

The backpack

The backpack's visible affordances include two large straps that allow the arms to fit through and a smaller strap where a whole arm couldn't fit through, only a hand. The straps afford carrying the backpack, either on the back or in a hand. There are three zippers that open up pockets varying in sizes. The zippers afford opening up the backpack and the empty space of the pockets affords space to put objects into. The different pockets also afford organizing objects into the backpack, so that it is easier to find them later on. Two bands that are attached to the long straps allow the person using the backpack to optimize the length of the straps and therefore affords comfort and a personalized setup. Because the back of the backpack is stabilized and harder than the rest of the material, it affords support for the back. The shape of the backpack affords standing up.

Some more hidden affordances include the possibility of using the backpack as a shield or hiding something in it, that's why at airports, every backpack must be checked, inside could be harmful objects. The backpack's straps afford hanging up, the lightness of the backpack affords throwing. The flat surface affords standing, sitting or resting on it.

The earliest version of a backpack was found with the mummified Ötzi who died in 3300 BC. In his wooden backpack, he carried hunting tools and fire equipment. Ever since, humans have used backpacks in different versions to transport and carry things from one place to another. The loanword "rucksack" is of German origin. "Ruck" comes from "Rücken", which means "back" and "sack" means "bag". So, it is a sack carried on the back. Some precursors of modern-day backpacks include the "haversack" from the German "Hafersack" meaning "oatsack" which was a small cloth bag that was worn over the shoulder with one strap and contained oats to feed horses. During the second world war, the British Army used the "Bergen rucksack", a large backpack with a big capacity named after its creator, Norwegian Ole Bergan.

There are two big straps and one small strap. As the arms wouldn't fit through the small strap but only a hand or a foot could, it is this is an obvious constraint on how to fit it with one hand. The two big straps make it clear that there's more room, for example an arm to fit through, which makes it clear that these are the straps that can be used to carry the backpack on the shoulders. The zippers have a small handle, that can be manipulated with two fingers, opening up the backpack.

The material that the backpack is made from is 77% polyester and 23% nylon. This material is closely woven, and its constraint is that it has to be able to contain heavy subjects without ripping apart when hanging from the wearers shoulders or standing on uneven ground. Similarly, the zipper is made out of metal to keep heavy contents inside the backpack.

There is an environmental constraint when it comes to water. The backpacks surface can absorb a small amount of water when exposed to rain and it will protect the objects inside from getting wet, but this is not possible with large amounts of water.

Backpacks are usually worn on the back although they could also be carried in the front. They could also be worn or carried on the head or upside down, but in our society, there is a specific approach on how to use and wear a backpack. Backpacks are also mostly seen in schools, where students carry their books, pens and lunchboxes around in them. They are associated with school, but also the outdoors, for hiking for example, and sports. They are not used in very formal settings such as a business meeting, where people would bring their briefcase. Another example where backpacks would not be seen very often is at a chick restaurant.





