

01

10 Cutter Blades

Puzzle Goal: Fit all 10 pieces into the rectangle tray.

Materials: Acrylic

Classification: Put-together



02

4Hex

Puzzle Goal:

Assemble the seven pieces to satisfy the following:

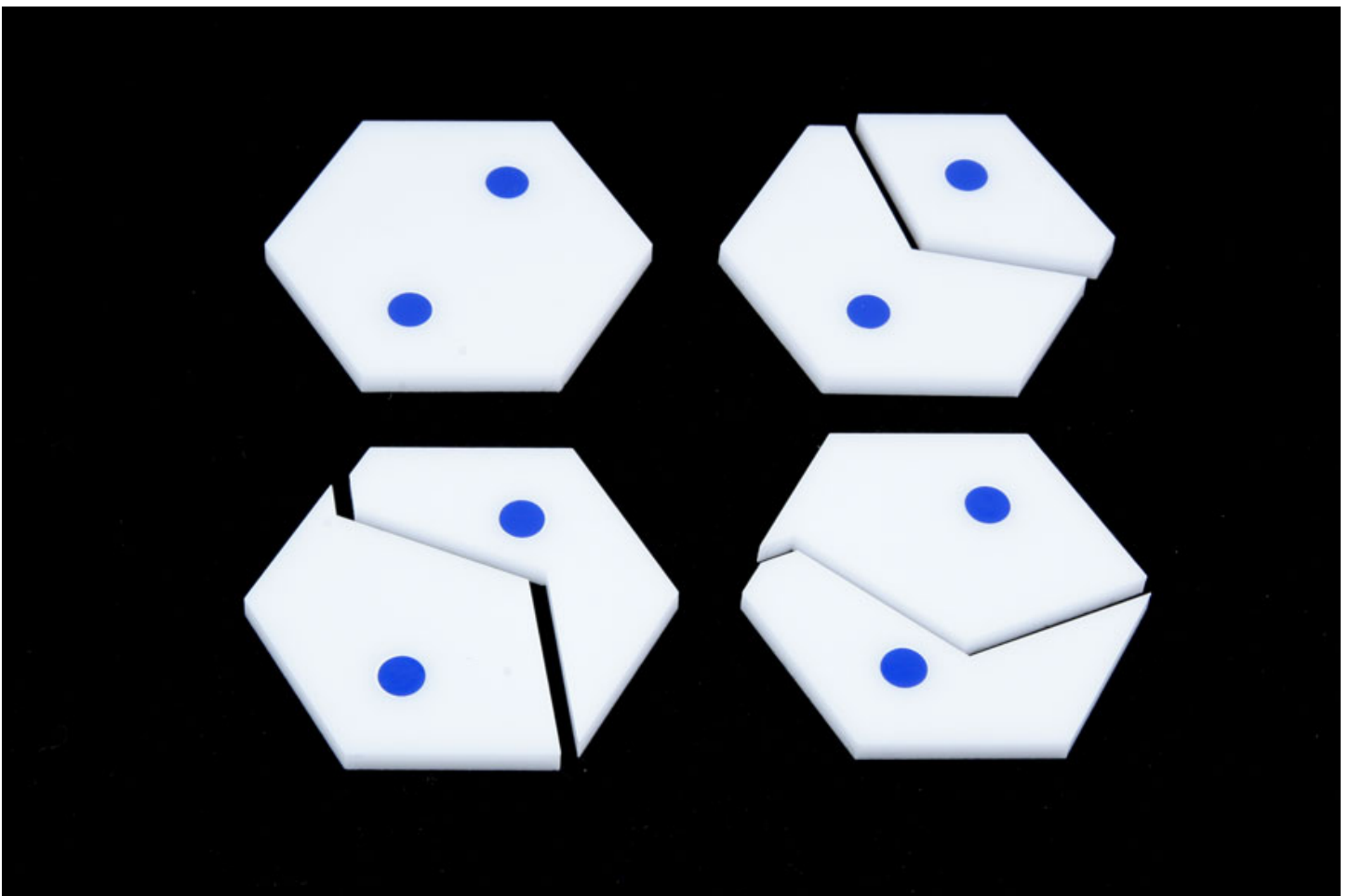
- 1) First form a shape that is made of four regular hexagons and all eight dots are visible
- 2) Form the same overall shape as in part 1, but with only seven dots visible.

Materials:

Acrylic

Classification:

Put-together



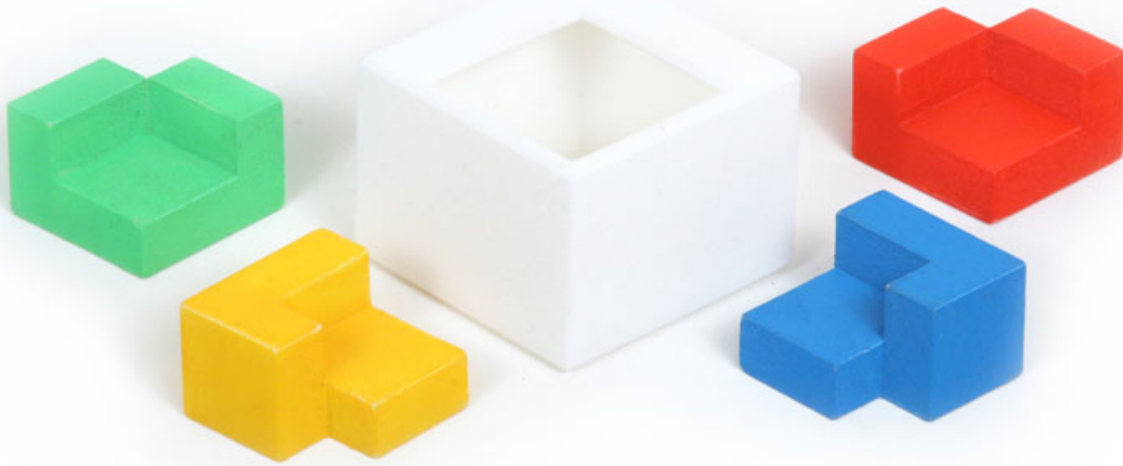
03

4x4x3 Rhombo Box

Puzzle Goal: Put the four pieces back into the box.

Materials: 3D printed, hand-colored

Classification: ASS-POLY



04

Albis Ball

Puzzle Goal: Put-together, take apart

Materials: hand-colored plastic

Classification: INT-Sphere



05

Alexandria's Diamond

Puzzle Goal: Assemble the two pieces by folding into a convex solid without holes.

Materials: 10 Rhombic bars MDF, 32 magnets and adhesive tape

Classification: ASS-POLY / FOL-HSEP



06

Ball In Cylinder No 1

Puzzle Goal: Remove the hidden ball bearing from the aluminum cylinder.

Materials: Aluminum and steel

Classification: Sequential movement, dexterity



07

Ball Snake Pyramid

Puzzle Goal: Select a challenge card (30 are included in 5 difficulty levels), and snap the pieces together in the order specified by the color sequence. Then assemble the ball snake(s) into the target shape(s), with the aid of the appropriate base plate.

