DRAYTON PARK SCHOOL
SCIENCE POLICY

Science at Drayton Park School

At Drayton Park, we use the Long Term Progression Maps to plan a sequence of lessons linked to the termly theme. Each phase plans the series of lessons, ensuring full coverage of the topic. We teach Science in a blocked and interleaved way by teaching a block of lessons during the afternoons for a couple of weeks, then take a break before returning to the topic. When returning to a topic, teachers use low stakes quizzes to check retention of knowledge and fill gaps before moving forwards with new learning. This is to ensure that key knowledge is embedded over time.

In Years 2-6

Every unit of work includes the following:

- Introduce the key questions at the start of the unit of work and fill in the K (what I already know) section of the KWL grid. Use a stimulus to formulate ideas and support this process.
- Investigation (at least one for each Science topic)
- Focus on a scientist- in that area
- Teaching science creatively- relating to everyday life
- Using concrete resources
- Opportunities for practical work
- Quick quizzes to assess retention of prior knowledge
- Gap filling at least once weekly
- At the end of each lesson, the children write a question in the W section of the KWL grid about something they would like to know (based on what they have learnt so far)
- Finish the term with a mini assessment and complete the L (what I have learnt) section of the KWL grid

Science lessons will include the following:

A quick recap of previous learning

- Quick quizzes
- Explorify resource
- Open ended questions
- Recapping prior knowledge

Science vocabulary

- The Science vocabulary poster is placed at the front of the room so that all students can see it.
- At the start of the unit of work, key scientific vocabulary is placed in the top half of the poster. We suggest linking words to the key posters.
- During the teaching, teachers refer to one or more of the words, giving definitions and asking the children to repeat the word etc.
- At the end of the session, the word(s) is moved to the bottom half of the poster under the 'words we have covered' section.

Link to the key questions

- Each lesson links to a key question, working through them chronologically.
- At the end of the topic, the children should be able to answer each question.

Investigations

- For every unit of work, teachers aim to include as many investigations as possible.
- They follow the Working Scientifically templates appropriate for their phases.
- Teachers allocate time to predict, plan, investigate, collect data and evaluate. This may be spread over two lessons or even over the whole term (example: looking at the effect of different drinks on teeth).

Link Science to a writing cycle

- Where possible, one writing cycle is linked to science each term (with a minimum of two per year).
- This embeds learning and ensures better retention of the science curriculum over time.
- This is planned in phases and added to the termly planning overview. Teachers ensure the children have the relevant scientific knowledge they need before starting the 'Write for All.'.

Success Criteria

- Success criteria is linked to age-related expectations. Children should be striving to achieve their success criteria and in doing so, expand and deepen their scientific knowledge.
- Success criteria shows children what they need to do to be successful in a lesson.
- The teacher gives every child the opportunity to achieve each part of the success criteria and further adaptations are made as needed. This can be done through group/partner work, scaffolding, extra support, concrete resources, real life examples etc.

Filling the gaps

- Towards the end of each week (every 2/3 lessons) teachers look through their childrens' books, and record any gaps in learning.
- At the beginning of the next lesson, teachers fill the gaps with an appropriate activity.
- Filling the gaps should be seen clearly in children's books.

In EYFS and Year 1

Science lessons throughout the term include the following:

- Investigations
- At times, children learn about a scientist
- Teaching science creatively, relating to everyday life
- Using concrete resources
- Opportunities for practical work
- Science activities are set up in the continuous provision linked to taught content - this is to ensure that children repeat learning and explore science concepts, thus leading to better retention of key knowledge and skills over time
- Gap filling through the continuous provision
- A focus on teaching scientific vocabulary

A quick recap of previous lessons

- Explorify resource
- Open ended questions
- Recapping prior knowledge

Science vocabulary

- Teachers teach key scientific vocabulary at the beginning of each lesson, using 'my turn, your turn' and chanting to repeat the words and learn definitions.
- Teachers give examples of the words with visuals to support.
- When children learn through play, teachers use these words in their talk and encourage children to use them too.

Teacher input

- At the beginning of the lesson, there is a 10-15 minute input. This can involve use of slides, videos, practical activity, child-led discussions, dialogic teaching etc.
- All children access the science curriculum and are given the opportunity to discuss.

Learning through play

- Scientific activities are set out for the children to access, linked to the current topic.
- Adults lead some of the activities to ensure that all children have a chance to extend their learning.

Evidencing

- Photos are taken and used for displays or put into the learning journals.
- Children complete sheets independently or with the support of an adult.
- Sheets are included in the learning journals.
- Evidencing takes place as much as possible.

Extra curricular

- A STEM club is run and led by teachers. Each term it focuses on a different area of engineering (example game building) and focuses on a different key stage. Money raised from the club is used to fund workshops and resources for the school.
- Once a year we run a Science week. Every class engages in Science lessons linked to the theme of that Science Week. The week will also incorporate one or more of the following: visitors, workshops, 'Science Show' or expert speakers.
- Educational visits are sometimes related to science. These could take place in museums (Natural History/Science Museum), be a nature walk or a visit to a farm or planetarium. The educational visit will be linked to the current science topic.