# The Self-Testing Toolkit

# **Video Links**

- How we learn, shown on the evening.

- [https://learningspy.co.uk/featured/three-animated-films-about-learning/](https://learningspy.co.uk/featured/three-animated-films-about-learning/)


- How to videos used in classes in College
  - Flashcards

  - Blind MindMaps

  - Cumulative Quizzing

Q: What is the Science Self-testing Toolkit?

It's about encouraging your child to use **effective strategies**, not helping with the homework itself
(phew!)

# Dunlosky: What works & what doesn't work

## What doesn't work?

**Highlighting**

**Rereading**



## What does work?

**Self-Testing**

**Distributed Learning**

**Elaborative Interrogation**

# The Self-Testing Toolkit



**FLASHCARDS**

# WHY SHOULD I USE FLASHCARDS?

*Is it useful to test myself using flashcards?*

Yes. By breaking up a topic into smaller amounts of information, testing yourself will be more manageable. Furthermore, by putting a question or key idea on one side of the card and trying to remember the answer or explanation on the back, you will strengthen your memory of the things you're trying to learn.
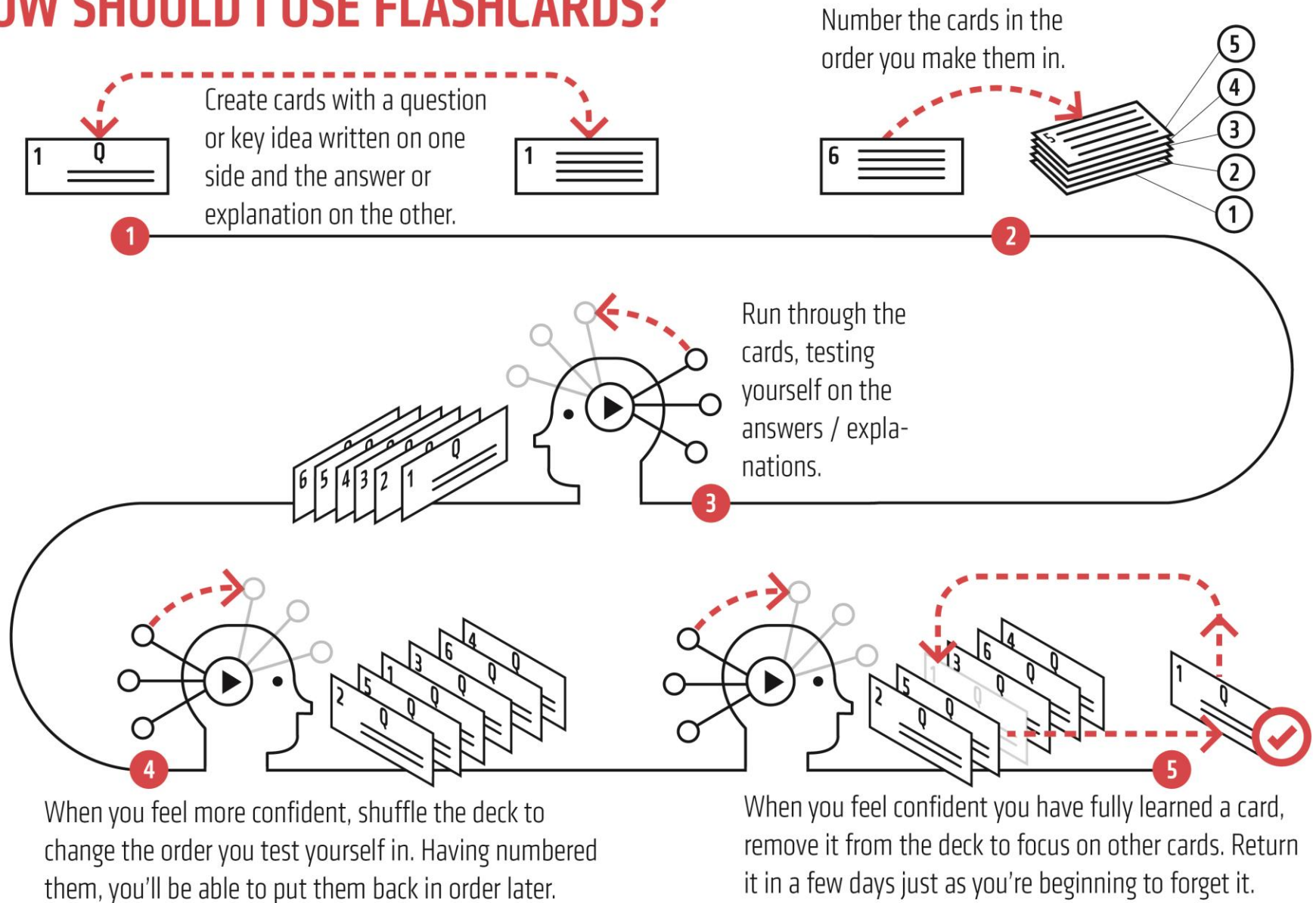
# WHY SHOULD I USE FLASHCARDS?

