

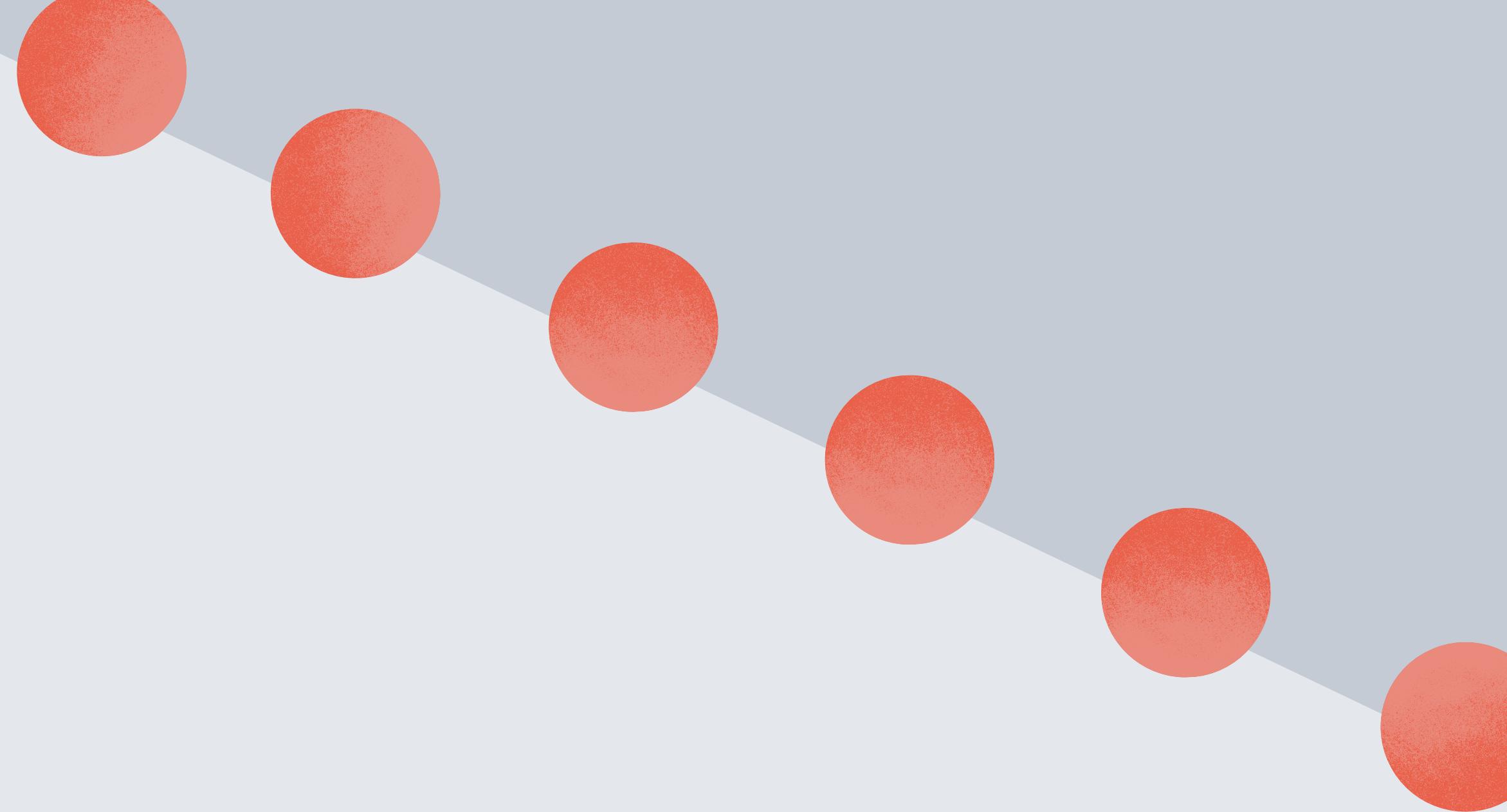


Combination Lock Workshop

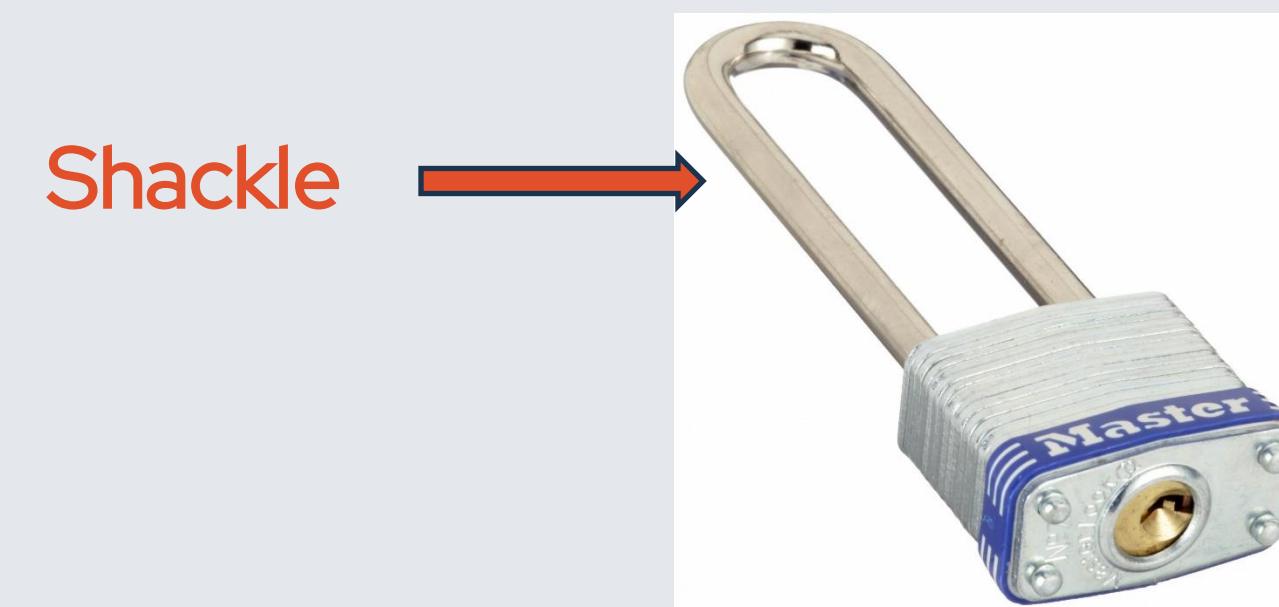
Hive Makerspace Workshop Fall 2024

Elias Black

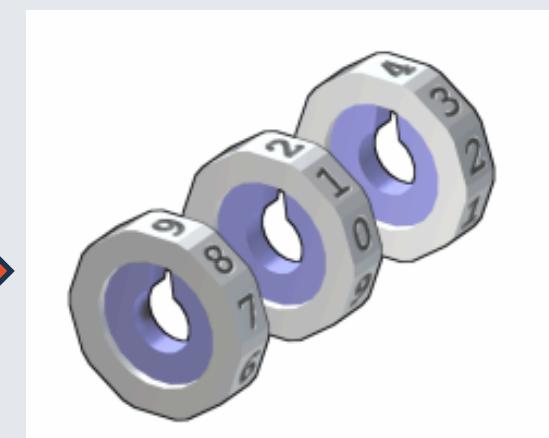
What are Locks?



