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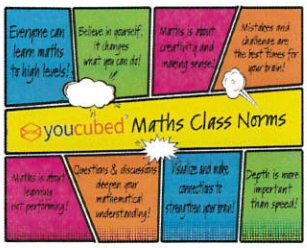
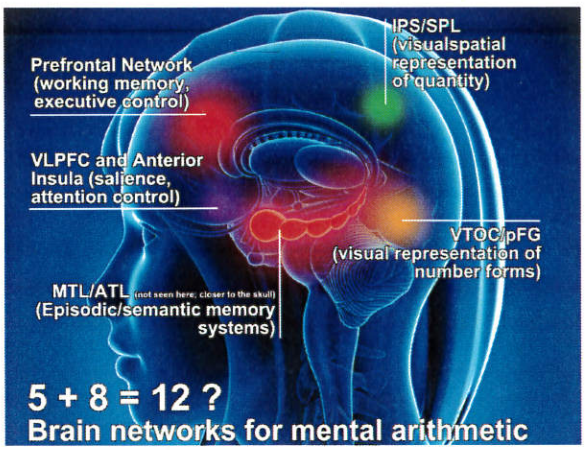


Visualize and make connections to strengthen your brain!

New brain research is showing that our brains think visually about mathematics and even when we perform a bare number calculation five different pathways are involved, two of which are visual (Boaler, Chen, Williams & Cordero, 2016). The dorsal visual pathway is the main brain region for representing the knowledge of quantity. When students are asked to visualize in mathematics, their achievement and engagement increases significantly. I like to think about it in this way – our brains want to think visually about maths!

Rather than showing students a visual representation that you have drawn or one that is in a textbook ask students if they can draw ideas, methods or results.



Research is also showing the importance of connecting between different brain areas, which happens when we see mathematics in different forms e.g. words, a picture, a graph, an equation, and link between them. Color coding, is a really good way to highlight connections between ideas.

Mathematical connections are important too. Mathematics is a subject of connected ideas, but students often think it is a set of disconnected methods. We made a video to show some mathematical connections that students love: https://www.youcubed.org/resources/tour-mathematical-connections/

Boaler J, Chen L, Williams C, Cordero M (2016) Seeing as Understanding: The Importance of Visual Mathematics for our Brain and Learning. J Appl Computat Math 5: 325. doi: 10.4172/2168-9679.1000325