Science Learning Methods

1 Hands-on Approach. Children need active opportunities to manipulate science, to handle science, and to get down and dirty with science. A hands-on approach to science has long been promulgated as one of the most effective instructional strategies for any elementary teacher.
2 Process Orientation. Focusing on the processes of science (e.g., observing, classifying, measuring, inferring, predicting, communicating, and experimenting) helps students appreciate science as a "doing" subject, one that never ends, but rather offers multiple opportunities for continuing examination and discovery.
3 Integrated Curriculum. When science is integrated into all aspects of the elementary curriculum, students begin to understand its relevance and relationship to their daily lives outside the classroom. Children begin to comprehend the effect science has on daily activities, both in the present and in the future.
4 Cooperative Learning. When children are given opportunities to share ideas, discuss possibilities, and investigate problems together, they can benefit enormously from the background knowledge of their peers, as well as from the strength that comes from a group approach to learning.
5 Critical Thinking. One of the issues classroom teachers have wrestled with for many years concerns the need to help students become independent thinkers. In other words, effective science instruction is not dependent on helping students memorize lots of scientific information, but rather on assisting them in being able to use that data in productive and mutually satisfying ways.

Source= principles of science instruction