## *Why not just read the information? Isn't it pointless to make things harder for myself?*

No. Scientists studying the brain have shown that when it comes to remembering, a healthy amount of struggle is good for us. Digging deep trying to remember answers or explanations, especially when this feels a little challenging, will increase your chance of remembering it. What's more, by changing the order in which you attempt the cards, you make your brain work in a tougher but more flexible way. This will help you to recognise more quickly how best to answer questions in a test. By taking revision cards out of the stack when you have proven to yourself they've been learnt, you will leave yourself with the cards you find most difficult. This will allow you to focus on what you still need to learn. But remember, it's important to add the learnt cards back into the stack from time to time to refresh your memory.

# HOW SHOULD I USE FLASHCARDS?

**1.** Create cards with a question or key idea written on one side and the answer or explanation on the other.

**2.** Number the cards in the order you make them in.

**3.** Run through the cards, testing yourself on the answers / explanations.

**4.** When you feel more confident, shuffle the deck to change the order you test yourself in. Having numbered them, you'll be able to put them back in order later.

**5.** When you feel confident you have fully learned a card, remove it from the deck to focus on other cards. Return it in a few days just as you're beginning to forget it.

# The Self-Testing Toolkit

## BLIND MIND MAPPING

# WHY SHOULD I USE BLIND MIND MAPPING?

### *Is it useful to recreate mind-maps from memory?*

Yes. Making a mind-map will help you to organise the information you have learned. This will give it a better chance of 'sticking' in your long term memory. By joining up different parts of a topic in a structure, you will be better able to make links between them. Your brain also benefits from information being organised in a clear structure, freeing it up to learn other things without feeling overloaded.

# WHY SHOULD I USE BLIND MIND MAPPING?

*Why recreate a whole mind-map from memory? Isn't my time better spent re-reading/highlighting material or making summaries of information?*

No. Scientists studying the brain have shown that re-reading material isn't very helpful when it comes to remembering it. And nor is highlighting. Furthermore, creating new resources might make you feel busy, but feeling busy doesn't mean you're learning. Instead, by challenging yourself to recreate all or part of a mind-map from memory, you will strengthen the links you have made between different parts of the topic. You may also find that you're able to recall or 'picture' the information from the page having practiced retrieving it with less and less chances to 'peak' each time you attempt it.
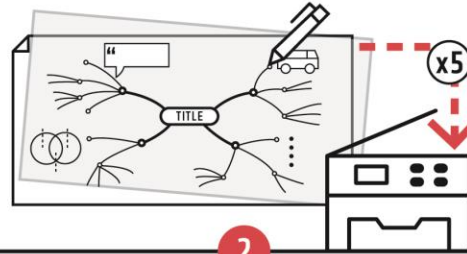
# HOW SHOULD I USE BLIND MIND MAPPING?

