

## Science Feedback Prompts

Please refer to the Science section of Birmingham City University's Subject Specific Development Journal for specific details of what the Associate Teacher has learned prior to their school-based training.

**Curriculum Frameworks:** Reference should be made to the current curriculum framework for KS1, KS2 and EYFS.

**Science Subject Knowledge:** Associate Teachers should demonstrate accurate subject knowledge in their planning and teaching: **Substantive knowledge** - scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Disciplinary Knowledge** - an understanding of the nature, processes and methods of science, with opportunities to engage in different types of science enquiries, (observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources); helping them to answer scientific questions about the world around them.

The following prompts are designed to support in giving subject-specific feedback and are informed by the National Curriculum, the EYFS Framework and current research.

| Key Idea:                                          | What to look for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Subject knowledge</b>                           | <ul style="list-style-type: none"> <li>➤ Do learning objectives clearly identify key science concepts <b>and</b> key science process skills?</li> <li>➤ Does the Associate Teacher explain clearly the new learning and outcomes and refer back to this during teaching?</li> <li>➤ Do explanations and/or demonstrations show a secure knowledge of the key concept/<i>working scientifically</i> process skill being taught?</li> <li>➤ Is knowledge imparted in a variety of ways, and key concepts broken down into smaller parts, to support challenging scientific ideas and phenomenon?</li> <li>➤ Are pupils provided with opportunities to practice and apply science process skills appropriately?</li> </ul>                                                                                                                                                                                                                                                              |
| <b>Pedagogy</b>                                    | <ul style="list-style-type: none"> <li>➤ Does planning reflect a good understanding of effective pedagogical knowledge, with a focus on Constructivist Learning theory?</li> <li>➤ Are possible misconceptions anticipated in planning, and identified and addressed?</li> <li>➤ Are there opportunities for retrieval practice to take place?</li> <li>➤ Do planned <i>elicitation</i> activities allow for children's existing ideas to be identified about the topic, prior to the Associate teacher presenting key ideas and/or before studying ideas from textbook or other sources?</li> <li>➤ Are key strategies planned to elicit existing ideas, eg. concept cartoon, play and exploration, questioning, etc?</li> <li>➤ Are pupils provided with opportunities to observe, describe and explain phenomenon, and generate explanations and interpretations of their own?</li> <li>➤ Are pupils' initial ideas revisited/challenged in the light of new learning?</li> </ul> |
| <b>Context</b>                                     | <ul style="list-style-type: none"> <li>➤ Are contexts meaningful to the children?</li> <li>➤ Are pupils given opportunities to apply concepts and skills to new situations and/or real-life problems?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Key language and Vocabulary</b>                 | <ul style="list-style-type: none"> <li>➤ Is correct technical vocabulary and terminology introduced and applied accurately and precisely?</li> <li>➤ Are pupils encouraged to describe and explain using and applying correct technical vocabulary and terminology accurately and precisely in their own talk and written work?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Classroom talk: questioning and discussion.</b> | <ul style="list-style-type: none"> <li>➤ Are pupils provided with 'hands on' opportunities that allows them to play and explore, and talk to their peers?</li> <li>➤ Are pupils encouraged to expand on their questions and justify their responses?</li> <li>➤ Are pupils given opportunities to generate explanations and alternative interpretations?</li> <li>➤ Does the Associate Teacher probe pupils' responses for clarification and justification?</li> <li>➤ Are pupils given opportunities to explain contradictions and misconceptions?</li> <li>➤ Are pupils involved in more sophisticated discussion of experimental design and control?</li> </ul>                                                                                                                                                                                                                                                                                                                   |
| <b>Organisation and management</b>                 | <ul style="list-style-type: none"> <li>➤ Are pupils given appropriate resources and scientific equipment, and taught how to use it correctly?</li> <li>➤ Are Health and Safety considerations taken into account and a risk assessment carried out prior to practical activity?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Target Setting:** At least one subject specific target should be set following an observation. This should include **what is the next step (to support Associate Teacher progress)**, **why this is important (impact on pupil progress)**, and **how will this be achieved (what actions are needed?)** **E.g. Develop skills in predicting to ensure children can test their own ideas by planning and delivering a science investigation lesson.**

# Business Ethics

Business Ethics is the study of moral principles and values that govern the behaviour of individuals and organisations in the workplace.

It is a branch of applied ethics that examines ethical principles and moral or ethical problems that may arise in a business context.

Business ethics is a field of inquiry that has become increasingly important in recent years, as businesses have become more aware of their social responsibilities.

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