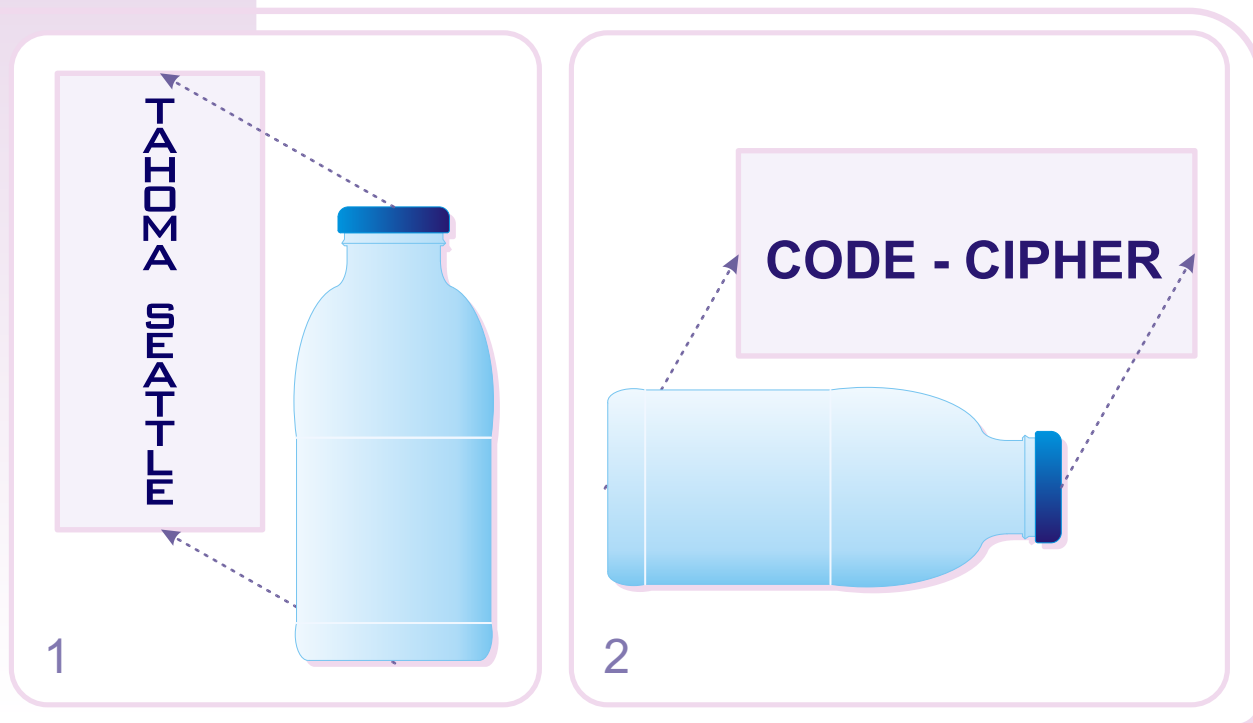


Treasure of Classic  
and Modern Puzzles

## Toys



### Bottle Toy

Write these pairs of words on the paper - as shown above.

Take a glass bottle filled with water and hold it at a distance of 4-8 inches from the paper as shown in the figures.

Now look through the bottle at the words. Which words remain the same and which change?

How do you explain this?

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## Toys



1



2

## Bottle Toy (explanation)

When you look through the bottle with the water on some things distanced from you, they appear upside-down.

In our examples these things are the words that are standing upside-down in the bottle. But as far as some letters in the words have vertical symmetry (as in Figure 1) or horizontal symmetry (see Figure 2) they remain the same.

In the first example only TAHOMA consists of the letters with vertical symmetry and that's why it remains the same while SEATTLE doesn't.

In the second example all the letters in the word CODE have horizontal symmetry, and that's why this word remains the same even standing upside-down. The word CIPHER does not have all its letters with horizontal symmetry and thus some of them are "really" upside-down.

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