



## Brain-Powered Science: Teaching and Learning with Discrepant Events - PB271X

By Thomas O'Brien

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### Brain-Powered Science: Teaching and Learning with Discrepant Events - PB271X By Thomas O'Brien

Each of the 33 activities in this book is based on the science behind a discrepant-event activity. A discrepant event in science teaching is an experiment or demonstration in which the outcome is counterintuitive not what the students would expect. The discrepant event not only gets the students attention but also is a demonstration of a major science concept. In this book, the concept is discussed at length in each activity. What makes this book unique is that in addition to the extensive science content mostly physical science but some biology and chemistry each activity has a science education component, in which the discrepant event is shown to be analogous to a pedagogical principle. For example, in the Science Education Concept section of the activity on optical illusions, the author points out that just as visual observation is not a passive activity, neither should learning be passive. All learning should be of a minds-on, constructive nature. The author elaborates at length on this analogy and on similar analogies between the discrepant event and pedagogical principles in each activity. The book offers more than 200 up-to-date internet URLs on science content and science education concepts.

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