Computing Feedback Prompts

Please refer to the Computing 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.

National Curriculum: Aim: Develop computational thinking and problem-solving skills through hands-on activities and programming.
"The National Curriculum for computing aims to ensure that all pupils: can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation."
These references emphasize the core aims of the statutory framework, which include introducing fundamental computing concepts, promoting logical reasoning and problem-solving, and ensuring pupils use technology safely and effectively" and Associate Teachers should demonstrate their understanding of the requirements for each of these.

Computing Subject Knowledge: Associate Teachers should be demonstrating accurate subject knowledge and their understanding of effective teaching and learning by planning, delivering and assessing their Computing lessons.

Substantive knowledge in computing for young children refers to the foundational concepts and skills they acquire. This includes understanding basic programming concepts through tools like Scratch and Scratch Junior, as well as hands-on experiences with devices like Beebots. It's about equipping them with the ability to interact with technology, code, and digital resources in a meaningful way, fostering computational thinking from an early age.

Disciplinary knowledge delves deeper into the principles, theories, and methodologies of computer science and education. This aspect involves training teachers to facilitate a creative and constructive learning environment. Drawing inspiration from constructionist learning theories by Seymour Papert and Mitch Resnick's emphasis on projects, peers, passion, and play, disciplinary knowledge will help the trainee teachers design engaging lessons and projects that empower pupils to become playful and creative problem solvers. It might also involve incorporating advanced tools like Lego WeDo 2 for more intricate programming challenges (if this kit or similar is available).

In summary, substantive knowledge focuses on what young children learn in computing, while disciplinary knowledge will equip Associate Teachers with the expertise to teach computing effectively, fostering creativity and problem-solving skills.

Key Idea:	What to look for
Algorithmic Thinking: Teaching Approach: Introduce the concept of step-by-step instructions and how they are used in everyday life.	➢ Look for the Associate Teacher's ability to break down tasks into simple steps, encouraging pupils to create their own algorithms, perhaps even through fun activities such as creating a recipe for a sandwich.
Computational Thinking: Teaching Approach: Promote problem-solving skills by encouraging pupils to analyse problems, break them into smaller parts, and find solutions.	➢ Observe how the Associate Teacher guides pupils in identifying patterns, devising strategies, and thinking logically to solve problems. Look for group discussions and collaborative problem-solving activities.

Programming Concepts: Teaching Approach: Introduce basic programming concepts using tools like Scratch or Beebots.	➢ Assess whether the associate teacher effectively explains concepts like sequencing, loops, broadcast and receive or using the if/then/else block in an age-appropriate manner. Observe how pupils engage with hands-on coding activities such as coding an animation or create a quiz. Do they pair program approach to help reduce the cognitive load for pupils?
Internet Safety: Teaching Approach: Teach pupils about online safety, including the importance of not sharing personal information and recognizing safe websites.	➢ Look for discussions about online safety rules and strategies for protecting personal information. Assess how well the Associate Teacher conveys the potential risks of the internet.
Digital Literacy: Teaching Approach: Foster skills related to finding, evaluating, and using digital information responsibly.	➢ Observe whether the Associate Teacher guides pupils in searching for information online, critically assessing sources and looking for bias etc. Look for instances where pupils use digital resources for research projects.
Creative Projects: Teaching Approach: Encourage pupils to create their own digital projects, such as animations, stories, or simple games.	➢ Assess the Associate Teacher's ability to inspire creativity and guide pupils in planning, designing, and presenting their projects. Look for evidence of pupils' creative expressions.
Collaboration: Teaching Approach: Promote teamwork and collaborative problem-solving.	➢ Look for group projects where pupils work together to achieve a common goal. Assess the associate teacher's facilitation of group dynamics and communication.

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** is this important (impact on pupil progress) and **how** will this be achieved (what actions are needed?)
E.g. Enable pupils to showcase coding projects to share achievements by establishing a digital platform.