

1.0 SCIENCE

1. Describe the process of scientific inquiry.

2. A student who has access to a worldwide computer network is asked to survey across the world to establish the colour of crows. The student states at the outset that all crows are black. Using a correct random sampling method, the following data is obtained:

Country	Number of Black Crows Observed	Number of Crows of Any Other Colour
Argentina	42	0
Canada	38	0
China	56	0
Italy	23	0
Nigeria	16	0
Total	175	0

- a) What is the student's hypothesis?

b) Does the data obtained confirm or deny the hypothesis?

c) What generalization, if any, can be made?

d) Is this generalization absolutely true?

e) Is it reasonable to use the generalization as being true?

f) Does observing more crows, and finding that they are black, increase the validity of the generalization?

g) If only one crow is reported to be white from anywhere in the world, is the generalization still valid?

3. a) Explain what is a hypothesis.

b) What is a scientific model? Give a couple of examples.

c) Explain what a theory is.

4. What is a scientific law?

5. Is scientific knowledge ever final?

6. What are some of the characteristics of the scientific attitude? Make a list.

7. Is the development of scientific knowledge in any way determined by social forces?

8. What is a paradigm?

9. What is the difference between science and technology?