Materials: 3D printed nylon and laser-cut acrylic

Classification: 3D assembly



08

Binary Bud

Puzzle Goal: 1) Rotate each of the "leaves" from the open position to the close (blocking) position. And then vice-versa.

2) Find the shortest solution with the minimum number of moves.

Materials: Acrylic, vinyl, hardware

Classification: Sequential movement

Notes: The top piece can block and be blocked by the leaves; and the leaves can block each other.



09

Books/T.V. ?

Puzzle Goal:

- 1) Orientate the four blocks like books, then like a TV screen.
- 2) Orientate books in 1234 order.
- 3) Orientate books in 4321 order.

Materials: Oak and pine

Classification: 5.3. 3D sliding



10

Bucolic Cube

Puzzle Goal: Assemble the three identical pieces into a 3×3×3 cube.

Materials: Wood (ebony)

Classification: Put-together

Notes: This is similar to Best 12 (Bram Cohen, 2010).



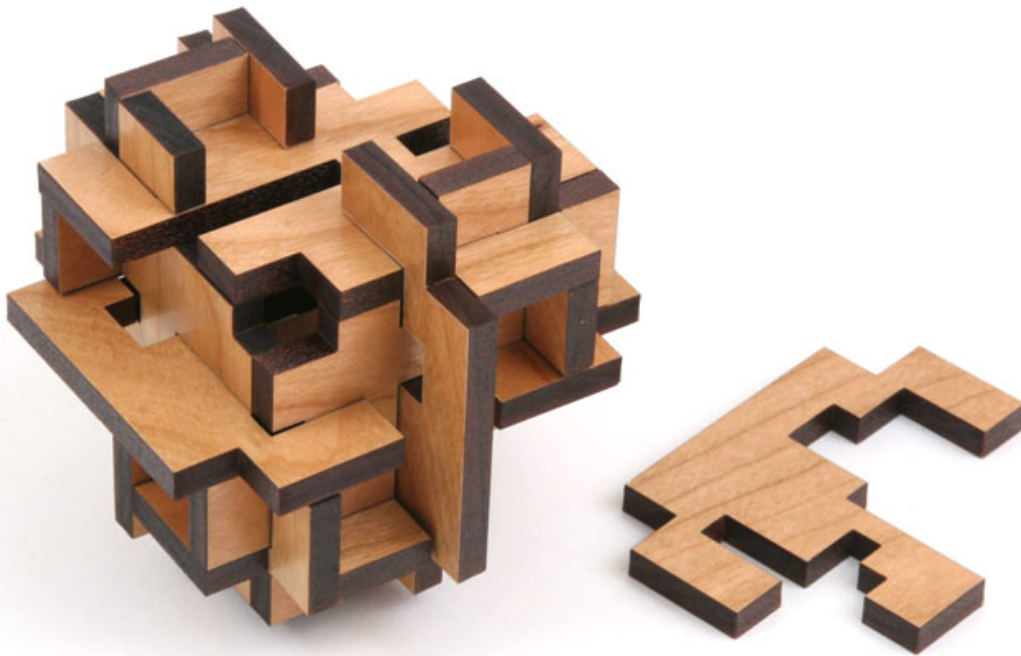
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Capsule Construction

Puzzle Goal: Take apart and put together

Materials: Cherry wood

Classification: INT-CART



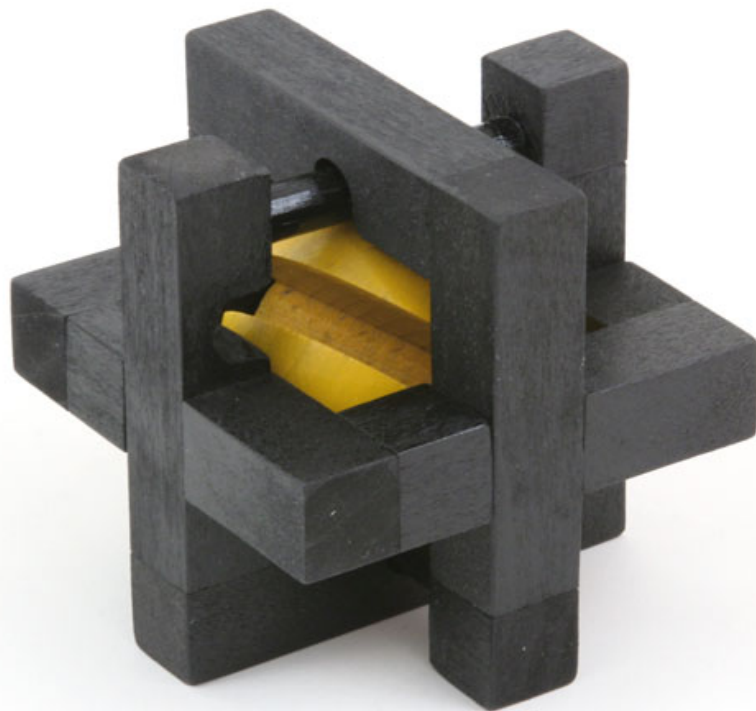
12

Clair de Lune

Puzzle Goal: Take out the "moon", then put it back into the cage.

Materials: Wood

Classification: Interlocking



13

Convergent Evolution: D'Artagnan

Puzzle Goal: Use all four pieces to make two identical shapes.

Materials: Wenge

Classification: 1.2 Three Dimensional assembly puzzle

Notes: Shapes that are mirror-images of each other are not considered identical.



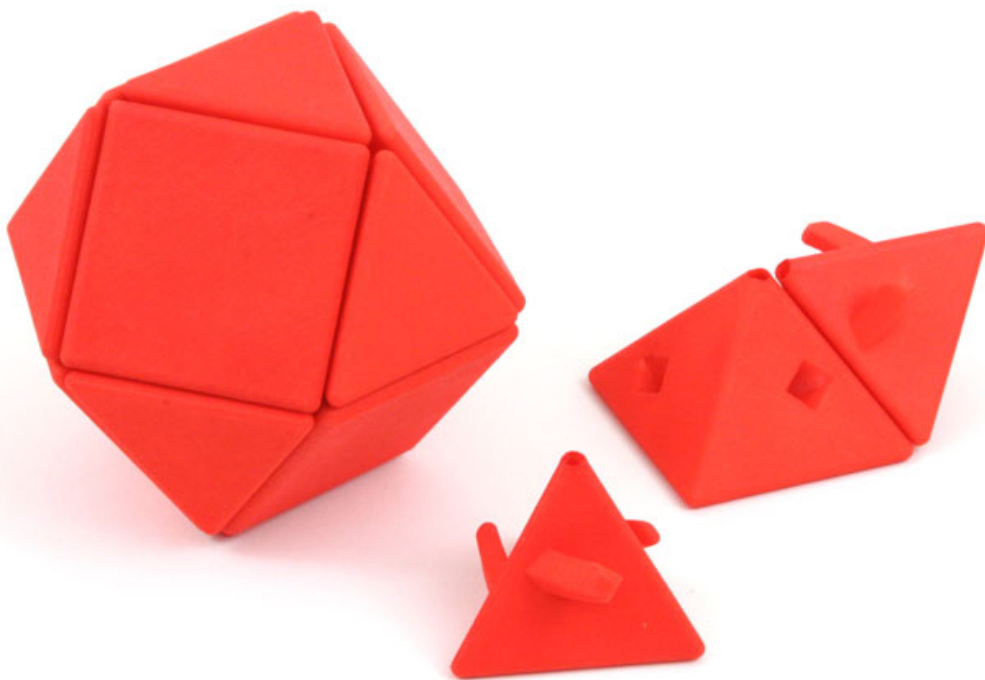
14

Cuboctahelix

Puzzle Goal: Assemble eight triangular pyramids and six square pyramids into the shape of a cuboctahedron.

