What Do Scientists Do?

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How Does It All Begin?

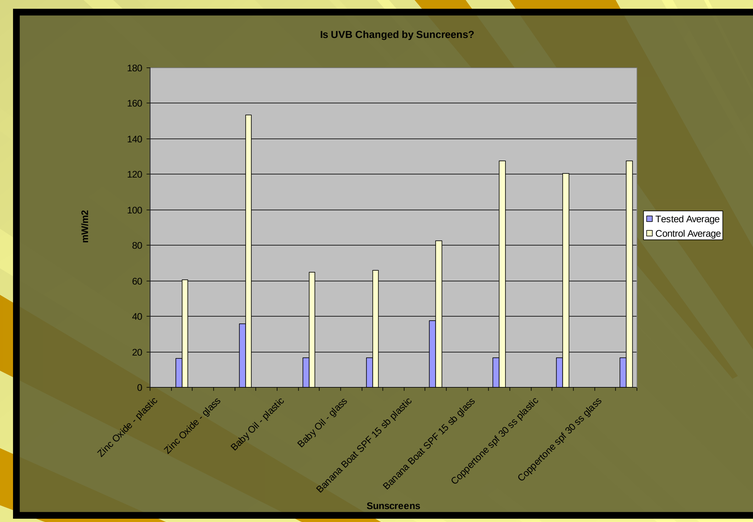
Scientists are curious and seek to explain the natural world. Ideas about the natural world exist, but scientists extend their thinking by observing the natural world and making predictions that test the existing ideas. Theoretical scientists make predictions, but experimental scientists go further by devising investigations to test their predictions.

Displaying the Data/Sharing the Results

Scientists want to share their findings in a way that is easy to see and understand. This is why the data from the investigation is often displayed in charts and graphs. Many times scientists will have their results published in scientific research journals.

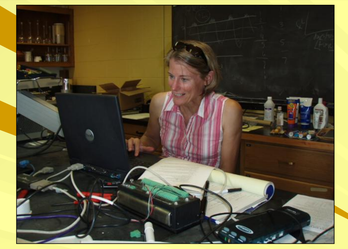
Collecting Data

Collecting the data can be very frustrating. External factors, such as weather conditions or human error, can interfere with accurate data collection. Sometimes the instruments do not work properly. Scientists often spend many years collecting data.



Devising the Investigation

After scientists make predictions, they need to devise investigations that will test their predictions. These investigations can be time consuming. The scientists needs to determine how they will collect the data, the instruments to use, and how they will record the data.



Analyzing Data

Analyzing data means trying to make sense of the data that the scientists have collected and comparing it with their original predictions. Sometimes the scientists will find that their data is inconsistent or does not make sense. In this case, they will need to collect the data again. Sometimes the scientists will make new predictions and begin the process over again.

Instruments to Collect Data

Many times scientists can buy instruments to collect data for them, but sometimes they need to make their instruments. Scientists are not always in the lab. Sometimes they must collect data remotely. In this case, computers are taken into the field. These computers can record data for weeks without the scientists being around.

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