Use a thin piece of plain paper to trace the structure of your mind-map. Only include the structure (branches, bullet points etc) and none of the words. Photocopy the structure of your mind-map to create multiple templates. Set them to one side.
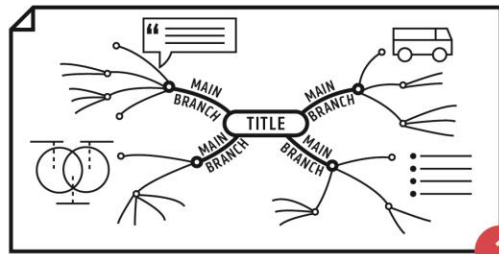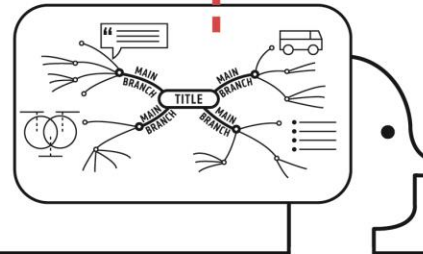
**1**

Create a mind-map for a topic you have learned. Use multiple branches, bullet points, numbered lists, images, symbols etc.

**2**
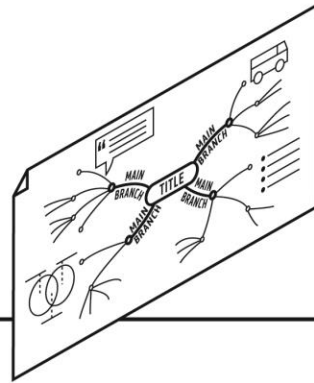
Study your original mind-map before turning it over, keeping it within reach.

**3**

ONE HEART = ONE LIFE • YOU HAVE FIVE LIVES •
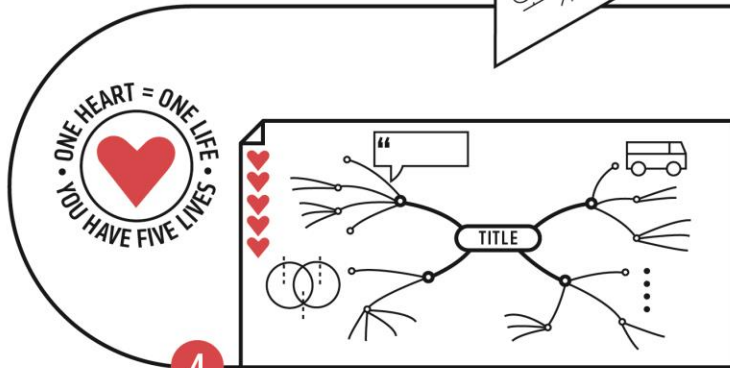
**4**

Pick up a 'structure template' and draw five hearts down one side. These are your 'lives'.

**5**

Recreate your mind-map from memory, crossing out a life each time you need to peak at the original.

**RULES**
You can't write whilst peaking and you should reduce the 'lives' you give yourself as your ability to recall information improves.

# The Self-Testing Toolkit



## CUMULATIVE QUIZZING

# WHY SHOULD I DO CUMULATIVE QUIZZING?

*Is it useful to build-up a quiz over a longer period of time?*

Yes. Gradually adding questions to a quiz will help you in two ways. Firstly, by testing yourself from the start of the quiz each time, you will force yourself to go back over old learning just before you forget it. Secondly, by answering the same questions every few days you will get quicker at recognising the knowledge and skills needed to answer them.

# WHY SHOULD I DO CUMULATIVE QUIZZING?

*Isn't it pointless to keep answering questions I already know the answer to?*

No. Scientists studying the brain have shown that spacing out the time between testing yourself will help you to recall the knowledge and practice the skills needed to answer questions. By gradually adding questions to quizzes over longer periods, you will let just the right amount of time pass between answering them. Because we are always gradually forgetting, the more often we remind ourselves the easier it becomes to remember. Eventually, it will be like riding a bike or speaking a language…no one will need to remind you or show you how to do it because you will be able to do it without a second thought.