Materials: 3D-printed nylon

Classification: Interlocking solid



15

Dancing Shoes

Puzzle Goal: Pack the five pieces flat into the box.

Materials: Tulipwood, kingwood, and maple

Classification: Put-together



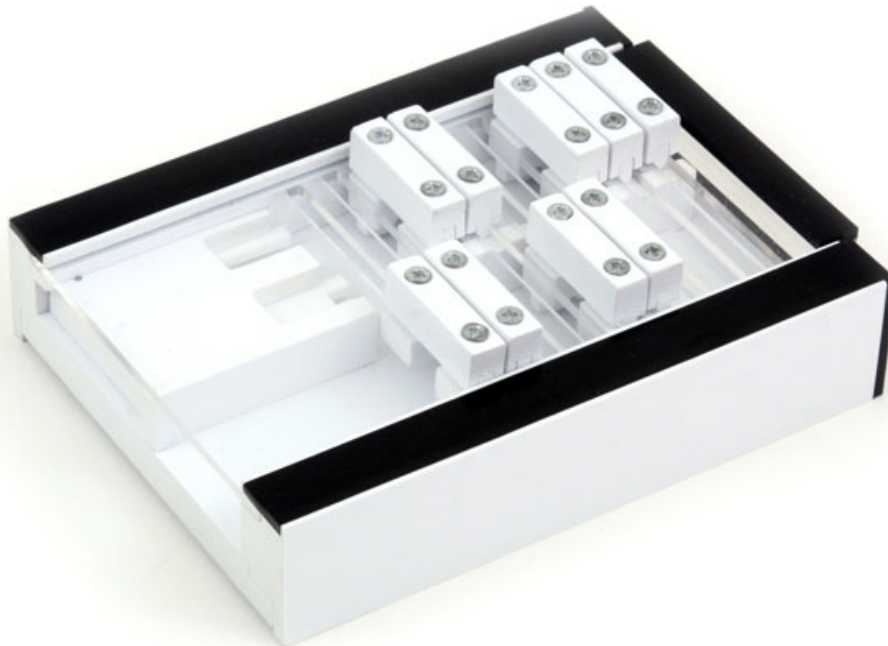
16

Dispersed GC Lock

Puzzle Goal: Move the switches from one compartment to another, so that the sliding panel can be locked or unlocked. Then move all the switches back to the original compartment.

Materials: Vinyl, acrylic, screws

Classification: Sequential movement



17

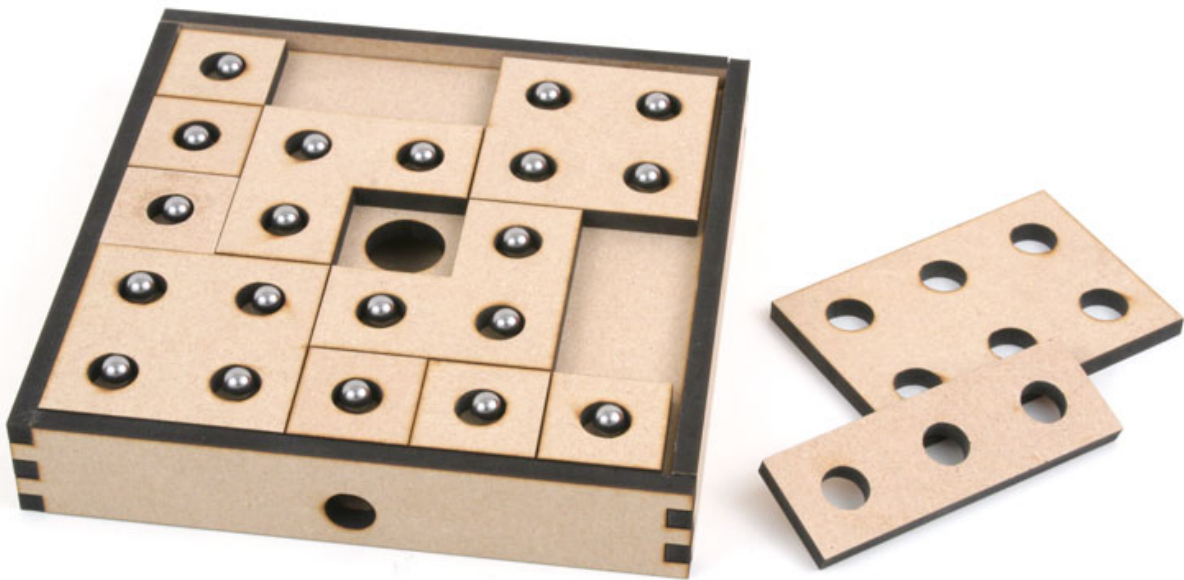
Drop Slider

Puzzle Goal: Place the blocks on the board (in one of 36 different start positions), then put a ball in each hole. Slide the blocks over the board until all the balls have dropped into the central hole.

Materials: Lasercut MDF - Steel

Classification: Sliding Blocks - Route Finding

Notes: Bonus puzzle: get the balls back out through the side hole!



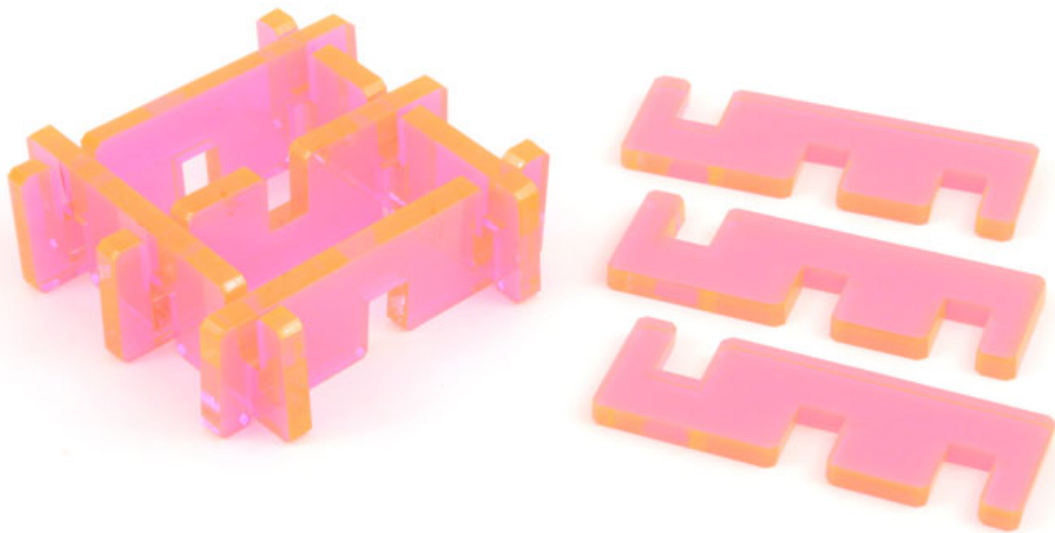
18

Eight Wrestlers

Puzzle Goal: Make an object out of the 8 pieces so that each notch is paired with another.

