**Research Plan**

**By**

**John Smith**

**Question**

 **Will termites mistake the aromatic scent of ink for pheromones?**

**Hypothesis**

 **Termites will be attracted to the scent of “Paper mate” ink over other types of ink.**

**Procedures**

 **Obtain approximately 100 termites of the same species. Obtain several different types of ink. Draw the same path with the first type of ink pen on a white sheet of paper. Place a termite at a location 1 inch from the start point of the ink path. Record the amount of time it takes for the termite to get on the ink path, how long the termite stays on the ink path, and any unusual behaviors. Repeat procedure for each type of ink 10 times. Analyze data to see which type of ink will a termite will most likely mistaken for its own pheromones.**

**Bibliography**

[**http://www.animalbehavioronline.com/termitebiology.html**](http://www.animalbehavioronline.com/termitebiology.html)[**http://www.sbs.utexas.edu/jcabbott/courses/bio208web/lectures/scimethod/trail\_following\_of\_termites.htm**](http://www.sbs.utexas.edu/jcabbott/courses/bio208web/lectures/scimethod/trail_following_of_termites.htm)[**http://www.ehow.com/how-does\_5184906\_termites-attracted-ink\_.html**](http://www.ehow.com/how-does_5184906_termites-attracted-ink_.html)[**http://www.ismscience.org/index.php?option=com\_content&view=article&id=858:termite-lab-report&catid=57:bio-blog&Itemid=279**](http://www.ismscience.org/index.php?option=com_content&view=article&id=858:termite-lab-report&catid=57:bio-blog&Itemid=279)[**http://haha.nu/science/papermate-ink-termite-pheromones/**](http://haha.nu/science/papermate-ink-termite-pheromones/)

**Question**

This student noticed that ants crawling on a piece of paper would follow the lines of things written in ink. So he researched ink and insects and found quite a bit of documentation on termites and ink.

**Hypothesis**

In his research, he found documentation that said termites were attracted to Papermate® ink. He wondered if there was a possibility that termites could be attracted to other types of ink.

**Procedures**

Can include a list of materials, also. Every situation must be controlled. Be sure there is repetition. The more times a trial is repeated, the more valid the research. Be clear. Use exact amounts where measurements are concerned. Remember that procedures are like a recipe. (If you don’t put the right amount of shortening in the pie crust, it does not turn out flaky!)

**Bibliography or Works Cited**

As the student researched the project, they should have wrote down websites used. If you required them to write a research report, the citations should already be in the works cited page. It is required by ISEF that a research plan have a minimum of 5 websites.

Additional explanations needed for projects involving animals, humans, hazardous chemicals or activities, and biohazards. See rules on website.