**Weald CPS: Assessment in Science**

**Overview**

* What can we do to **embed** and **measure** Science where pupils ‘experience more practical science lessons and develop the skills of scientific enquiry’? (Ofsted 2021)
* How can we plan and implement **a curriculum that connects the skills of remembering and understanding with creating, evaluating and analysing** to create a composite schema for each child?
* How can **assessment practices raise attainment?**

**Start with the end in mind**

* Know what you want the pupils to know at the end of a unit of work.
* Build on prior learning from previous years within the unit of study.
* Know how to assess that they know it.

**Top three reasons for Assessment**

* To check progress and understanding, identifying gaps in learning so plans for future lessons can be adapted as necessary.
* To identify and correct any misconceptions.
* To involve the child in his/her learning and give them ownership of the assessment and learning process.

**Assessment in Primary Science**

Science is one of the core subjects and yet there is no standardised SATs test to assess progress, rather Ofsted deems that teacher assessment provides the best summary of a child’s scientific ability. It is therefore imperative that assessment within the subject of science provides an accurate picture of each child’s aptitude.

* It is important that this encompasses not only knowledge/fact recall but also the applied scientific skill, indeed Ofsted reports that both substantive and disciplinary knowledge are essential for a good curriculum.
* Ofsted have reported on the importance of connectivity in the effectiveness of science teaching and so, a framework that builds upon prior teaching and knowledge ensuring ‘zone of proximal development’ incremental learning is key.

**Three levels of Assessment**

* **Day to day (short-term focus):** Questioning and instantverbal feedback in lessons, marking comments and questions, stickers in books to log children’s acquisition of targets/knowledge/skills during class discussion/practical work.
* **Periodic (medium-term focus):** Practical investigations to develop and assess investigative skills (with sticker system to enable easy logging), book looks and discussions with colleagues. See below for further techniques.
* **Transitional (long-term/summative focus):** End of unit assessments (eg TAPS assessments, CGP tests or Twinkl assessment resources), ‘I remember’ pages updated at the topic end with ‘What I now know’.

**Formative Assessment techniques/tools**

* Quizzes
* Open-ended problem-solving activities
* Close-up object – what am I?
* Problem: Solution – pose a problem, discuss how it might be solved.
* KWL grids – knowledge grids.
* Talk partners – scaffold each other’s understanding/processing.
* Mind-maps – mapping all known information.
* Working Wall – displaying the learning journey.
* 20 questions – what am I?

**Assessment via pupil voice**

* What have you been studying in Science?
* Do you enjoy Science lesson (1-10. Why/why not?)
* What is your favorite aspect of science?
* How often do you do Science?
* What does it mean to think, work and act like a Scientist?
* I saw you learning about the life cycle of a frog. Tell me/explain to me how this connects with other aspects studied last year?
* How would you find out more about a subject?

**Benefits**

* To check progress and understanding.
* To correct misconceptions.
* Ownership of learning and transparency between teacher/child.
* To create independent and life-long problem-solvers and learners.
* To ensure a range of skills that will allow children to work scientifically.
* To develop curiosity and confidence to experiment and investigate.

**SEND Statement**

To ensure SEND children are assessed in a manner indicative of their full potential, assessment should be carried out at a time (as discerned by teaching staff) when the child is at their most restful and the environment free from distractions. Assessment could be ipsative. The child may benefit from a 1:1 for the duration of summative assessment sessions. They may wish to dictate answers rather than write them. Assessment might be adapted such that it is more visual/pictorial, particularly for younger children.

**Statement on Character**

The nature of a science curriculum lends itself to promote the following character qualities from the Weald Character Education initiative: Weald CPS’ characterqualities which will engender high quality Science enquiry are:

**Curiosity; Respect; Enthusiasm; Social Intelligence; Teamwork; Resourcefulness; Empathy and Responsibility.**