



Figure 1. Children can play with mosaics to cover surface with identical shapes. These tiles with different symmetries allow the public to discover symmetry rules. The shape of the tiles is related to the symmetry of the lattice. © IUCrJournals & KaleidoLab; Hodeau & Guinebretiere, JAC 48, 1276 (2015)

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MS47-O3 The power of using 827,948 crystal structures in education

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The Cambridge Structural Database (CSD) contains over 800,000 experimentally determined small molecule crystal structures and this wealth of structural data can be a powerful tool in education. As well as providing the three dimensional structure of molecules, the CSD contains statistical information about symmetry, packing, coordination environments, bond distributions, and intermolecular interactions together with associated information such as physical properties and crystallization conditions.

This talk will focus on how structural data can be used in chemical education by using specific examples to illustrate how teachers can use the CSD to demonstrate key chemical concepts and principles. Students can learn a lot from this collection of structures, but given the vastness of the CSD identifying key structures that are most appropriate for a class is not always a simple process. We will therefore demonstrate, using examples, how the CSD teaching database, compiled to represent a diverse range of chemistry, can be used in the classroom to augment the learning experience of students in schools and universities worldwide.

Finally, we will reflect on the structural chemistry resources that are already available to educators and explore how these might evolve over the next 50 years of the CSD.

Keywords: Chemical Education, Teaching, Cambridge Structural Database, Structural Chemistry