

Learning Outcomes:

Nature of Science	Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience, using relevant scientific terminology and representations
Biological World	Students should be able to evaluate how humans can successfully conserve ecological biodiversity and contribute to global food production; appreciate the benefits that people obtain from ecosystems
Physical World	Students should be able to research and discuss a technological application of physics in terms of scientific, societal and environmental impact

You work at a garden centre with a nursery for plants. The nursery is designing a Web site for home gardeners. The Web site will contain information about how environmental conditions affect the growth of garden plants. Your Manager has asked you to collect data on how environmental conditions affect plant growth. You will analyse your data, and then explain the analysis in a format suitable for the Web site.

Plan your investigation.

The following questions can help you get started.

- Which environmental factors that affect plant growth might interest a gardener?

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- How could the effects of these factors be investigated using bean plants?
- Which environmental factor that could affect plant growth will you investigate?
- How will you measure its effect on plant growth?
- What other factors will you need to control during the investigation?
How will you do that?
- How will you collect and record your data throughout the investigation?
- What materials will you need to carry out your investigation?

Write a procedure for your investigation.

- Gather the materials needed for your investigation.
- Carry out your investigation.
- Organise and analyse the data you collected.
- Based on your results, state a conclusion about how the environmental factor you tested affects plant growth.

Now that you have analysed your data, you need to **present your analysis in a format suitable for a Web site**. Consider the questions below.

- What user-friendly format would work best for presenting your data?
- How can you use your data as evidence to construct a scientific explanation of what a home gardener might see in his or her own garden during similar environmental conditions?
- Consider your audience. How will you present scientific terms and concepts for the Web site user?
- Create your data display and explanation for the Web site.

Evaluate your data display and explanation.

- Does the format you chose clearly display the data?
- Why or why not?
- Will a Web site user be able to see trends in the data?
- Explain your answer.
- Is your explanation of the results clear?
- Do you think Web site users will be able to understand it and apply it in their own gardens? Why or why not?
- If needed, revise your data display and/or explanation.
- Prepare your final version for your boss.