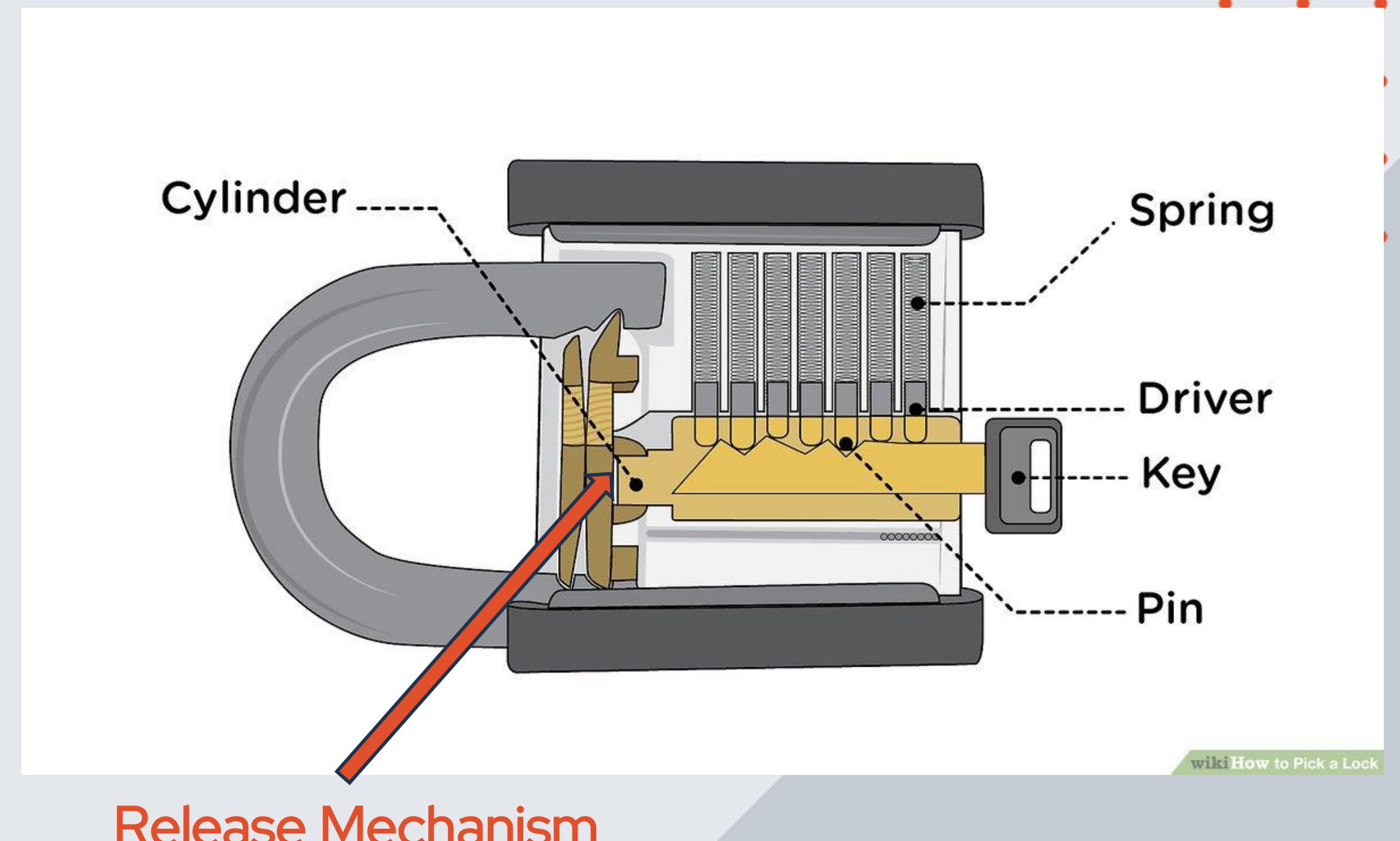
Parts and Pieces of Locks



Shackle

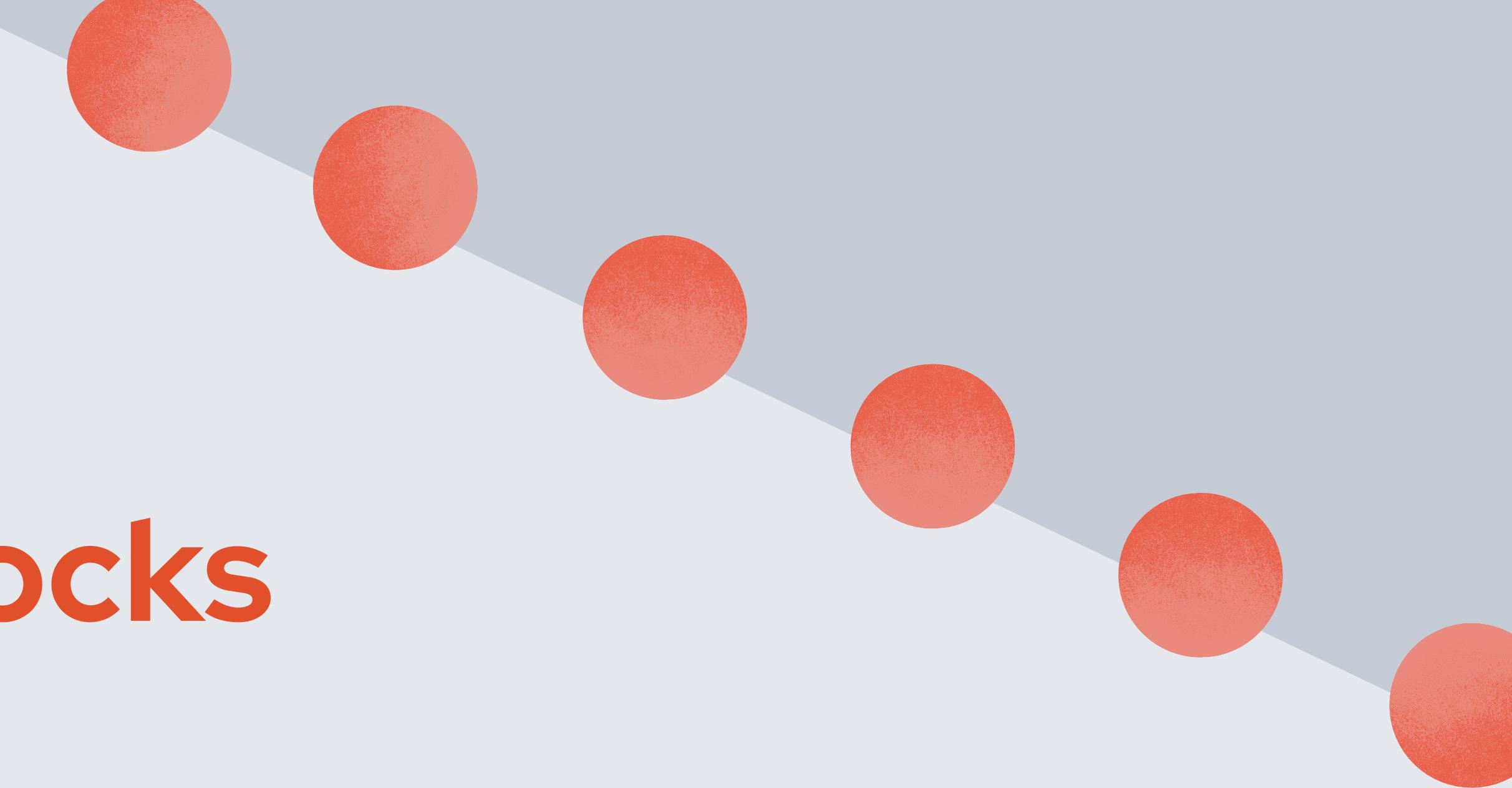


Padlock tumblers

