visualizations of exterior forms

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There are (relatively) easy ways to visualize low-dimensional differential forms [?]:

A 1-form is locally like a stack of papers; given a vector, it returns a number: how many sheets the arrow pierces.

A 2-form takes a pair of arrows and returns the "area" of the parallelogram they define.

A 3-form takes a triple of arrows and returns the "volume" of the parallelliped they span. This explains why in three dimensions there's only a one-dimensional space of 3-forms, and why a global one-form tells you about orientation.

References

[1] Misner, Thorne, and Wheeler, "Gravitation", Freeman, 1973.

Editorial note: Descriptions of these with pictures would be nice (especially for helping to visualize de Rham cohomology). Maybe they would be better off in an attached entry, though.