# HOW SHOULD I DO CUMULATIVE QUIZZING?

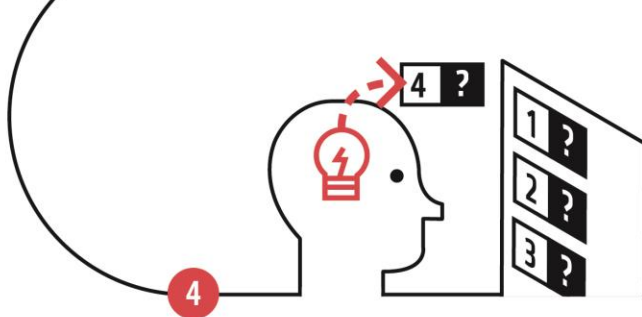**1** Study a topic and add a question or two to your quiz based on what you have learned.
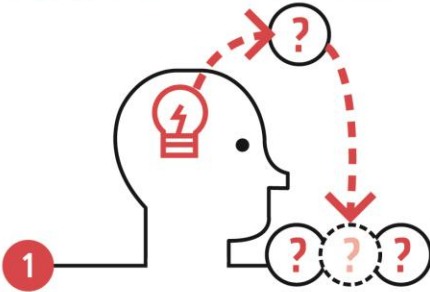
**2** Write down the answer somewhere hidden e.g. on the back of the page.
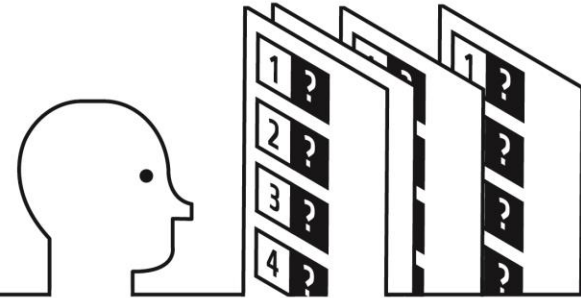
**3** The next time you are about to study, take out your cumulative quiz and test yourself on all of the questions you have written previously.
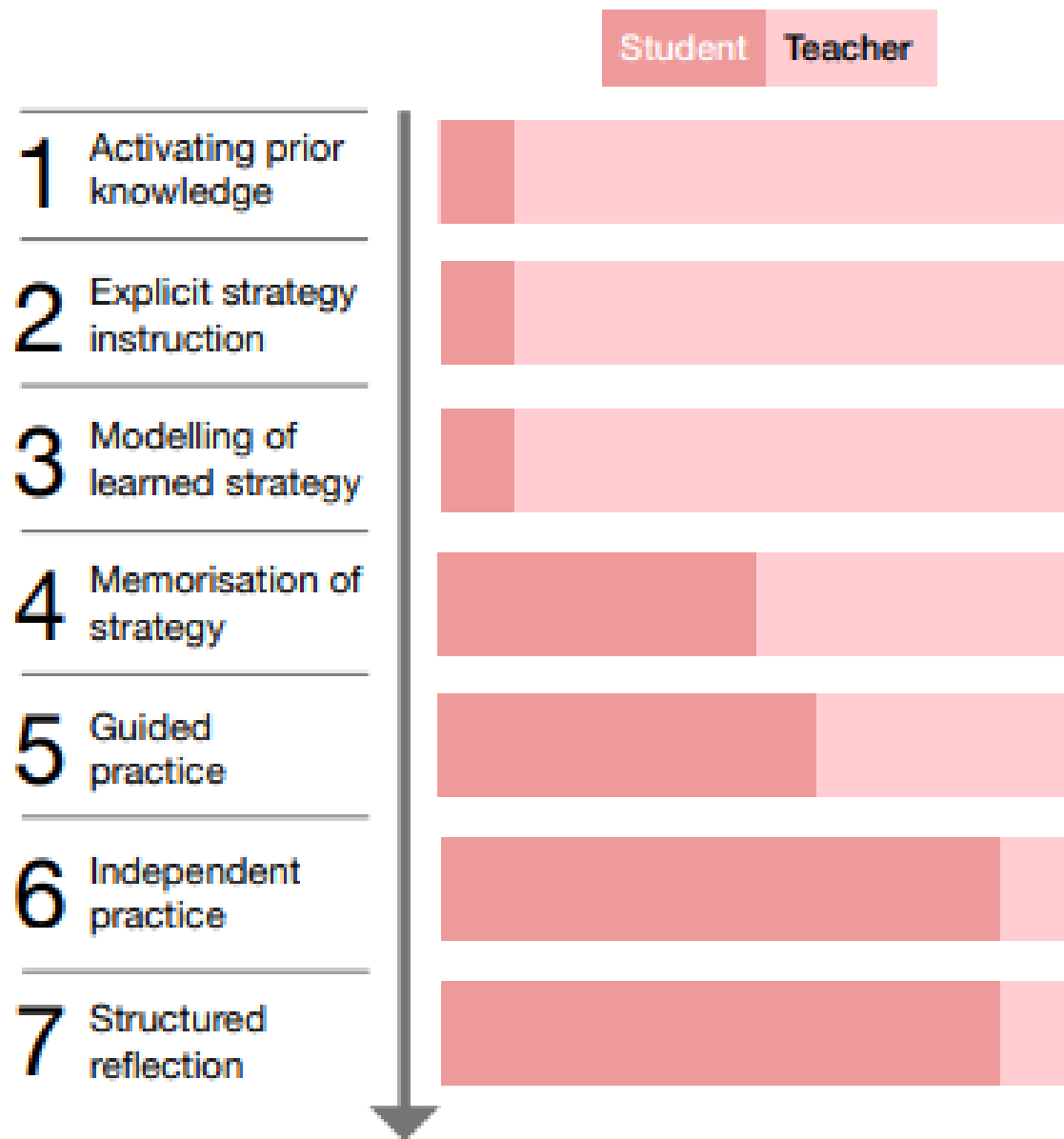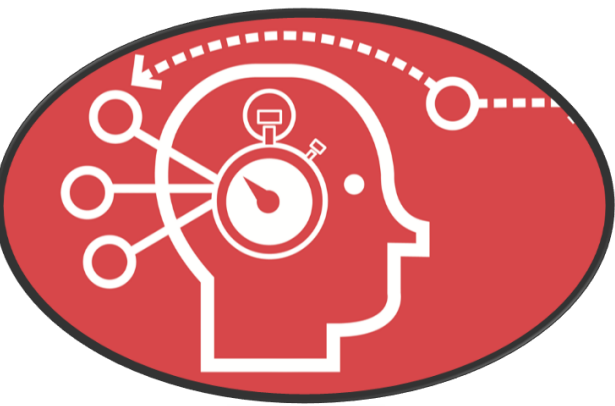
**4** Add a question each time you finish studying the next section of a topic.