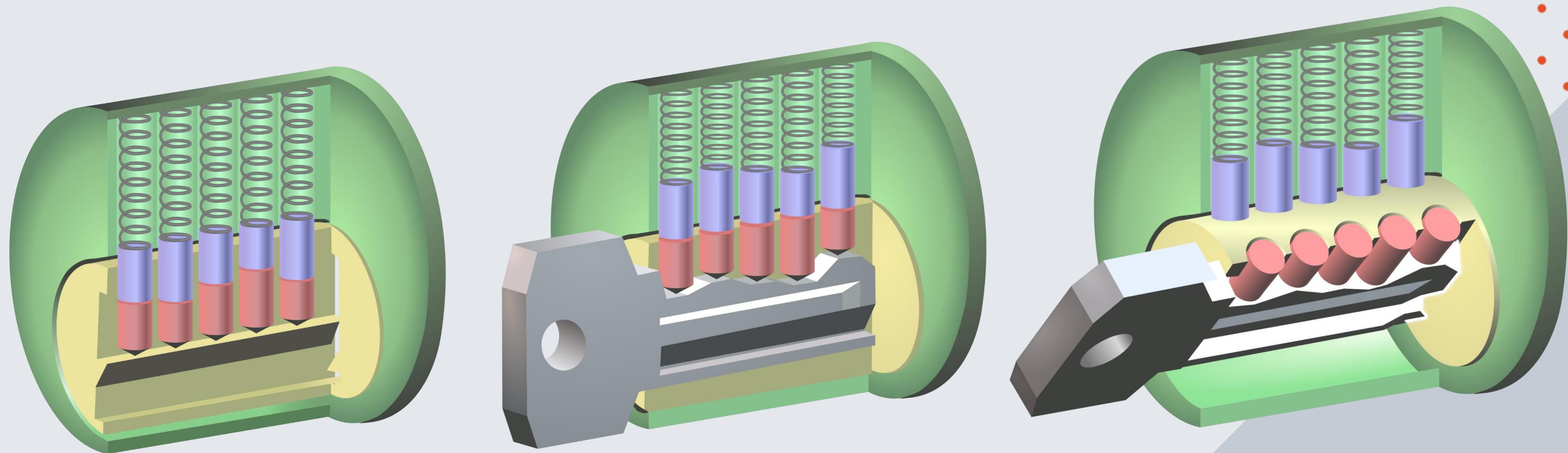


Release Mechanism

Different Types of Locks



Pin Tumbler Lock



Pin Tumbler Lock

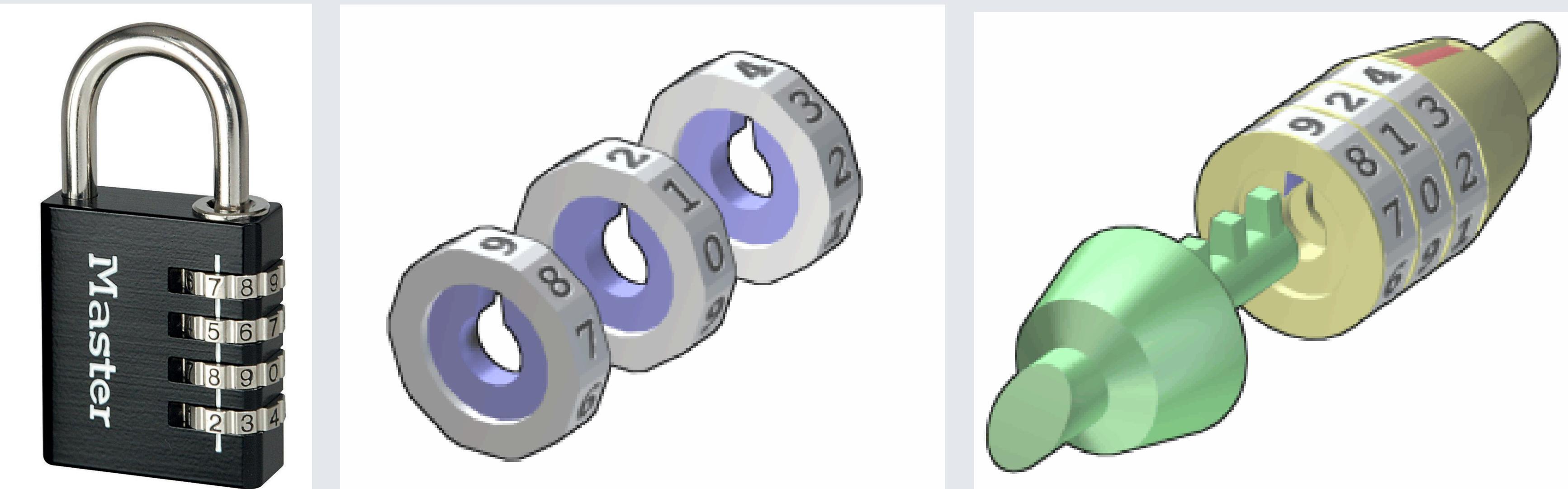
Common Uses:

