STAFF ROOM POSTER

Dual Coding That Teaches

Two channels, one limited working memory. The visual earns its place when it carries the structure of the idea, not when it decorates the slide.

Pair, don't pile

One visual that matches the words beats three that compete with them. Decoration is load, not learning.

In class: One labelled diagram of the water cycle, built up step by step, replaces the four clip-art clouds.

Words NEXT to the picture

Labels sit on the diagram, not in a key, not on the next slide. Split attention is self-inflicted load.

In class: Write 'evaporation' on the arrow itself, at the moment you say it.

Signal the link

Colour, arrows and gestures that tie a phrase to its part of the image help novices most.

In class: The cause is in orange in the sentence AND on the diagram. Same colour, same idea.

Build it live

A diagram drawn in front of learners, narrated, beats a finished one revealed. The sequence IS the explanation.

In class: Start with the coastline. Add the waves. Now add the erosion arrows as we talk about each.

PLANNING CARDS: CUT AND KEEP

Choose the Right Visual

Match the visual to the knowledge shape. The organiser does the thinking work when its shape mirrors the idea.

Process or cycle

Arrows in sequence; loops only if it genuinely repeats.

Say: "Flow diagram or cycle: what is the first step, and does the last step feed back?"

Compare or contrast

Two columns or an overlap diagram; criteria down the side.

Say: "Comparison table or Venn: what features am I comparing ON?"

Hierarchy or parts

Tree or labelled whole-with-parts; levels mean something.

Say: "Tree map: what is the parent idea, what are its children?"

Cause and effect

Fishbone or arrow web; effects on the right, causes feeding in.

Say: "What is the one effect, and how many independent causes feed it?"

LEARNER POSTER

Draw It to Know It

A revision routine for learners: turning words into your own visual is the workout; copying someone else's is the warm-up.

1. Read, then close

Read the section once. Close the book. The drawing comes from memory.

In class: If you draw while reading, the page does the remembering for you.

2. Draw the structure

Boxes, arrows and stick figures. Ugly is fine; the connections are the content.

In class: Three causes, one event, two effects: that is six shapes and five arrows.

3. Label from memory, check after

Write the key terms on your drawing, then open the book and fix what you missed in a different colour.

In class: The red corrections are tomorrow's revision list.

4. Explain it aloud

Talk someone through your drawing without notes. Words and picture together: that is the double code.

In class: Sixty seconds, partner listening, drawing visible, book closed.

TEACHER CHECKLIST

Slide and Resource Audit

Run on next week's slides. Every check is one of Mayer's principles in working clothes.

The visuals

- [ ] Every image carries content: anything decorative is deleted.
- [ ] Each visual matches the knowledge shape: process, comparison, hierarchy, cause.
- [ ] Complex diagrams build up in steps rather than arriving whole.

The words

- [ ] Labels sit on the visual, not in a separate key or paragraph.
- [ ] On-slide text is under thirty words; the rest is said, not shown.
- [ ] Spoken narration is not duplicated word-for-word on screen.

The links

- [ ] Colour or arrows signal which words belong to which part of the image.
- [ ] The same diagram returns in retrieval practice, blanked for completion.
- [ ] Learners produce their own visual at least once per topic.

CPD BRIEFING: STAFF ROOM COPY

Dual Coding: A 5-Minute Evidence Briefing

What the multimedia evidence supports, and where teachers overdo it.

The principle is robust

People learn better from words plus appropriate pictures than words alone: dual channels, limited capacity, active processing. Forty years of multimedia research backs the core claim.

The effects are moderate, with conditions

Graphics add about g = 0.39 to comprehension, signalling adds most for novices, and organisers show moderate-to-large effects. Gains depend on the visual matching the content and sitting beside its words.

Generation beats consumption

Learners drawing their own representation from memory combines dual coding with retrieval: the strongest version of the practice for revision.

The honest caveat

Dual coding is not 'add pictures to everything': irrelevant images and split-attention layouts actively harm learning, and experts gain less than novices. The principle is selective pairing, not decoration.

Evidence base

Mayer, R.E. (2024). The past, present, and future of the cognitive theory of multimedia learning. Educational Psychology Review.
Guo, D., Zhang, S. and Wright, K.L. (2020). Do you get the picture? A meta-analysis of the effect of graphics on reading comprehension. AERA Open.
Richter, J., Scheiter, K. and Eitel, A. (2016). Signaling text-picture relations in multimedia learning: a comprehensive meta-analysis. Educational Research Review.
Dexter, D.D. and Hughes, C.A. (2011). Graphic organizers and students with learning disabilities: a meta-analysis. Learning Disability Quarterly.