**5** Answer all of the questions that are building up each and every time, before you study fresh material. The list will get longer, but answering the questions will get easier.

Student  Teacher

1 Activating prior knowledge
2 Explicit strategy instruction
3 Modelling of learned strategy
4 Memorisation of strategy
5 Guided practice
6 Independent practice
7 Structured reflection

Modelling done well

# Self-testing and Spaced Learning

- Revision/Review/Learning must not be a passive process.

- Self-Testing should be stretching and challenging.

- But, the more practice the more comfortable the students will be using the Tool-kit.

- Spaced Learning helps ensure an appropriate level of challenge and should be planned for with help from ICC staff and parents at home.

# So what now?

- Yr10 teachers will be…
    - Model the skills in context to the curriculum.
    - Encourage independent use of the skills (in class and for homework).
    - Offer guided practice.
    - Review the efficacy of the skills with students and staff.
- Year 10 students will be..
    - Practicing the skills introduced to them.
- Year 10 parents and carers will be…
    - Supporting the learning process

The most powerful things you can do to support your child with their learning are…

*Encourage them to:*

1. plan when they will use the Toolkit
2. set goals related to using the Toolkit
3. put time and effort into using the Toolkit
4. praise and reward their use of the Toolkit

# Finally…..

- If you have any concerns or queries, please contact the member of the Science Department directly via [icc@ivybridge.devon.sch.uk](mailto:icc@ivybridge.devon.sch.uk)

- If Paul Reynolds or Denise Smith can be of assistance, please contact them via -
  - [icc@ivybridge.devon.sch.uk](mailto:icc@ivybridge.devon.sch.uk)

- Many thanks and happy learning!!

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