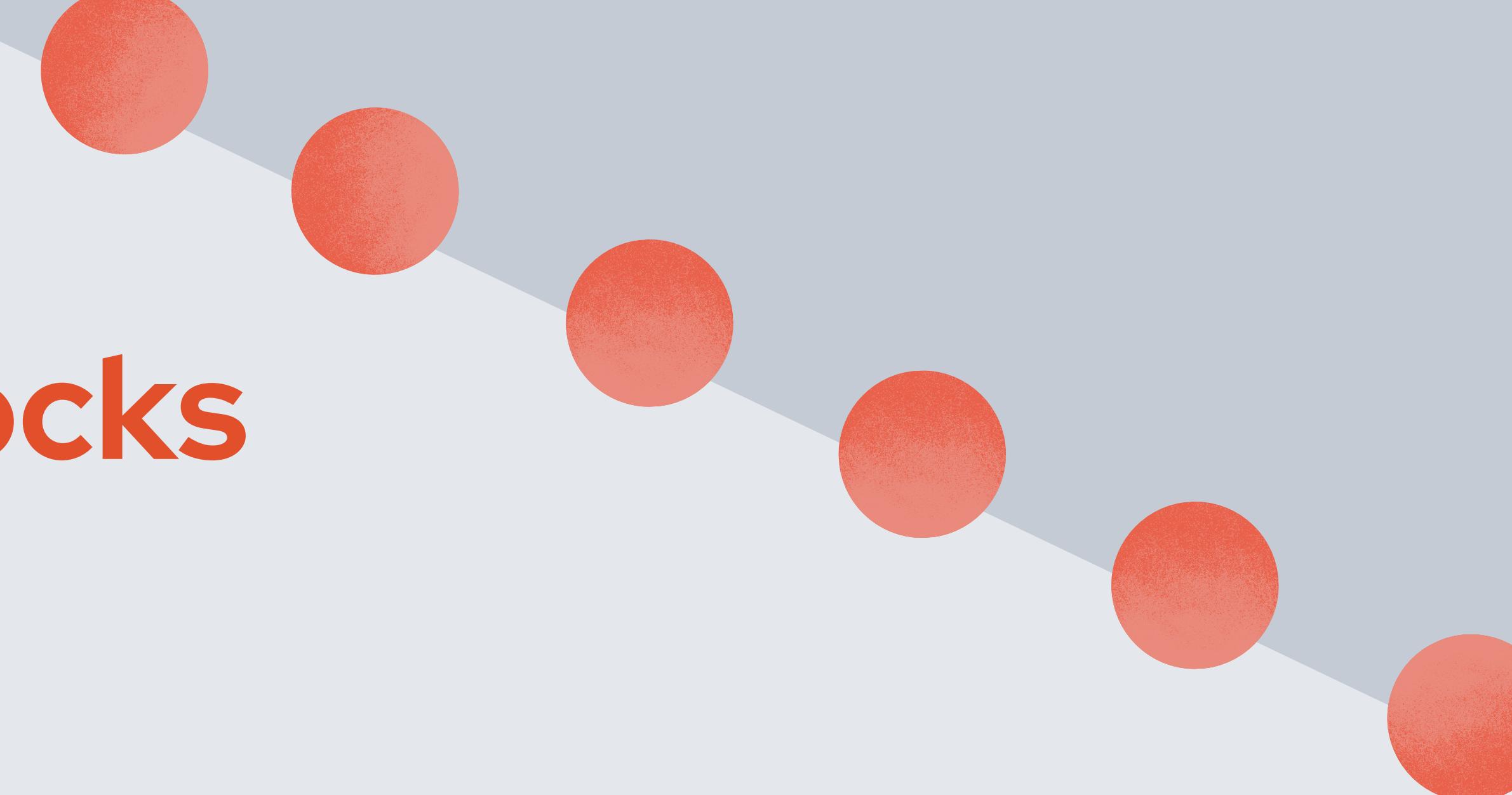


Combination Locks



Combination Padlocks