Materials: Acrylic

Classification: Put-together



Elevator Puzzle

Puzzle Goal: Move the square panel out of the tube.

Materials: MDF, oak, and metal pins

Classification: 3D maze and route

Notes: The square can move with gentle pushes with finger access at both ends of tube. The square has four pins in the sides. Two pins act like hinges so the square can "flip" one way, then other pins take over so the square can flip the another way. ("Flip" means a quarter rotation like a door opening.)



20

Elle

Puzzle Goal: Disassemble and reassemble the two sets of three identical pieces.

Materials: Wood

Classification: Interlocking



21

Escape from Alcatraz

Puzzle Goal: Remove the coin.

Materials: Fiberboard, steel balls, magnet

Classification: Secret opening box



22

Eyes, Nose and Mouth Puzzle

Puzzle Goal: Disassemble the "cube" into five pieces, then put back together.

Materials: Oak

Classification: 3.2. Interlocking Geometric Cube



23

Galaxy

Puzzle Goal: Take-apart the four identical pieces, and put back together.

Materials: Nylon SLS

Classification: INT-OTH



24

GEAPPLE

Puzzle Goal: Build a tetrahedron on the base. Some balls will fit into the dents of neighboring balls.

Materials: Aluminum

Classification: 3D assembly



25

Helical Burr

Puzzle Goal: Take apart and reassemble.

Materials: SLS nylon

Classification: Take-apart

Notes: There are two possible assemblies, one is very simple (a key pieces screws out), and the other is level-11.



26

Hexagonrings

Puzzle Goal: Take apart, and put back together.

Materials: Stainless steel

Classification: Disentanglement



27

Housing Crunch

Puzzle Goal: Pack the five pieces flat in the tray.

Materials: Laser-cut plywood

Classification: 2D assembly



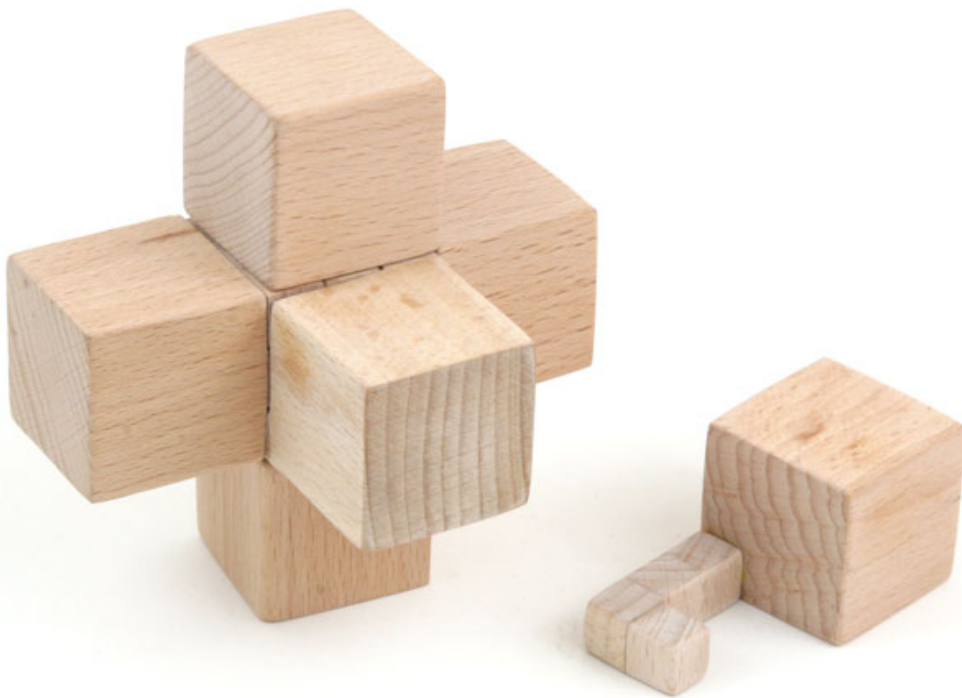
28

I'm Possible

Puzzle Goal: Assemble six pieces to form a burr-shaped figure.

Materials: Wood

Classification: Interlocking



29

The In'Possible Puzzle

Puzzle Goal: Put the pieces inside the tray.

Materials: Ebony, maple, palisander

Classification: Trick put-together



30

Karakuri Box

Puzzle Goal: Open the box.

Materials: Ash, rosewood

Classification: Take-apart



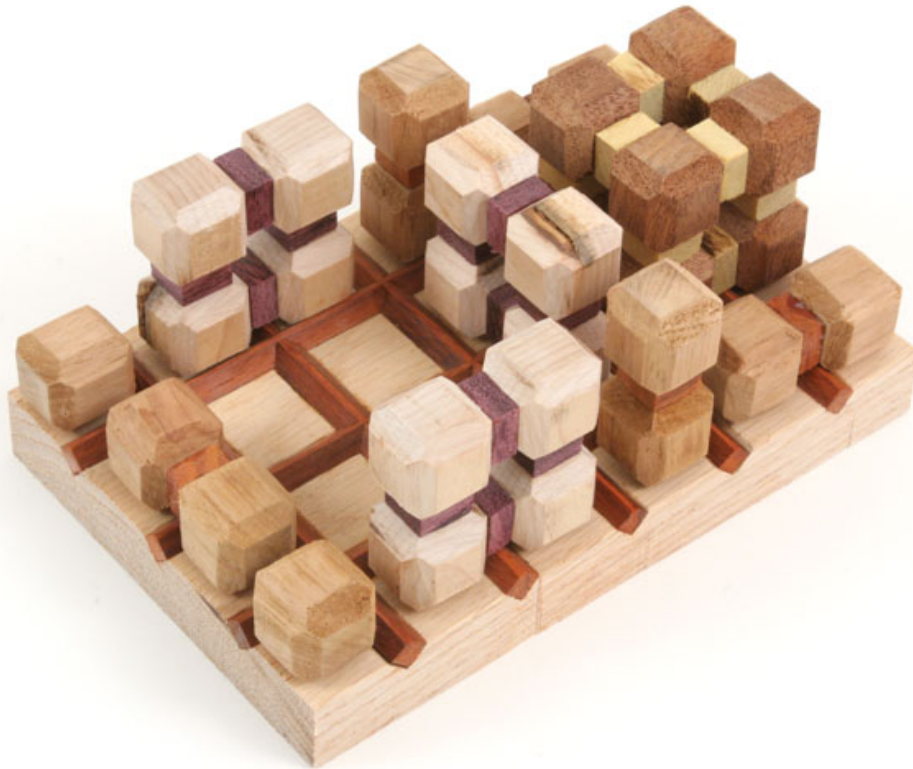
31

King's Court

Puzzle Goal: From the starting position (one of multiple challenges), move the 2x2x2 king piece to the center bottom of the board. All pieces must remain completely on the board. Pieces can only move by rolling about an edge into unoccupied regions of the grid, leaving its previous position open.

