

Ofsted subject specific insights: science

Source:

<https://www.gov.uk/government/publications/subject-report-series-science>

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Summary:

- The report highlights the difference between the two types of knowledge:
 - **Substantive knowledge** forms the backbone of most of the science curriculum, it builds over time - learn more about specific concepts in different contexts - refined over time.
 - **Disciplinary knowledge** is the knowledge children need to acquire in order to work scientifically and perform scientific skills. **Disciplinary knowledge** is not working scientifically or scientific skills.
- Schools should ensure that their science curriculum is ambitious and takes account of the interplay between both types of knowledge.
- Disciplinary knowledge needs to be partnered up with the most appropriate substantive knowledge.
- Knowledge of **procedures and concepts** is key. The majority of children will not get better at using a piece of equipment/drawing a graph just by doing it - the skills of 'how to' needs to be taught.
- Key vocabulary needs to be specifically taught and used regularly by children in sentences (oral or written) including EYFS in songs, stories, poems etc.

Purpose of practical work:

- 1) to help the children to learn a concept (vehicle - pedagogy)
- 2) goal of the curriculum (destination - curricular goal)

Practical work is key to develop pupils' understanding. Pupils should be given opportunities to practise and be given feedback.