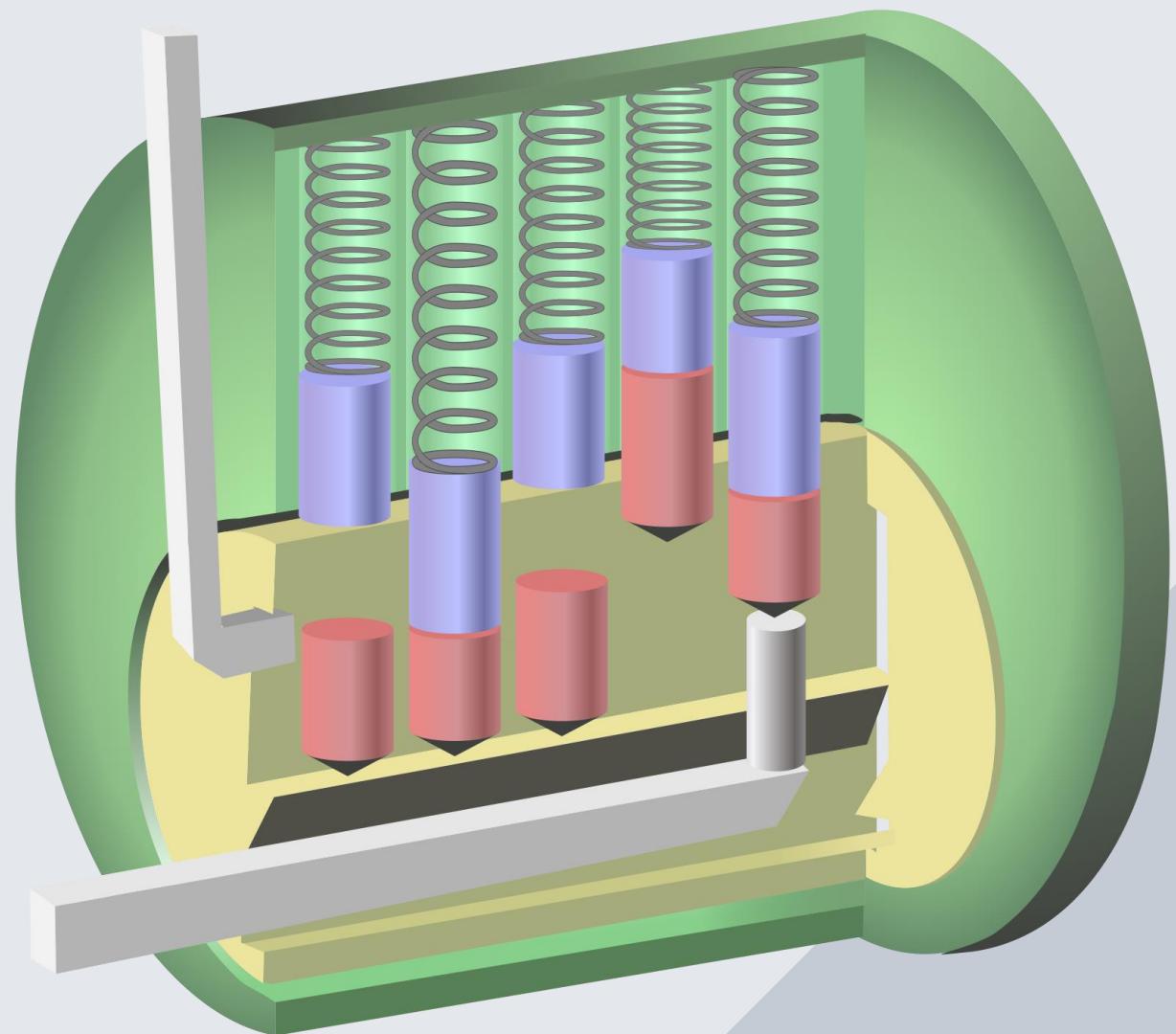
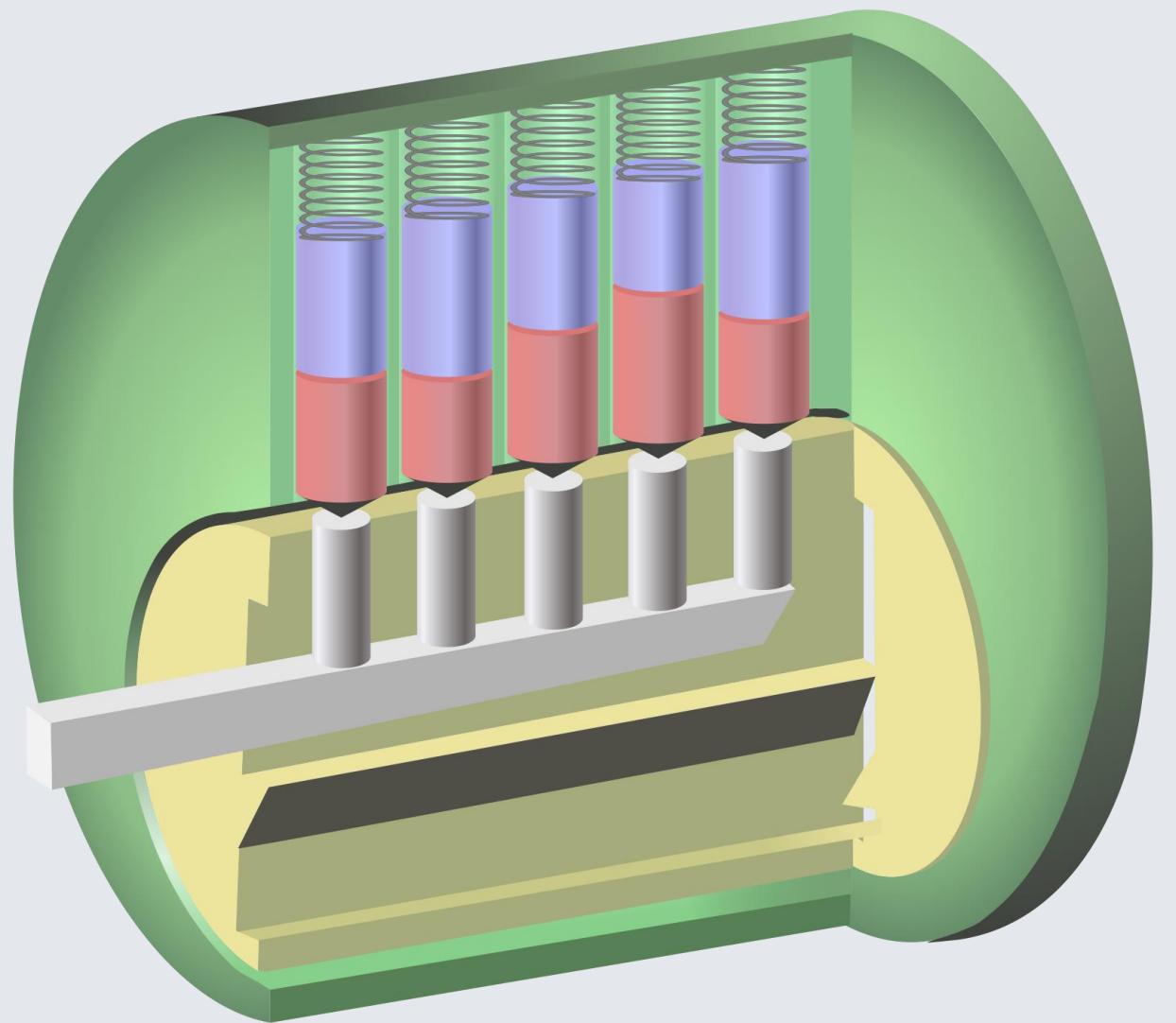


When do Locks not work?



