I take “average” to mean this score would give students a stanine 5

Note: The year 3 scores were recorded in a document modified in September 2024 but were missing from the modification in October 2024

The scale range of the questions in any one test covers a minimum of two years progression in difficulty. They are generous to include students who are just below or just above the average expectation for their year level.

See the NZCER website for more information.