subspace topology

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Defines	topological subspace
Defines	subspace

Let X be a topological space, and let $Y \subset X$ be a subset. The *subspace topology* on Y is the topology whose open sets are those subsets of Y which equal $U \cap Y$ for some open set $U \subset X$.

In this context, the topological space Y obtained by taking the subspace topology is called a *topological subspace*, or simply *subspace*, of X.