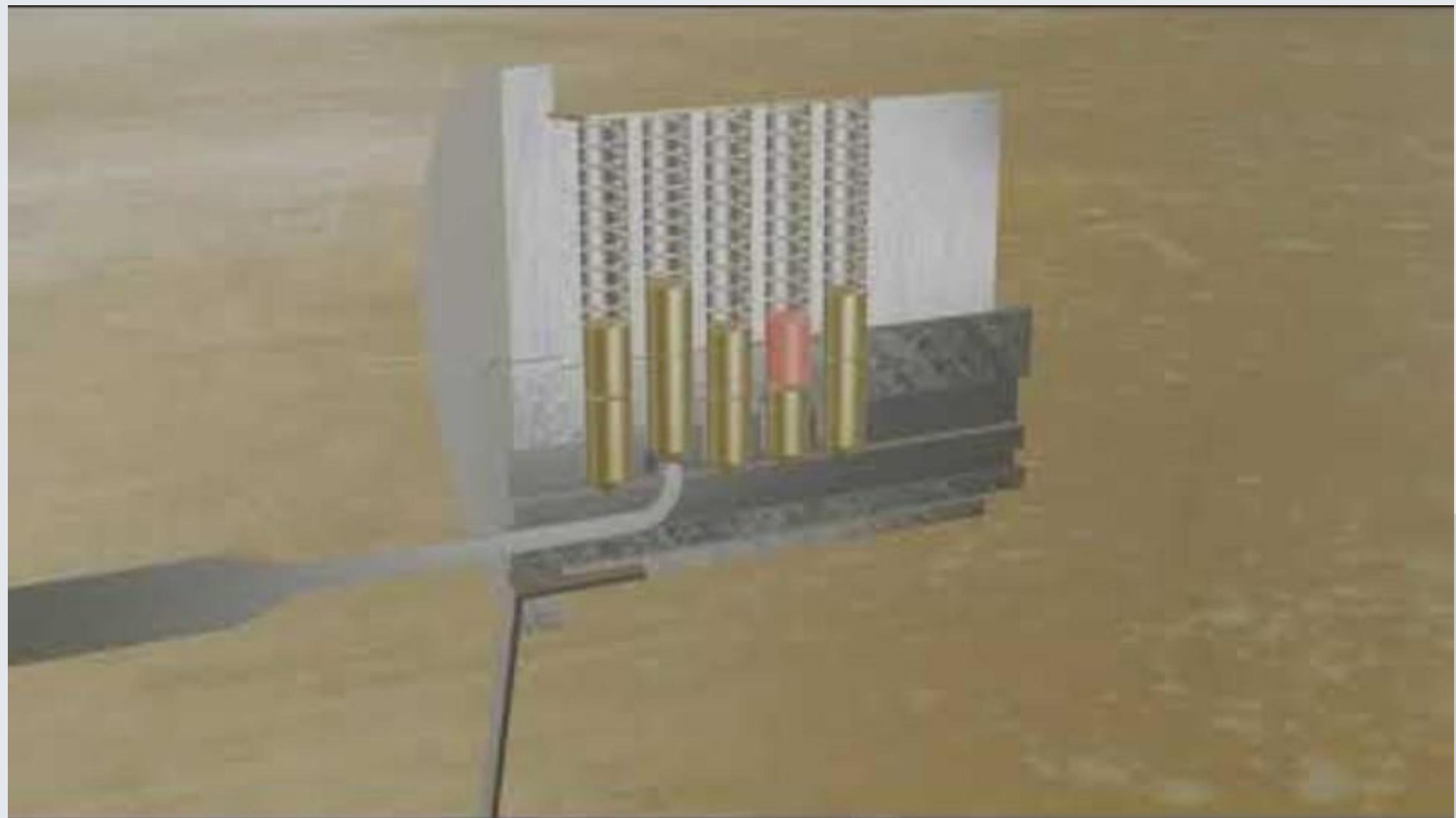
Lock Picking

Pin Tumbler Locks:



Lock Picking

Pin Tumbler Locks:



Lock Picking

Combination Locks:



Lock “Picking”



