

## Building (solution)

by Ong Kah Kien

The puzzle is presented in the form of an actual IKEA product assembly instructions, with the cover page missing as indicated the flavortext. The missing page is not important as the rest of the assembly instructions are not for a single actual IKEA product, but instead, each of the 8 given steps come from the assembly instructions for 8 different products. The partially-assembled products in the steps appear to have similar features, and as indicated by clues in the first three given pages, are for bookcases and shelving units. So a search of [this category of products on the IKEA Singapore website](#) would be the easiest starting point to identify the 8 products. The 8 products are mostly listed top sellers or other popular IKEA ranges such as the Billy bookcase and Lack shelf, and can be found within the first 75 entries (with half within the first 12) of this listing for IKEA bookcases and shelving units. While some of the partially-assembled products in the steps look similar, they show various distinguishing features to help in their identification and differentiating from other products. Their product names are also in given alphabetical order. The table below summarizes the products in order of the given steps in the assembly instructions:

Product name	Article no.	Helpful features for identification
BAGGEBO	<a href="#">104.838.80</a>	5-shelf bookcase, sideboards have top/bottom protrusions
BILLY	<a href="#">103.515.68</a>	Adjustable-shelf bookcase with cut-outs at base
EKENABBEN	<a href="#">604.878.14</a>	Wooden frame (connectors are dowels) open shelving
FJÄLLBO	<a href="#">103.392.94</a>	Metal frame and mesh shelf
JONAXEL	<a href="#">604.313.13</a>	Step shows the assembled product
KALLAX	<a href="#">203.518.84</a>	Grid wooden shelving
KOLBJÖRN	<a href="#">504.092.99</a>	L-frame metal legs have adjustment screw-tips at base
LACK	<a href="#">402.821.87</a>	Step shows the assembled product

While the products could potentially be identified from the images of the assembled products, the puzzle being presented in the form of actual assembly instructions hints that these are important too. Comparing the given steps with their respective actual product assembly instructions, they are identical except for the step number. The corresponding step numbers in their actual assembly instructions are unique and form a new ordering from 1-8. Each product also has a screw part from their assembly instructions that matches one of those shown in the third page of the puzzle. As confirmation, the matching screws are also in the same product ordering as the actual step numbers. The table below summarizes these:

Product name	Actual step no.	Matching screw	No. of screws	Extracted letter
LACK	1	109053	2	A
EKENABBEN	2	109560	6	B
BAGGEBO	3	100229	6	B
JONAXEL	4	111579	4	A
KOLBJÖRN	5	10005716	4	B
KALLAX	6	100372	2	A
BILLY	7	118331	4	L
FJÄLLBO	8	139212	4	L

The given number of each type of screw can be used as an index into the product name to extract a letter each. These letters form **ABBA BALL**, a brand and type of screw, and the answer for this puzzle. ABBA also happens to be an indirect reference to the famous Swedish band, another iconic brand from Sweden, just as IKEA.

Constructor's notes:

The answer for this puzzle is not a common phrase, so I needed to contextualize it with the aid of the puzzle and its theme. A building puzzle fit the answer and round theme well, and in a home DIY challenge setting, I gravitated towards the idea of a puzzle around assembling IKEA products. As with any puzzle theme, it is important to incorporate the familiar or key elements into the puzzle itself, rather than just making minor references as a source. So in this case, IKEA's well-known wordless assembly instructions for its products became the graphical focal point for this puzzle. I also took the opportunity to use some of IKEA's more popular products, which hopefully solvers could recognize and find easier identifying. The extraction approach was one of the early ideas to thematically link back to the answer, and could fit smoothly into the assembly instructions without appearing odd or too obvious.