Living 'Links' to the Scottish Curriculum

Lesson : Working with Scientific Literature

(2012) Advanced Higher – Unit 3 – Investigative Biology

Mandatory Course Areas	SQA Notes	Suggested Learning Activities
1. Scientific Principles and process a.) Scientific Method	Science is the gathering and organisation of testable and reproducible knowledge. In the scientific cycle, hypothesis testing involves the gathering, recording and analysis of data, followed by the evaluation of results and conclusions. New hypotheses may then be formulated and tested.	It is suggested that students start by watching a simple video without a commentary showing an unusual behaviour in capuchin monkeys; 'anointing'. There are various hypothetical explanations for this behavior. Students may make their own hypotheses for this behavior. **Video of behaviour (1:58min) -** http://vimeo.com/48287363 or http://www.living-links.org/resources/materials-for-teachers/primate-self-medication-lesson-pack/ Analysis of a research article and a review article. PDF links provided in the Teacher's Guide.
b.)Scientific literature and communication	The importance of publication of methods, data, analysis and conclusions in scientific reports so that others are able to repeat an experiment. Common methods of sharing original scientific findings include seminars, conference talks and posters and publishing in academic journals. Most scientific publications use peer review. Specialists with expertise in the relevant field assess the scientific quality of a submitted manuscript and make recommendations regarding its suitability for publication. Some journals also publish review articles, which summarise current knowledge and recent findings in a particular field. Critical evaluation of science coverage in the wider media. Increasing the public understanding of science and the issue of misrepresentation of science in the media.	Comparative analysis of a review article, research article, newspaper article and a mini-documentary about capuchin anointing behaviour.