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Titolo	Scientific argumentation in biology : 30 classroom activities / / Victor Sampson, Sharon Schleigh
Pubbl/distr/stampa	Arlington, Virginia : , : NSTA Press, National Science Teachers Association, , [2013] 2013
ISBN	1-936959-56-9
Descrizione fisica	1 online resource (xli, 382 pages) : illustrations, map
Collana	Gale eBooks
Disciplina	570.71/2
Soggetti	Qualitative reasoning Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- [Section 1] Generate an argument -- Activity 1. Classifying birds in the United States: species concept -- Activity 2. Color variation in Venezuelan guppies: mechanisms of evolution -- Activity 3. Desert snakes: mechanics of evolution -- Activity 4. Fruit fly traits: genetics -- Activity 5. DNA family relationship analysis: genetics -- Activity 6. Evolutionary relationships in mammals: genetics and evolution -- Activity 7. Decline in saltwater fish populations: ecology and human impact on the environment -- Activity 8. History of life on Earth: trends in evolution -- Activity 9. Surviving winter in the dust bowl: food chains and trophic levels -- Activity 10. Characteristics of viruses: characteristics of life -- [Section 2] Evaluate alternatives -- Activity 11. Spontaneous generation: cell theory -- Activity 12. Plant biomass: photosynthesis -- Activity 13. Movement of molecules in or out of cells: osmosis and diffusion -- Activity 14. Liver and hydrogen peroxide: chemical reactions and catalysts -- Activity 15. Cell size and diffusion: diffusion -- Activity 16. Environmental influence of genotypes and phenotypes: genetics -- Activity 17. Hominid evolution: macroevolution -- Activity 18. Plants and energy: respiration and photosynthesis -- Activity 19. Healthy diet and weight: human health -- Activity 20. Termite trails: animal behavior -- [Section 3] Refutational writing -- Activity 21. Misconception about theories and

laws: nature of science -- Activity 22. Misconception about the nature of scientific knowledge: nature of science -- Activity 23. Misconception about the work of scientists: nature of science -- Activity 24.

Misconception about the methods of scientific investigations: nature of science -- Activity 25. Misconception about life on Earth: evolution -- Activity 26. Misconception about bacteria: microbiology -- Activity 27.

Misconception about interactions that take place between organisms: ecology -- Activity 28. Misconception about plant reproduction: botany -- Activity 29. Misconception about inheritance traits: genetics -- Activity 30. Misconception about insects: ecology -- Assessment and student samples.

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#### Sommario/riassunto

This resource will help teachers improve high school students' understanding of argumentation and evidence-based reasoning. It combines theory, practice, and biology content.

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