



EXPANDABLE CUBE.

phaeno

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LOOK into the mirror.

Do you see the cube?

PULL the string and watch the changes of the cube in the mirror.

DEFORM the cube by "rocking" the panel gently.

If you pull steadily and straight on the string, four different cubes will form, one inside the other.

When you move an object away from a mirror, its reflection moves back at the same rate. Thus, the dimensions of the cube increase twice as fast as your movement pulling the string. This is why the expansion of the cube seems so explosive.

When you blow something up true to scale (i.e. increase its dimensions without changing its shape), its surface area and volume do not increase at the same rate. For example, if you were to enlarge an ant tenfold, each leg would become ten times longer, but the volume of the ant would increase a thousandfold. The ant would collapse under its own weight. This is easy to comprehend with the expandable cube: Doubling the length of the edges (e.g. from one colour strip to another one) will lead to an eightfold volume.