Materials: Assorted hardwoods

Classification: 5.6 Misc. Sequential movement



32

Ladder of Brahma

Puzzle Goal: Exchange the positions of the green-spot piece and the red-spot piece. The three cones can nest, and start over the red-spot piece.

Materials: Wood

Classification: Sequential movement



33

Manholes 55

- Puzzle Goal:**
- 1) Hide each ball underneath the coin (manhole) of the same color.
 - 2) Place each ball on top of the coin (manhole) of the same color.
 - 3) Without spinning the puzzle, move the balls to the green areas on each side of the street.

Materials: Wood, glass, coins, steel balls, aluminum, felt

Classification: Dexterity



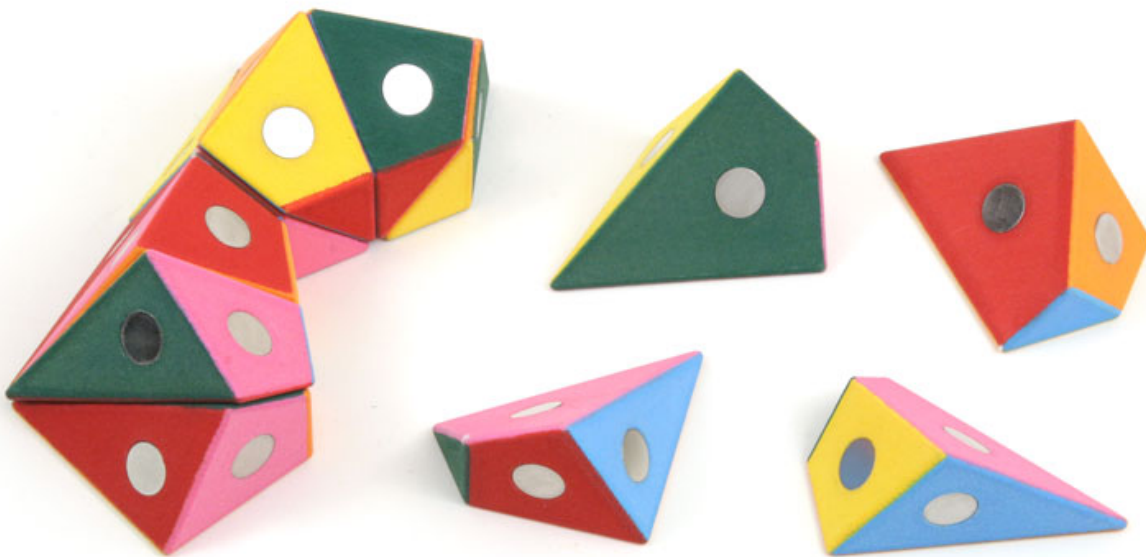
Matatom

Puzzle Goal: Make a cube using the 12 colored and magnetic pentadrons.

Materials: Plastic and magnets

Classification: ASS-POLY

Notes: The Matatom shape was discovered by Jin Akiyama, and adapted for use here as a puzzle. Using multiple sets of 12 blocks, it is possible to build a truncated octahedron, hexagonal prism, rhombic dodecahedron, and an elongated rhombic dodecahedron (the five space-filling Fedorov polyhedra).



35

MazeRoll

Puzzle Goal: Navigate the metal ball through the maze from one end to the other (and back) by following the maze paths and rotating the colored cylinder segments.

Materials: Nylon and metal ball

Classification: Sequential Movement

Notes: The cylindrical segments can be rearranged to create easier or harder challenges.



Monge's L-cubes

Puzzle Goal: Create a 3D shape with a specified top- and front-view. The shape must be stable and able to stand on a flat surface.

Materials: Walnut, maple, paper

Classification: 1.2 or 1.3 3-dimensional assembly

Notes: Many different challenge cards are provided; some require a specific number of shapes. The pieces are the six different L-tetracubes with two dark and two light cubes.



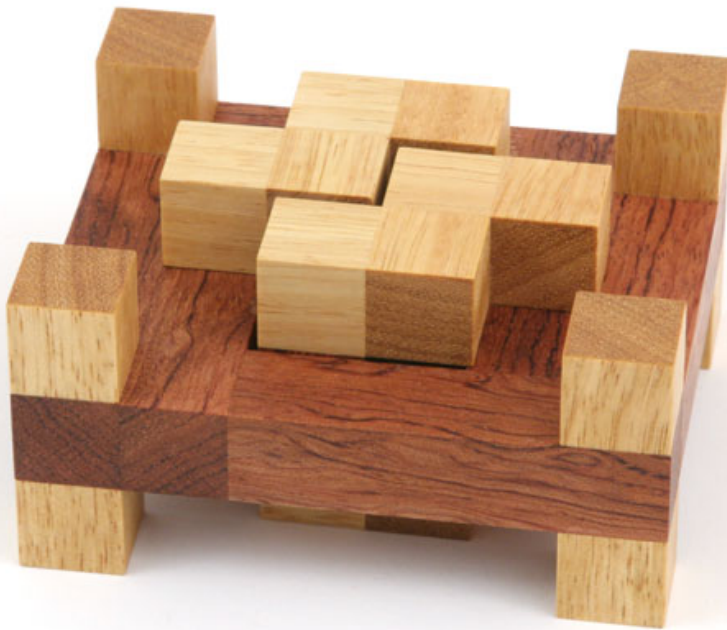
37

N-one 2

Puzzle Goal: Assemble the two pieces in the center of the frame.

Materials: Wood

Classification: Interlocking

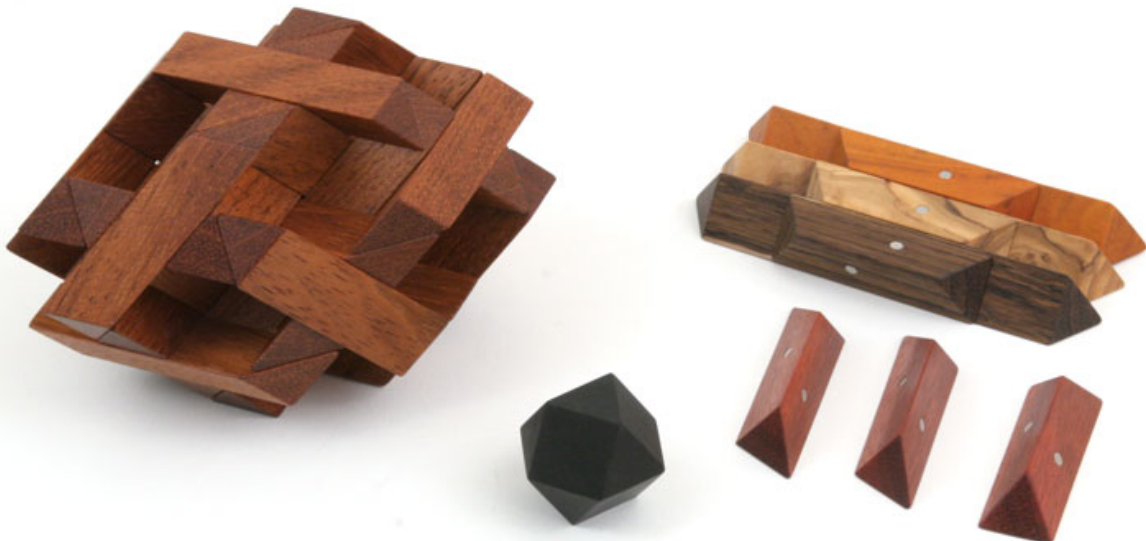


Oct-Tetaxis Assemblies

Puzzle Goal: Two assemblies can be made with the 36 sticks.
The easier (smaller) one surrounds a cuboctahedron block with twelve sticks.
The more challenging (larger) one surrounds the same block with the remaining 24 sticks.

