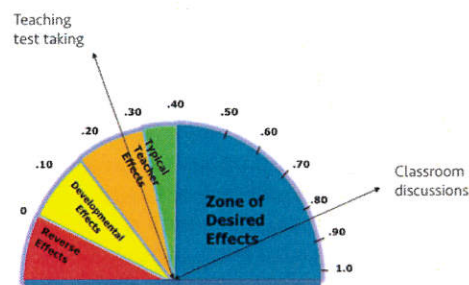


Questions & discussions deepen your mathematical understanding!

Research shows us that question asking is linked to high achievement – yet as students move through school they ask fewer and fewer questions, for fear of looking bad. It is really important to encourage and value questions. You don't need to be able to answer every question that students may come up with, sometimes it is good to say that you don't know but you will find out, or ask other students if someone would like to answer the question. Brain science also tells us that when we answer a question, and retrieve information from our brain, that information is ever changed in the brain, being more accessible. This points to the value of classroom discussions.

John Hattie examines effect sizes of different classroom approaches and shows a very stark difference between the impact of asking questions through a test and asking questions through classroom discussions. See the image on the right adapted from Hattie's book: Visible Learning for Mathematics, Grades K-12: What Works Best to Optimize Student Learning (Corwin Press, 2016).



Some suggestions for encouraging questions:

1. Tell your students that you love questions about maths and that they are really important. When good questions are asked, write them in large colored letters onto posters that you post around the room, to celebrate them. Show questions from a range of students.
2. Tell students they have 2 responsibilities in your classroom. One is to always ask a question if they have one, and the other it to always answer a question from classmates if asked.
3. Encourage students to ask questions – from you, other students and themselves, such as: why does that work? Why does that make sense? Can I draw that? Can I build it? How does that method connect to another?
4. Encourage students to ask their own maths questions. Instead of asking questions for them, give them interesting mathematical situations and see what questions arise for them.