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Ronald J. Gould* (rg@mathcs.emory.edu), Department of Mathematics and Computer Science,
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A graph G on n vertices is said to be H -saturated if G does not contain H as a subgraph, but the addition of any new edge to G produces H as a subgraph.

One of the classic questions in graph theory is what is the maximum number of edges in a graph that fails to contain H as a subgraph, that is, what is the maximum size of an H -saturated graph? This number is denoted $ex(n, H)$. This question has seen considerable work and produced a deep and rich theory.

The other extreme has been far less studied. That is, what is the minimum number of edges in an H -saturated graph? This is called the saturation number of H and is denoted by $sat(n, H)$.

In this talk we survey some of the basic facts about saturated graphs and recent results on saturation numbers. (Received August 25, 2009)