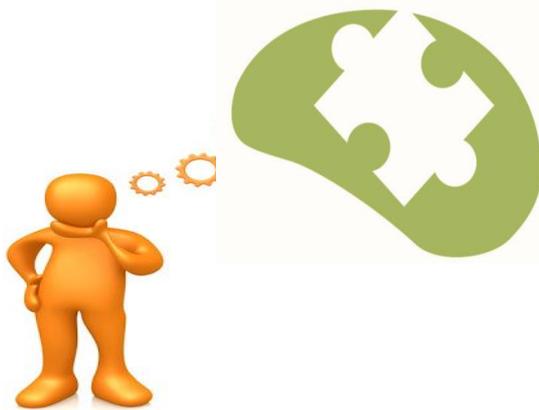




# ACP: Metacognition

**Metacognition: The ability to use a wide range of thinking approaches in different situations**

1	2	3	4	5
I know different ways to solve a problem	I can describe the ways to solve a problem	I can choose the best way to solve a problem	I can evaluate ways of solving a problem	I can use and evaluate many ways to solve a problem, including making my own





# Metacognition: Plan → Do → Review

- **Plan**-think about the task before you start,
- **Do** it and think about how you are doing,
- **Review**, think about how you could do better next time

**Benefit:** being able to approach long or difficult tasks and improve



## 9 Questions to Improve Metacognition

by @Inner\_Drive  
[www.innerdrive.co.uk](http://www.innerdrive.co.uk)

### Before

- ▶ Is this similar to a previous task?
- ▶ What do I want to achieve?
- ▶ What should I do first?

### During

- ▶ Am I on the right track?
- ▶ What can I do differently?
- ▶ Who can I ask for help?

### After

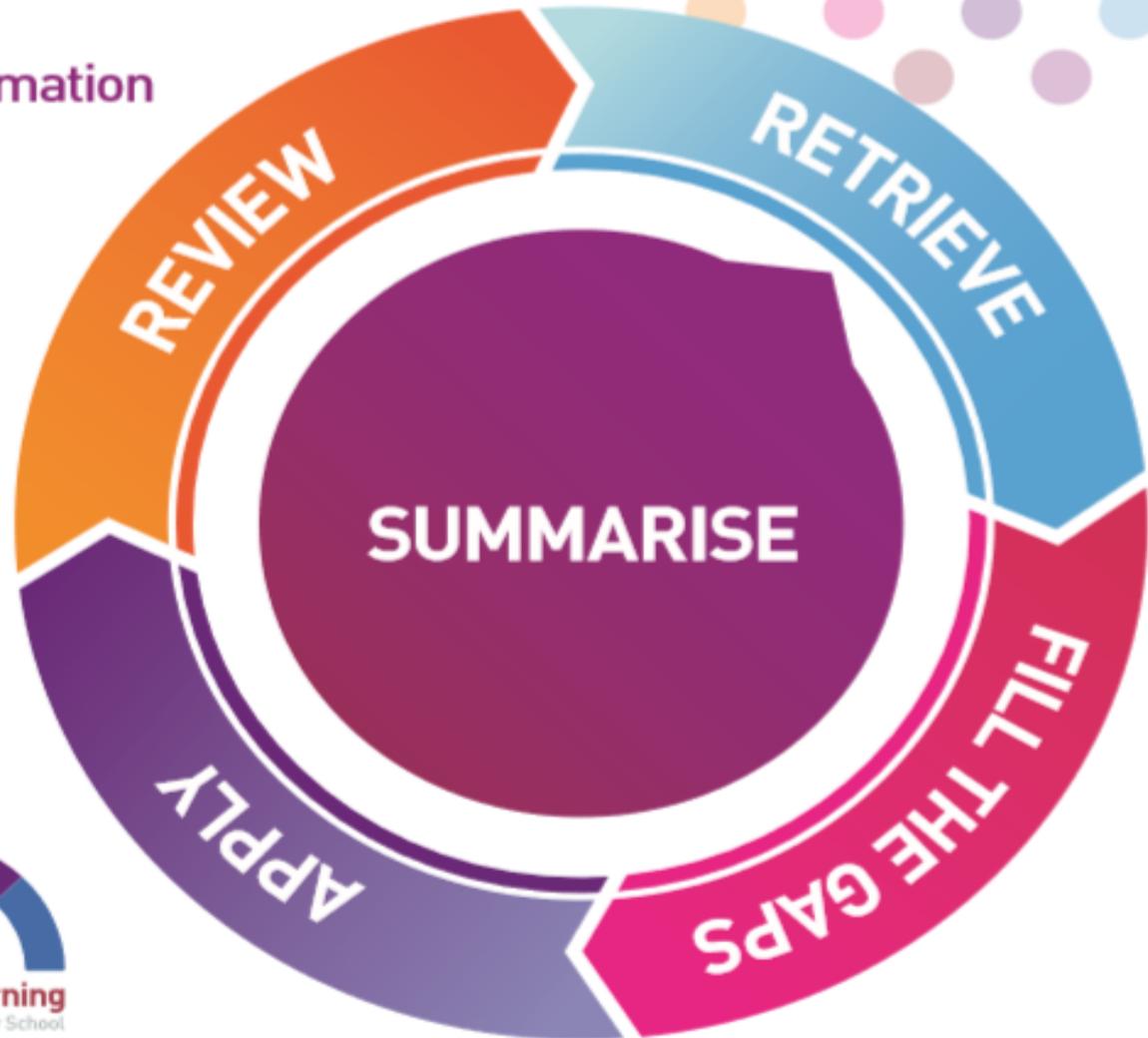
- ▶ What worked well?
- ▶ What could I have done better?
- ▶ Can I apply this to other situations?



