C7 Further ideas

Model mapping / mind mapping

Students use key terms and drag and drop words/draw arrows/add text to make connections and explain key ideas about a topic. Results can be saved and added to throughout a lesson/topic of work. Learners could make a mind map at their desks before or during the class activity, or they could do the activity at the

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beginning and end of a lesson or lesson sequence to illustrate to themselves and the teacher what they have learned. This is especially useful for children with literacy difficulties.



See templates: Notebook ideas – mind map (a & b); ActivInspire ideas – mind map (a & b)

Generating and testing provisional ideas

Teachers can support trialling of ideas and create joint responsibility for learning through encouraging students to make *conjectures*, nonverbally using the IWB as well as verbally. The teacher supports student understanding by providing or requesting further explanation or clarification. Other students can join in, especially when someone at the board seems uncertain.

Examples we've already seen in this Resource Bank include (1) playback of children's own audio recordings of opinions about personal safety as stimuli for class discussion; (2) students in turn contributing links to a food chain; and (3) students testing out conjectures using a "magic box" or "square of truth".

Use of a visualiser with the IWB



The visualiser (or document camera) can be used to display and compare students' work or experimental results, or to project an image as a stimulus for a task. See **Video 9** of use in a science lesson and play it from 41.05 to the end. In this example, low attaining students aged 14-15 learning about photosynthesis generated their own personal representations illustrating how the plant cell wall protects and supports. Some of these were then drawn freehand onto the IWB or projected there from their books using a flexible camera (iCam or form of visualiser) and publicly explained by students.

Further examples of visualiser use by teachers in other contexts are described in these videoed presentations:

rtsp://svl.ioe.ac.uk:554/basevideo/StevenandJulie_med.rm rtsp://svl.ioe.ac.uk:554/basevideo/DougalMcCormick_med.rm rtsp://svl.ioe.ac.uk:554/basevideo/DianeMavers_med.rm You may need to download Real Player to view them. They mostly depict primary school uses but they will give you an idea of the tool's versatility. They include rolling a dice for a class to see, showing equipment (ruler/protractor/syringe), scrutinising the structure of bread going mouldy, projecting children's work and a photostory. You can also freeze an image, then remove the object from the visualiser and manipulate it, and compare it with the original.

Interactive multiple choice quiz ("Who wants to be a millionaire?" style) or drag-and-drop matching activity / vortex sorting activity

This is closely related to the activity '*Matching terms and definitions*' in Caroline's lesson sequence, where students drag explanations/statements to match key terms. You may do these kinds of activities to review the meanings of terms or students' understanding of a topic area or process (soliciting their own everyday knowledge or what they learned in a previous lesson).



In the first example, students might discuss and match up the description to the key word. Similarly, in the second example, students demonstrate whether they know the names and uses of rooms in the house of a rich Tudor. Following discussion, definitions can then be added to/amended or deleted and re-worded.

In the third example, students indicate what furniture the rich and poor Tudors might have had. In the final example, students might discuss whether the features of a cell belong to a plant cell only or plant and animal cells. In both of these vortex sorts, they then drag and drop the terms into the correct position. If they are incorrect the vortex 'spits out' the key term.

To promote dialogue, students can be asked to justify their responses; they get feedback both from the IWB and their peers / teacher.

See templates: Notebook ideas – Blockbusters game; Vortex sort (a, b, c); Word definitions (a, b, c)

Using subject-specific software interactively: GeoGebra

As well as creating resources using the IWB's own software, you may want to use other software packages containing activities designed for the IWB or lending themselves to manipulation on a board. For example, the powerful open source mathematics software environment GeoGebra (<u>www.geogebra.org</u>) allows learners to directly explore a range of concepts and relationships through manipulating objects on the screen. It is a geometry package providing for both graphical and algebraic input. Some examples of IWB activities (GeoGebra format files are provided) are as follows.





See Geogebra file: multiplying_fractions.ggb

You might ask questions like:

Change the fractions with the sliders and see what happens? Move the blue point.

How many pink pieces does the square have? How you can get this number from the fractions? How many purple pieces does the square have? How you can get this number from the fractions?

See Geogebra file: flower_symmetry.ggb

Is this flower symmetrical? Let's check by moving point D.

How many reflection lines does it have? Move points A and B. You can refresh the view if necessary (View: Refresh View or Ctrl+F).



See Geogebra file: adding_number_line.ggb

Move Bunny! Change the values of a and b and move Bunny again! In which case does Bunny make the turn? When does Bunny look right/left?