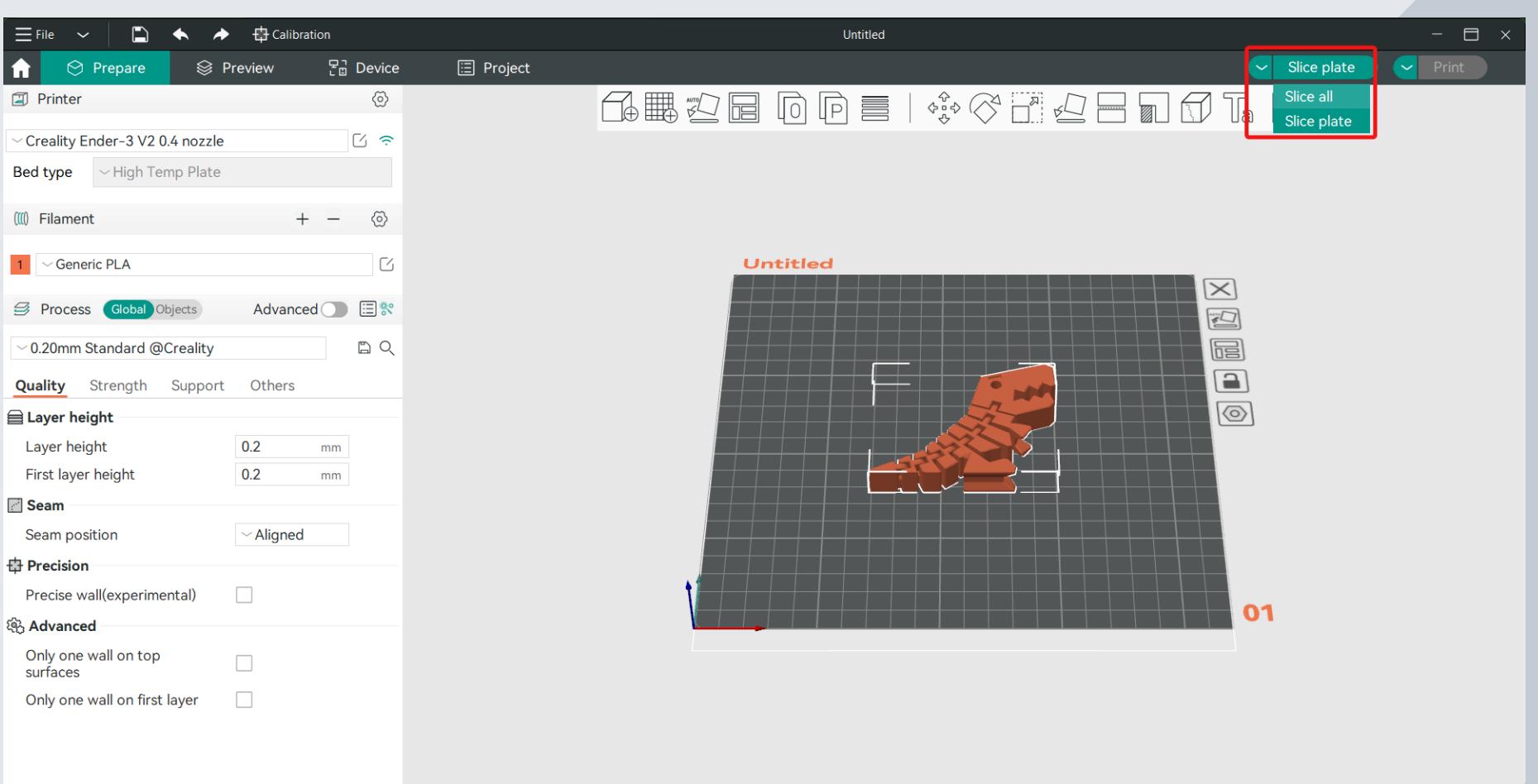
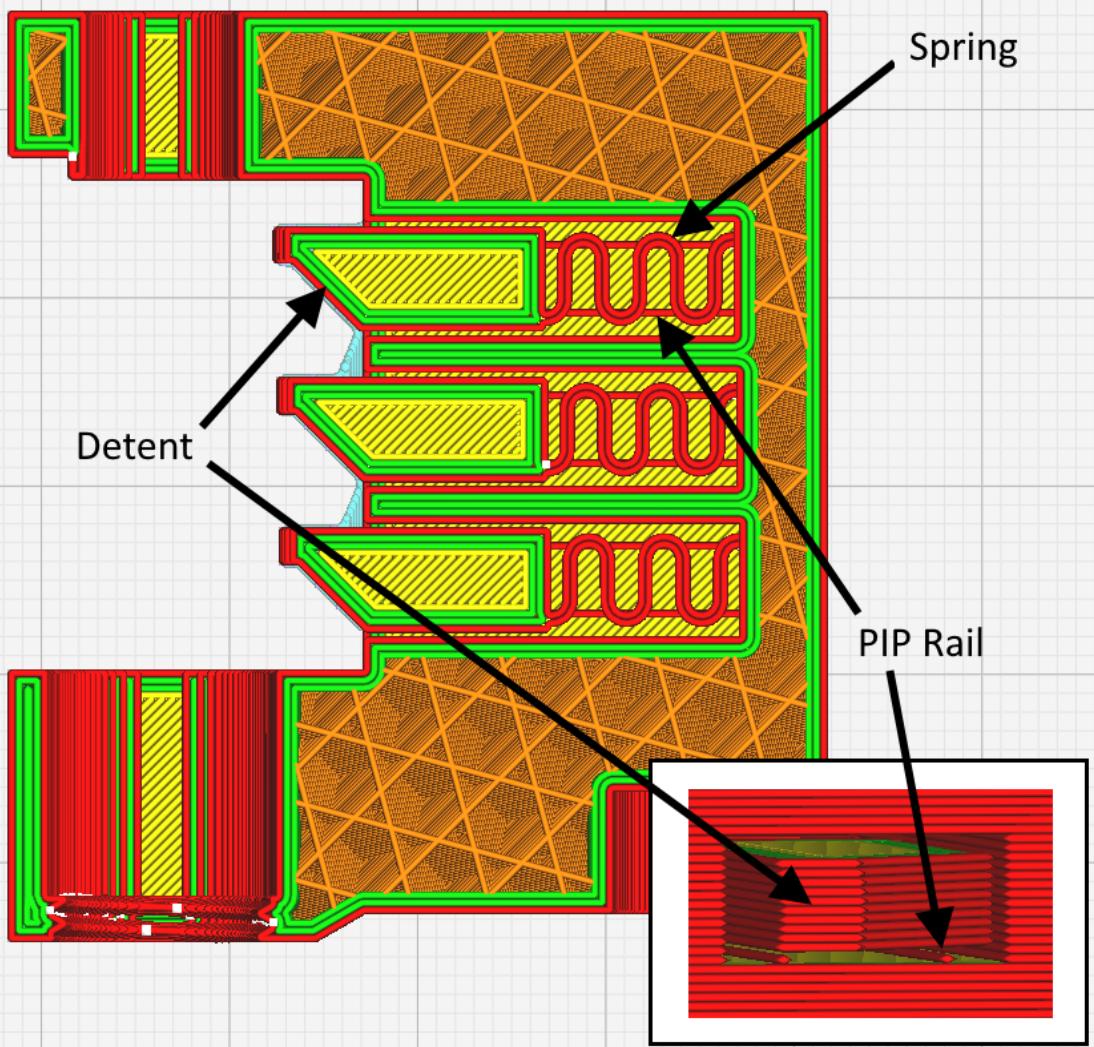
3D Printing

3D Printing, or additive manufacturing, creates objects modeled on a computer, printing the objects layer by layer. Prints can be made out of many different materials, such as ABS, PLA, TPU, and Resin