Materials: Wood

Classification: Put-together



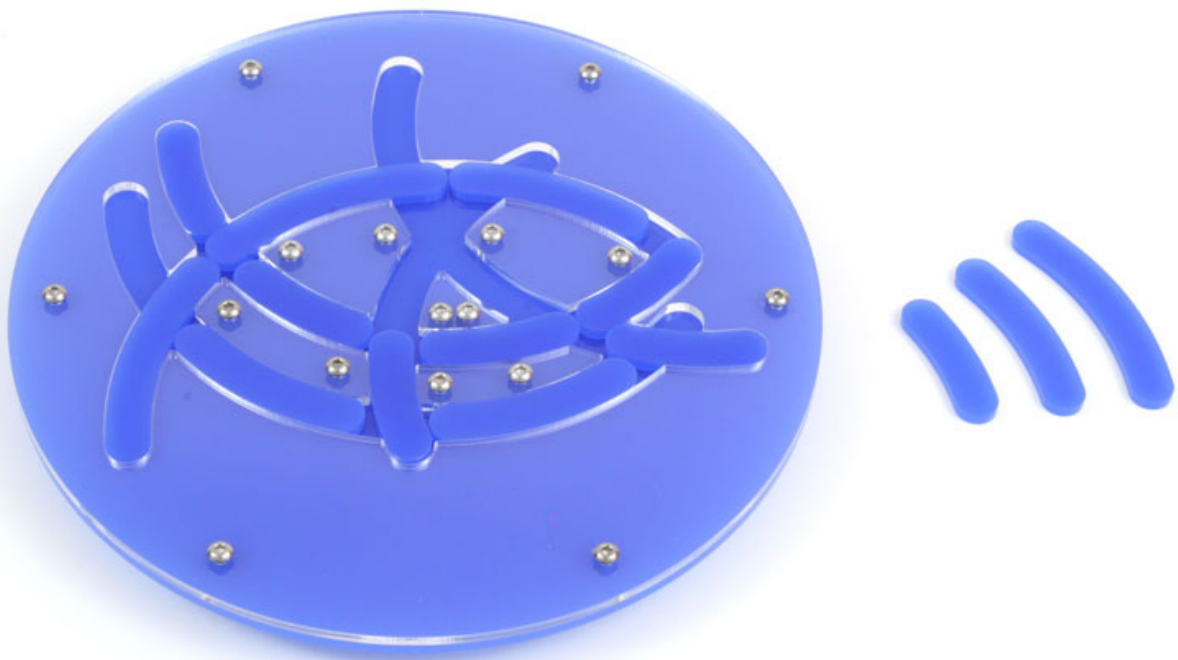
39

Phantom Fish

Puzzle Goal: Put all 14 circular segments into the tracks without overlapping.

Materials: Acrylic, stainless steel

Classification: Put-together



40

A Plugged Well

Puzzle Goal: Work your way through the puzzle to find the barrel of oil.

Materials: Walnut, steel elements, and magnets

Classification: 2.1 Trick or Secret Opening

Notes: You will have to discover a range of hidden and disguised tools to reach the final goal. No force is required to open the drawer.



41

Qin Nez Borz

Puzzle Goal: Determine how the "Impossible" nested balls were created.

Materials: Wood and electronics

Classification: Slocum 10



42

Rain Drop

Puzzle Goal: Remove the glass tube to release the \$1 bill.

Materials: Spalted curly maple, walnut, cocobolo

Classification: Take-apart



43

Rattle Twist 4

Puzzle Goal: Disassemble and reassemble the two pieces inside the frame.

Materials: Wood

Classification: Interlocking



44

Ze RD - Evil Twins

Puzzle Goal: Disassemble and reassemble the three nested geometric puzzles.

Materials: Wood

Classification: Slocum 3.2



46

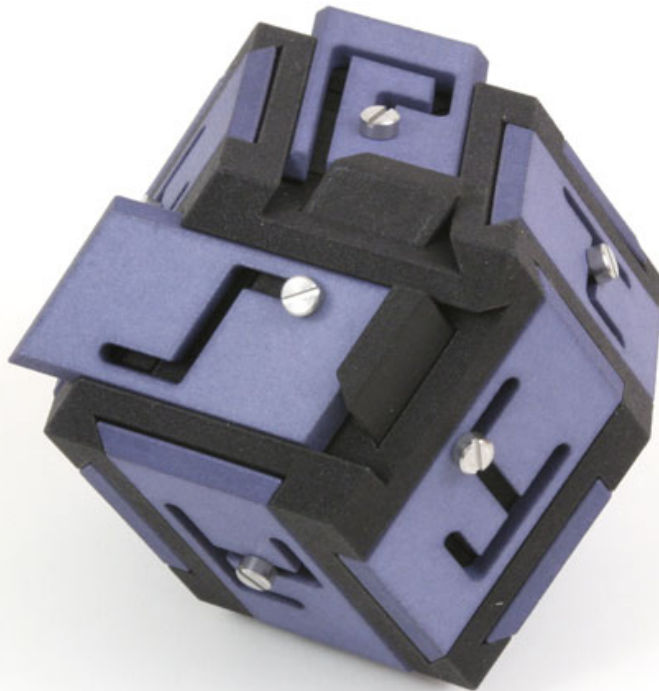
Rhombic Maze Burr

Puzzle Goal: Slide maze and pin plates to remove a single exit plate.

Materials: SLS nylon, stainless steel

Classification: Sequential movement

Notes: This is an enhancement of Kagen Schaefer's Maze Burr - using rhombic dodecahedral geometry. It allows for thousands of challenges including one requiring 379 moves to solve.



47

Ring and Cherries on a Stick

Puzzle Goal: Remove the metal ring.

Materials: Natural form of wood, metal, rope and plastic

Classification: Topological disentanglement



48

Six of One, Half a Dozen of the Other

Puzzle Goal: Disassemble and assemble.

Materials: Queensland walnut

Classification: 3.4 Burr puzzles

Notes: Magnets are used to improve the feel, and not theoretically necessary for the puzzle. The level of the puzzle is 13-1-4-1-1-2, it is challenging but not too difficult.



