From the Editor's Desk . . .

In the Opening Bracket, Shailesh Shirali rightly points out the importance of teaching students to think- rationally, critically, deeply. The nature of mathematics makes it a powerful vehicle to develop logical reasoning and problem solving in students and the subject has been taught through the ages (ostensibly) toward this end. With NEP 2020 bringing in the aspect of Computational Thinking and aligning it with the mathematics curriculum, it is tempting to think of this as a deep dive into computer science, where coding would be taught just as any other language at the middle school level. It would be a total waste to limit computational thinking in this manner. When we viewed several articles in the July 2022 issue through the lens of computational thinking, we discovered that the content of the articles was no different from that in our other issues. However, a pedagogical stress on the potential to develop computational thinking in students through mathematical investigations and problem solving would enable them to develop a tool-kit and an approach that will stand them in good stead in several situations- from analysing data in the form of inflammatory WhatsApp forwards to reasoning out false claims and, most importantly, verifying for themselves rather than blindly believing others.

Hands on thinking- that's what Amitabh Virmani's article on Making the Great Icosahedron will lead you to try. Mahit Warhadpande and V G Tikekar follow up with Part 2 of The Minimal Instruments of Geometry and Spoof Numbers and Spoof Solutions, respectively. The former explores the measurement and drawing of shapes in Vedic times and the latter describes how changing a few restrictions can open up the solution set considerably. Working with constraints is nothing new, but people show amazing resilience in working around and through them!

ClassRoom begins with a very comprehensive article by R Ramanujam on what Computational Thinking is. You will find answers to many of your questions here, along with useful links to further reading on the subject. A Ramachandran's Investigative Questions has some simple investigations

with plenty of scope for teachers to develop more challenges for students along these lines and in the process, teaching them how to decompose a problem, do a systematic search, recognise patterns and verify if solutions are correct. Both the articles on Integers (by Math Space) and the Mean (by the Mathematics Co-development group) come from the space of not accepting algorithms or formulas blindly but understanding and owning them. Encouragingly, Student Corner carries an account by two Class 7 students who did just that - investigated the very stale (but very useful) difference of squares formula and gave their own twist to it. You will find many problems and investigations in both Problem Corner and in Student Corner. And do check out an example of computational thinking - data compression in a knitting pattern (?!!) - in Put Your Thinking Cap On!

TechSpace describes another investigation – The Spaghetti Problem which is linked to very simple mathematics and yet ensures that there is more than enough food for thought. Jonaki Ghosh ends with a beautiful description of mathematical and computational thinking and how they are entwined and yet differ.

Parvin Sinclair's review of Rethinking Mathematics will certainly make you want to get your hands on the book and build your lesson plans around the activities in it - marrying social concerns with mathematical analysis and problem solving. Our manipulative review by Math Space is of the geoboard and this time, the review is accompanied by an activity sheet, to help you understand the value and potential of this popular classroom resource.

We end with the PullOut – which has activities for students to learn about the 3-D world they live in. Talk about math being real! Happy reading! And do revert with your comments on AtRiA.editor@apu.edu.in

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