USE Metacognition: Plan → Do → Review  
when you revise, it's built into our cycle

# Revision Cycle

1. **SUMMARISE:** shorten information
2. **RETRIEVE:** find out what you know
3. **FILL THE GAPS:** look at what you don't remember
4. **APPLY:** practice using the information
5. **REVIEW:** reflect on how you have done and repeat





# ACP: Intellectual confidence

You need to be **intellectually confident** to give sensible answers and try.

Intellectual confidence is the ability to express your view based on knowledge

1	2	3	4	5
I can start to give my view	I can give my view with a reason	I can justify my view with evidence	I can evaluate other views	I can use and evaluate views to make an effective argument





# ACP: Connection finding

- See and make connections between facts
- Explain connections
- Use connections to explain a wider idea

1	2	3	4	5
I know things might be connected	I can make simple connections	I can make connections and use knowledge	I can look for connections and link across topics or Sciences	I can make deeper connections across subjects and use them to explain an idea



CONNECTION FINDING



# ACP: Critical or logical thinking

- Question, use and evaluate information to answer, evaluate and synthesise.

1	2	3	4	5
I can use information to answer questions and explore ideas	I can ask questions and choose information from a range of sources	I can suggest hypotheses and test them. I can use and assess evidence validity	I can develop hypotheses, judge reliability of evidence and critically evaluate	I can ask perceptive questions, synthesise hypotheses and evidence and critically analyse





# ACP: Complex and multi-step problem solving

- **Solve complex and multi step problems**

1	2	3	4	5
I can use an approach to solve a simple problem	I can break tasks into smaller steps	I can choose strategies to solve a more complex problem	I can evaluate strategies	I can select the most effective strategies and use them

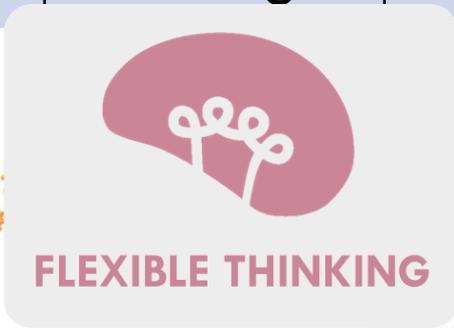




# ACP: Flexible thinking

- **Be adaptable and know that ideas and strategies can change**

1	2	3	4	5
I know there are different solutions to a problem	I can stop using an idea if it isn't working	I can use evidence to change ideas	I can continue to find ideas after finding one	I can consider multiple ideas to create a solution