49

Slide Twist Twist Slide

Puzzle Goal: Make a 3x4x4 block of gold cubes.

Materials: Plastic, gold paint, 3 x Eastsheen 2x2x2s

Classification: SEQ-GRP, ASS-CART

Notes: The puzzle consists of three differently shaped parts--each with a 2x2x2 cube core which can twist and be scrambled.



50

Snake Case

Puzzle Goal: Arrange so that the snake hides completely inside its case.

Materials: Wood and cotton

Classification: 3-D assembly

Notes: No undue force is required. So please treat the snake gently, and do not stretch the snake too hard.



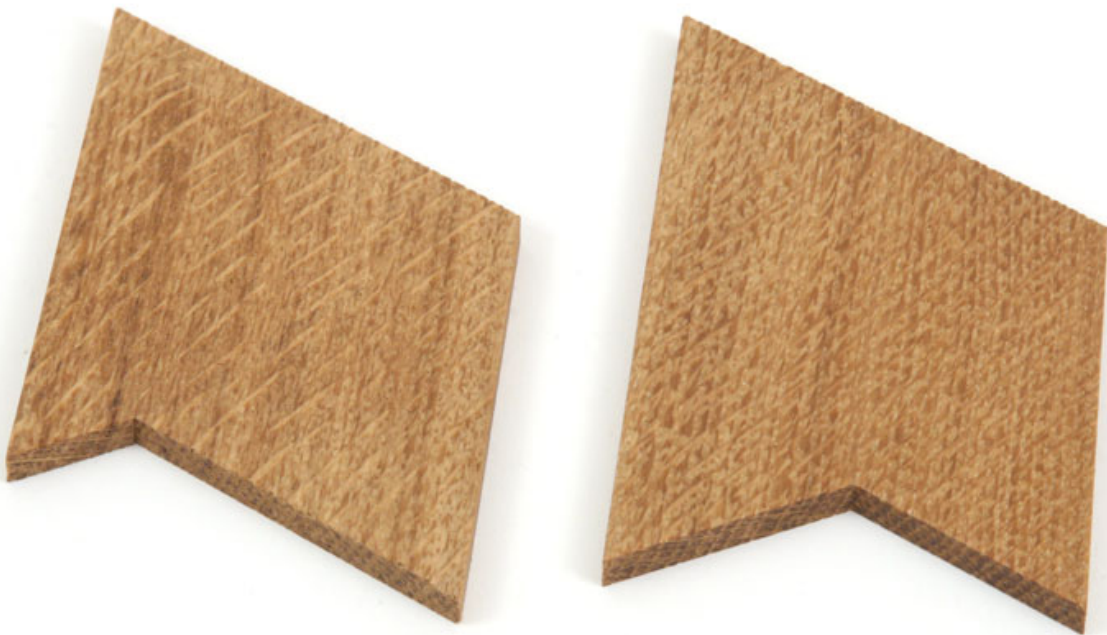
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Symmetrick

Puzzle Goal: Lay the pieces flat to make a symmetric shape.

Materials: Oak

Classification: 1.1 2-Dimensional assembly



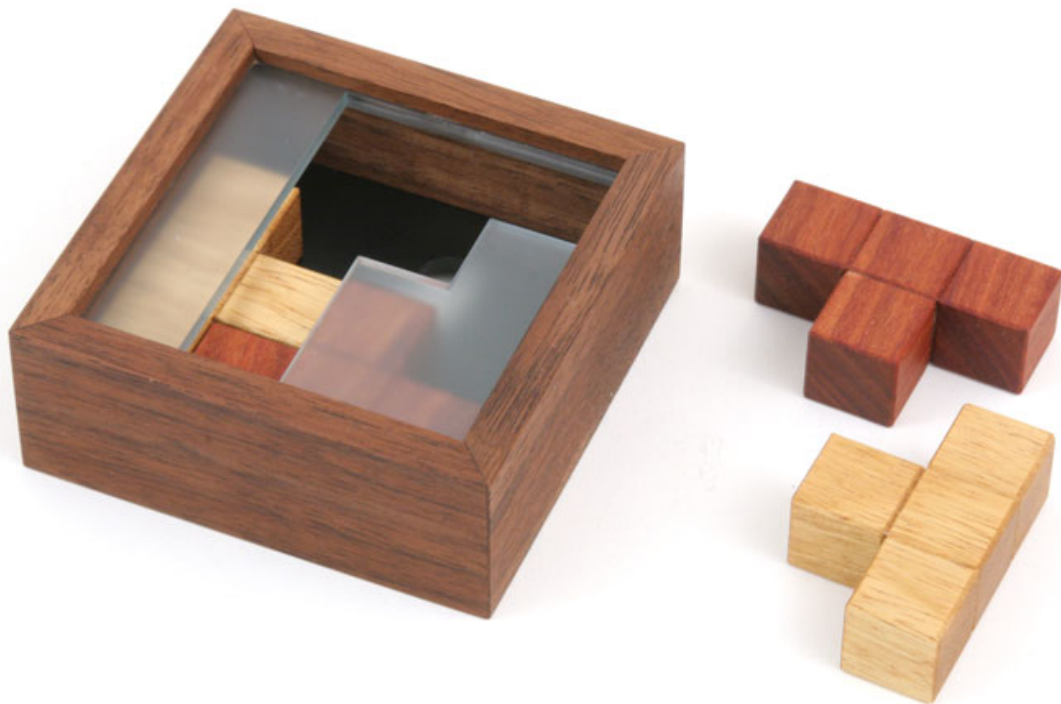
52

T4-II (Tea For Two)

Puzzle Goal: Put the four pieces into the box.