3D Printing

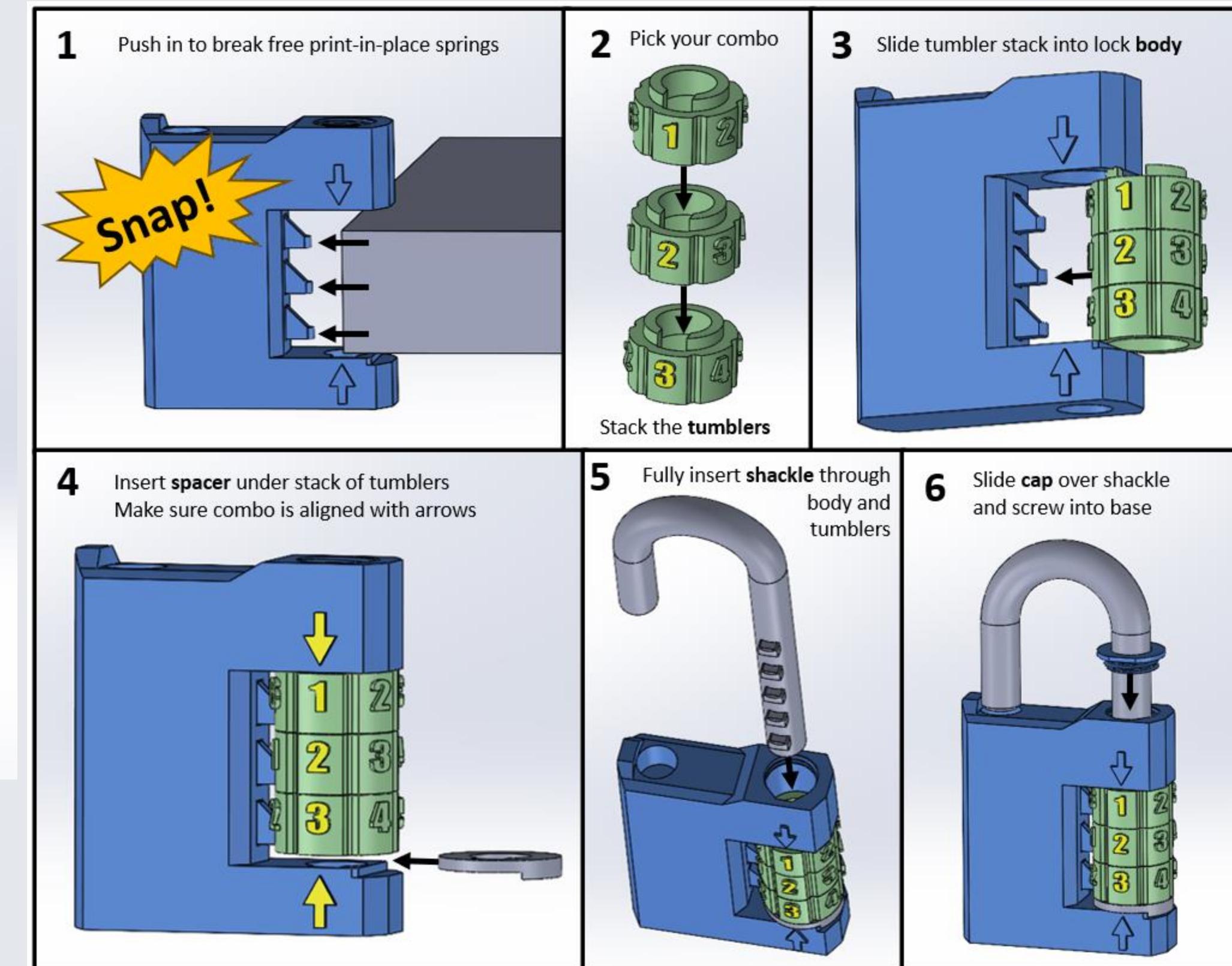
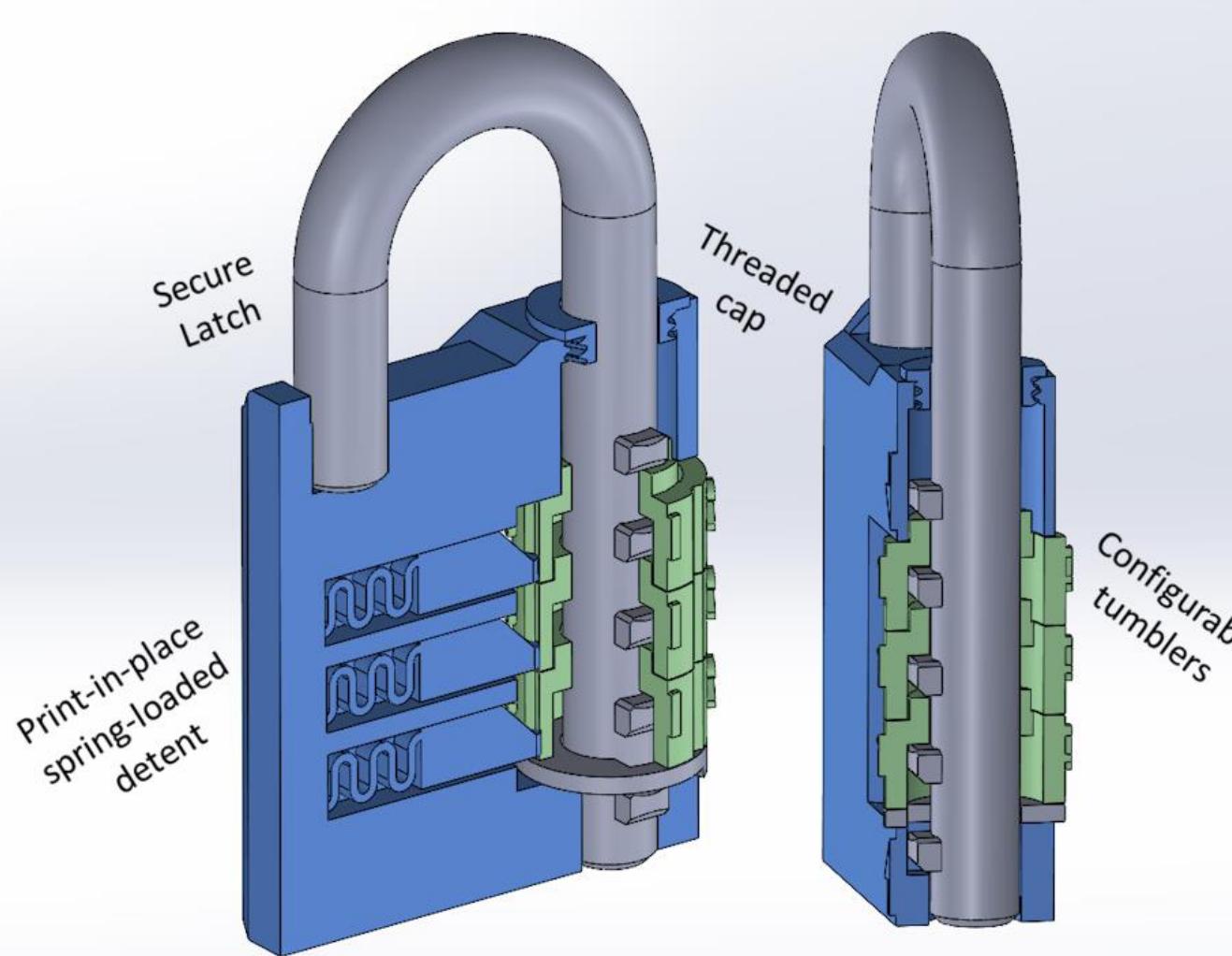
To 3D print, an object must first be modeled with dimensions in modeling software (CAD, Fusion360, OnShape, etc) and be saved as a specific file type. The slicing software will then send the object as layers to the 3D printer so it can read and print the file.



3D Printing



3D Printed Combination Lock Assembly





Thank you!

Note: Do NOT use these locks to function as actual locks, they are made from plastic and will easily break