

## Research skills steps table

This strand is about helping pupils to develop information processing skills so that they can use and interpret a wide selection of information. Pupils need to be able to:

- undertake some experimental or preliminary research;
- plan how to identify and select the most appropriate or valid sources of information or data;
- transform information into the most appropriate form for the task and audience;
- use criteria to decide on appropriate information to support a conclusion or argument;
- critically evaluate both the pieces of information used and the process for selecting the evidence;
- appreciate that their conclusion is a 'best fit' and be able to consider the validity of alternative explanations;
- develop a range of skills allowing them to transform information into the most appropriate format.

Step 1 pupil characteristics	Strategies to ensure progression	Step 2 pupil characteristics	Strategies to ensure progression	Step 3 pupil characteristics	Strategies to ensure progression	Step 4 pupil characteristics
<p>Pupils:</p> <ul style="list-style-type: none"> <li>• can identify a few data items or evidence linked, but not always relevant, to a task;</li> <li>• have limited note-taking skills that do not identify the main ideas; they struggle to translate the</li> </ul>	<p>A) Create opportunities for pupils to classify information based on concrete and then, if appropriate, abstract categories using a range of, for example, mysteries, odd one out and relational diagrams.</p> <p>B) Model how to change information from one form to another, e.g. DARTS (Directed activities related to texts)</p>	<p>Pupils can:</p> <ul style="list-style-type: none"> <li>• link the selected data items or evidence to reach a suitable conclusion;</li> <li>• produce notes that identify the main ideas and have a clear purpose but do not question the authority of written texts;</li> </ul>	<p>A) Model how to use criteria to decide if particular pieces of evidence are appropriate and to what extent they support or negate the hypothesis.</p> <p>B) Discuss with pupils the features of particular sources of information that make it appropriate to particular audiences. For example, newspaper and magazine articles for</p>	<p>Pupils can:</p> <ul style="list-style-type: none"> <li>• use criteria to judge the relevance and validity of data items or evidence and use this to support or negate an argument;</li> <li>• adopt the most appropriate format for note-taking to represent the information for</li> </ul>	<p>A) Create opportunities for pupils to evaluate the appropriateness of a piece of research, theory or other pupils' work and to make valid comments about the conclusion the research or work came to.</p> <p>B) Model the part of the scientific process where data is used to develop theories and then build pupils' confidence in being</p>	<p>Pupils:</p> <ul style="list-style-type: none"> <li>• evaluate the reliability and validity of others' research, hypotheses and conclusions;</li> <li>• transform information into textual, visual and diagrammatic notes that have clarity of</li> </ul>

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<p>original language into their own words;</p> <ul style="list-style-type: none"> <li>recognise that sources of information and data exist in several forms, for example, graphical as well as textual.</li> </ul>	<p><i>activities; turning scientific development into a timeline.</i></p> <p><i>C) Support pupils in using different thinking grids and organisers to make links between pieces of information.</i></p>	<ul style="list-style-type: none"> <li>plan to collect relevant information and data from a variety of sources, both primary and secondary.</li> </ul>	<p><i>different age groups or professions.</i></p> <p><i>C) Explore with pupils effective ways to make notes from different sources of information.</i></p>	<p>specific purposes;</p> <ul style="list-style-type: none"> <li>recognise the potential for bias within sources of information and data.</li> </ul>	<p><i>able to adapt or change conclusions in light of new evidence.</i></p> <p><i>C) Transform the same piece of information into various forms and evaluate purpose and effectiveness of each.</i></p>	<p>purpose and demonstrate critical reflection of ideas;</p> <ul style="list-style-type: none"> <li>explain why they selected or discarded sources of information or data.</li> </ul>
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