



# READING IN SCIENCE

Disciplinary Literacy is defined as the confluence of content knowledge, experiences, and skills merged with the ability to read, write, listen, speak, think critically and perform in a way that is meaningful within the context of a given field.



What makes learning science and comprehending scientific texts challenging is the fact that they are concept and idea dense, and they also require attention to many unique features within the texts. In addition, students must constantly use visual literacy strategies in science to make meaning of charts and graphs that are also dense. Teaching disciplinary literacy strategies in science leads to increased academic rigour, instruction that better prepares students to be independent learners in the field, and authentic learning that more closely resembles the work of experts in the field.

- RESEARCH PAPERS
- SCIENTIFIC SYMBOLS
- POPULAR ARTICLES
- TEXTBOOKS
- GRAPHS
- CHARTS
- QUESTIONS



## DISTINCTIVE FEATURES

- Texts are typically concept and idea dense
- Letters and numbers (H<sub>2</sub>O) have unique meanings
- Numbers may be interpretable without unit labels (grams)
- Many technical words contain Latin or Greek roots that not only reveal meaning but help to enable scientific classifications
- Descriptions of procedures and testing of hypotheses
- Many visual representations
- Analysis of procedures / performances such as lab experiments

## DEMANDS AND STRATEGIES

- Assume an objective stance
- Close reading and rereading
- Question reasoning and conclusions
- Pay attention to detail and numbers
- Ask 'why?' more than 'what?'
- Analyse key words and word parts for identification and classification purposes
- Chart, illustrate and graph data and conclusions
- Use scientific (and sometimes mathematical) text features to make meaning
- Consider alternatives to what is presented



CLOSE READING



SYNTHESISING



ASKING QUESTIONS

## CULTURAL CAPITAL

Alongside reading scientific texts, wider reading around science can enable students to gain a wider and deeper knowledge of the subject:

- Use reading as a way to make connections and understand real world issues
- Summaries and synthesise ideas.

- NEWS ARTICLES
- POPULAR ARTICLES
- BIOGRAPHIES
- BLOGS



MAKING CONNECTIONS



ASKING QUESTIONS



SUMMARISING

# DISCIPLINARY LITERACY