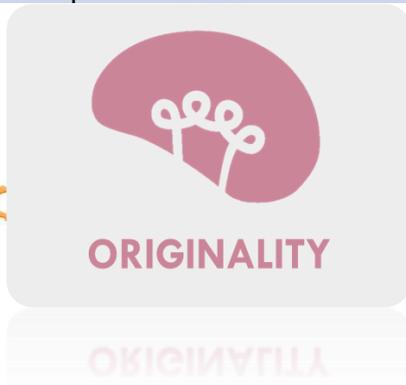




# ACP: Originality

- Come up with new ideas or adapt old ones**

1	2	3	4	5
I can make a change to an existing idea	I can come up with new ideas to solve a problem	I can create a range of new ideas to address a problem and think of problems	I can create and model a range of new ideas, consider problems and benefits	I can create and model innovative and unique ideas and evaluate them



# ACP: Automaticity



**Automaticity**- ability to do things without occupying the mind with details.  
**Doing something without thinking**

1	2	3	4	5
I can recall simple facts	I can recall complex facts and ideas. I can use some equipment, skills and techniques	I can recall complex facts on my own. I can conduct practicals and work scientifically with minimal support	I can easily recall complex facts, work scientifically without support and use rules fluently	I can use key ideas without effort and a range of skills without thinking

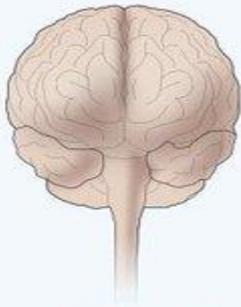




# Automaticity

This doesn't happen straight away.  
It takes time and lots of practice.  
It is what we aim for so we can do our  
absolute best.

## Fitts and Posner's Model of Motor Learning



### **Cognitive Stage**

Learners expend cognitive energy to understand how they are supposed to move



### **Associative Stage**

Learners have mastered the basic forms of movement and begin to refine their skills with practice



### **Autonomous Stage**

Learners perform movements automatically without significant cognitive energy, and can focus on strategy



# VAA: Concerned for society

## Understanding right from wrong and trying to help, from class to planet

1	2	3	4	5
I know the difference between right and wrong	I can suggest ways to make our world better and how we might do it	I can work with others, understand human rights and how they rely on the planet	I can develop critical opinions, appreciate different priorities and celebrate diversity	I analyse how beliefs and emotions can affect opinions, actively challenge injustice and seek to improve





# VAA: Enquiring

The desire to learn. Ask questions, make links and use them to problem solve.

1	2	3	4	5
I can ask questions	I am interested in learning new things and seeing different viewpoints	I can research ideas in steps, use relevant information, use evidence and link viewpoints	I can explain research techniques, teach others enquiry, make evidence based decisions	I can critically identify sensible questions, research and make cross-curricular links





# VAA: Practice

## PRACTICE makes perfect!

## Nobody improves without practice!

1	2	3	4	5
I can redraft	I can respond to feedback and practise to improve	I can make and use a revision timetable. I can use feedback to improve	I can practise on my own. I can set joint goals and monitor myself.	I can set my own goals, monitor myself and adapt to improve.







# High performance learning

**Precision** is the ability to complete work using the rules of the task.

**Are you sure everything is correct?**





# Strategy planning

- 1. Know there are different ways to solve a problem**
- 2. Know the main ways that you could use**
- 3. Use the most appropriate strategy for a problem**
- 4. Do this independently**





# ACP: Self-regulation

**Self-regulation: The ability to monitor, evaluate and self-correct**



# How can I self-regulate?

## 1. Read carefully

What do you need to do?



## 2. Think

How am I going to tackle this?



## 3. HPL

Which ACPs and VAAS might I use to help me?

## 4. Reflect

Is there anything I don't quite understand?

## 5. Think back

What do I often get wrong? How can I avoid this?

## 6. Plan

Make a plan



## 7. Get started

Do the task



## 8. Persist

If you get stuck don't panic. Think hard and try to crack it before seeking help.

## 9. Check

When finished check it for mistakes.



## 10. Reflect

What did I do well. What might I do better next time?