

Termites and the Scientific Method

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Termites can be used as tools in the introduction of the scientific method. This exercise allows the student to simply and easily follow each step of the scientific method without the need for encumbering equipment and procedures. Each group of students is supplied with ballpoint pens of various colors and brands, paper, two or three termites, and a small brush to control strays. They are also given a handout which reviews the scientific method and guides them through each step. The only instructions given are to begin observation of termite behavior as the termites move about the paper, on which the students are encouraged to draw lines.

Once observations have been made and recorded, students are asked to develop one hypothesis based on these observations, and devise an experiment with one variable. Once designed, the experiments are run and data collected. Each group interprets their data and “publishes” it either orally or as a laboratory report.

There are many hypotheses that students might generate. There is no single “right” answer. The one proposed most often is that the termites follow a certain color line. If they test this hypothesis, they will often be able to support it with their data. However, for most students there will be one overlooked variable. It is *not* a color that the termites follow, but a pheromone-like chemical in the ink formulation of pens manufactured by Papermate but *not* pens manufactured by Bic. Upon “publication,” this overlooked variable will become obvious in much the same way that insight is gained and information is added to the body of knowledge in the scientific community.

Becker, G., and R. Mannesman. 1968. “Behavior of termites towards some scent trail laying-substances.” *Zeitschrift fur Angewandte Entomologie*, 62(4):399–436. [German]
Karson, P. J. L., and H. Humel. 1968. Extraction und biologische auswertung, des spurpheromons der termite *Zootermopsis nevadensis*. *Journal of Insect Physiology*, 14:1763–1771.

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