Materials: Wood, acrylic

Classification: Put-together, sliding pieces



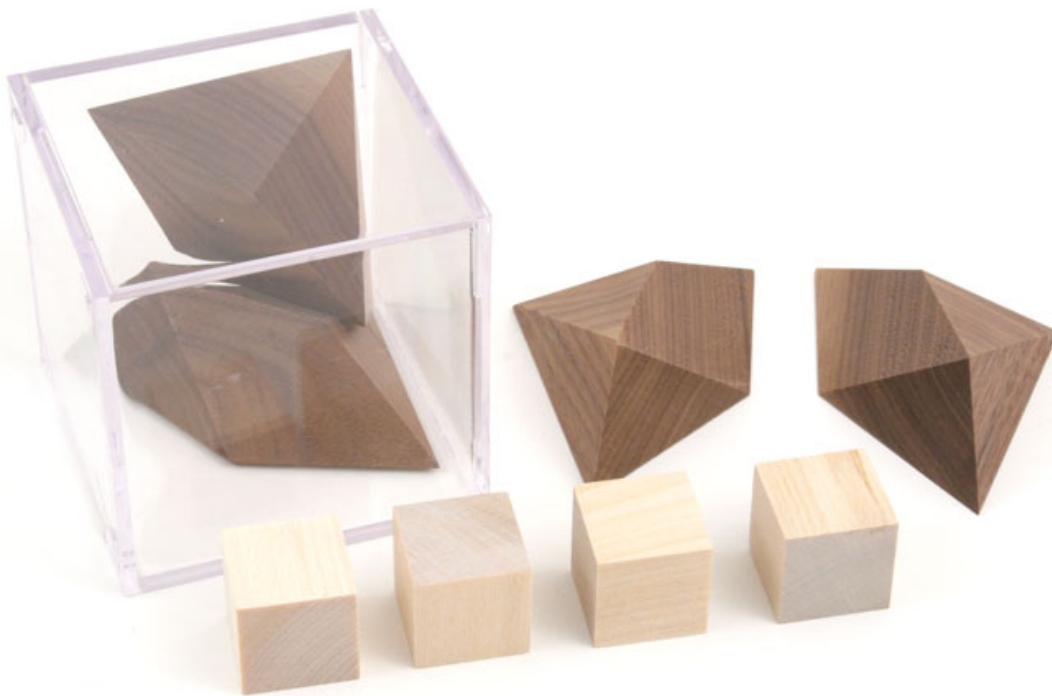
53

TetraCubed

Puzzle Goal: Fit all eight pieces into the box so that the cubes do not touch each other. Also, make a solid figure from the four dark pieces.

Materials: Wood, plastic

Classification: Put Together and box-packing, and dexterity



54

Tetrakis

Puzzle Goal: Assemble the four identical board pieces into the cubic frame.

Materials: Padauk and maple

Classification: Interlocking



55

Tetromino Tablet 18

Puzzle Goal: Put the five tetromino pieces into the frame.

Materials: Wood, MDF, acrylic

Classification: Put-together, sliding pieces



Triangle

Puzzle Goal:

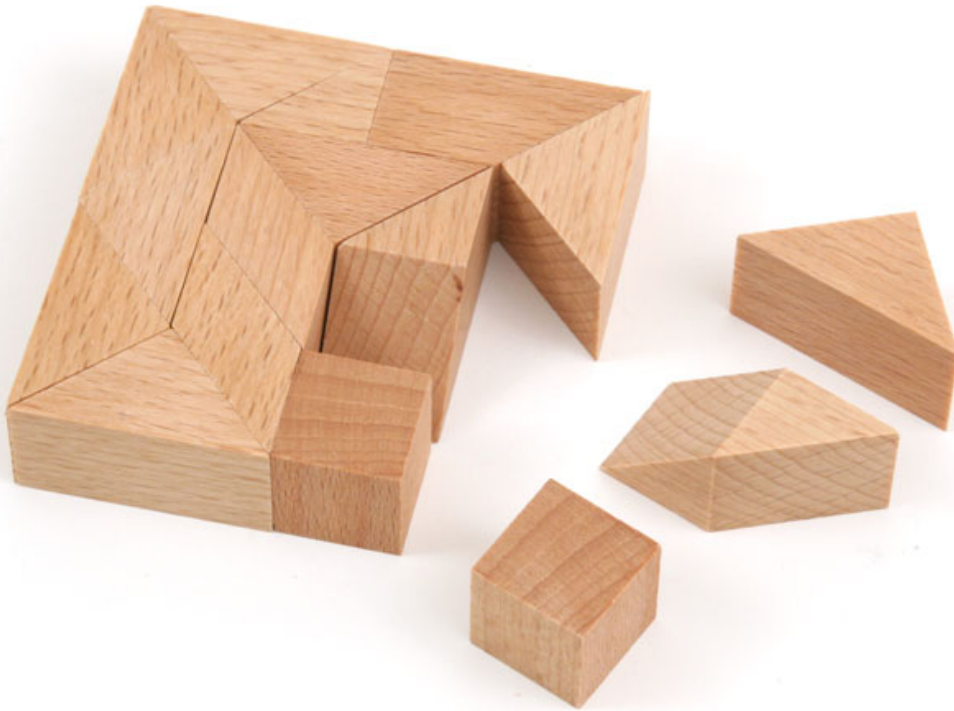
- 1) Make one square using all pieces
- 2) Make two squares using all pieces
- 3) Make as many different-sized squares as possible.
- 4) Make as many different-sized triangles as possible.

Materials:

Oiled beech

Classification:

Put-together



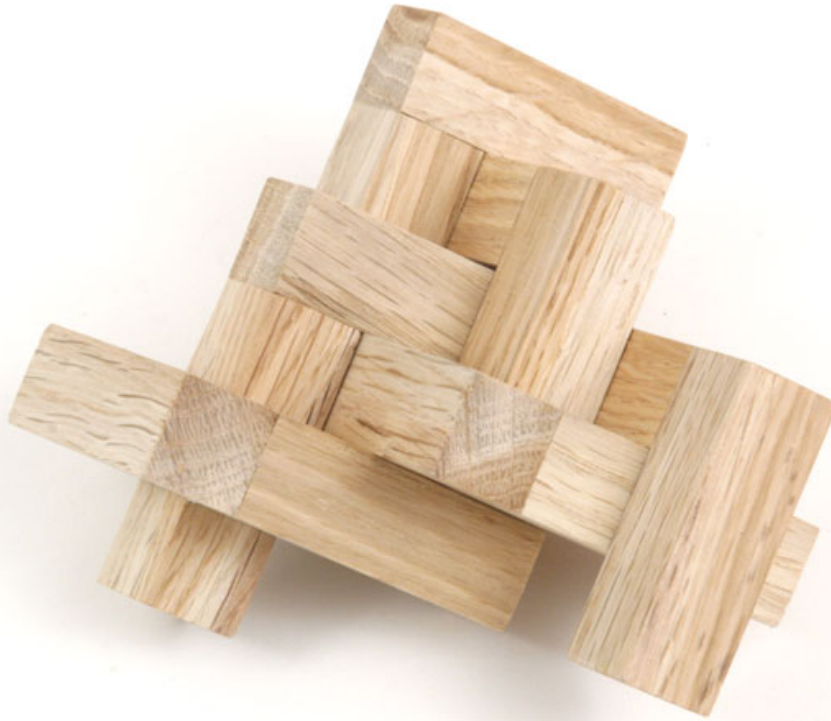
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Tri-Symmetrics

Puzzle Goal: In the given position, this object has 120° rotational symmetry. Make a new object that is even "more symmetrical": simultaneously with 120° rotational, 180° rotational, mirror, and central/point symmetries.

Materials: Oak wood

Classification: Put-together



Washington Monument

Puzzle Goal: Unlock and open the puzzle, then close and then relock it.

Materials: Wood (silver ash and jarrah), steel, and magnets

Classification: 2.1 Trick or Secret Opening

Notes: To open the puzzle, you must lock the internal gravity pins inside the round base. If you open the puzzle by chance then the gravity pins will still move freely--this is not the intended solution. To relock the puzzle, you must release the gravity pins so they move freely again.

All the tools you'll require to solve the puzzle are given with the puzzle. Take care not to lose the "lightening rod" at the top.



60

ZooLogical Garden #2

Puzzle Goal: Put four white pieces into the tray.
Put any three white pieces and the red piece into the tray.

Materials: Acrylic

Classification: Put-together

Notes: The blue piece is anchored with the screw inside the tray, but can be rotated.

