

## **Maple Medical PRU**

### **Science Policy**

#### **Intent**

The Science curriculum aims to

Enable pupils to develop knowledge, understand scientific concepts and acquire skills, and be able to choose and apply these in relevant situations.

Inspire in pupils a curiosity and fascination about the natural and man-made world and a respect for the environment that will remain with them for the rest of their lives.

Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and ICT.

Encourage pupils to collect relevant evidence and to question outcome and to build resilience to persevere as it is likely they will need to repeat results or will encounter unexpected results that do not support their hypothesis.

Enable pupils to appreciate that we do not always know the answers when carrying out scientific enquiry as the world around them is continually changing and developing.

Enable pupils to use scientific vocabulary confidently and improve in their literacy skills.

Develop pupils use of numeracy skills in a variety of calculations or interpretation of graphs.

Promote literacy, numeracy and research skills and collaborate with staff from other subjects where there are cross-curricular links to ensure the best learning experience for pupils

Enable pupils to develop their skills of co-operation through working with others.

Encourage pupils to take responsibility for their own learning by developing their independent learning and research skills which will equip them for further/higher education and employment.

Enable all pupils to access the curriculum by adopting a range of teaching strategies and styles and adapting resources to meet individual pupil need

Ensure that all pupils have equal access to learning, providing appropriate levels of challenge and support to enable everyone to achieve their full potential

Support pupils' spiritual, moral, social and cultural development

Promote a positive attitude towards learning.

Enable pupils to achieve to their full potential.

## **Principles/values/connections to wider school aims**

This policy is based on the Maple vision, values and aims which is our commitment to:

- Creating an educational provision which is safe, caring and nurturing and enable pupils to learn and staff to grow
- Respect, equality, individuality and achievement at all levels of ability and age
- Provide a happy and stimulating environment where pupils can achieve their full potential
- Remove as many barriers to learning as possible
- Have high expectations of teaching and learning and reward achievement

This policy is written in conjunction with the School Development Plan and supports these specific aims within those documents in the academic year 2019/20.

For all teachers to share good practice via peer observations

Ensure all pupils have access to an appropriate KS4 curriculum including Mulberry

Measure progress of SEND pupils

## **Implementation**

At KS3 pupils follow the national curriculum for science in years 7 and 8 and are developing their knowledge of basic scientific concepts. It covers all aspects of Biology, Chemistry and Physics and provides a foundation for study in KS4. In year 9 pupils continue to develop this work and start preparation for the GCSE course.

At KS4 pupils follow the AQA Double Award Combined Science (trilogy) GCSE course. This course covers grades 1-9 at GCSE with pupils being able to sit either Foundation or Higher exams.

The separate science subjects of Biology, Chemistry and Physics are split across 6 exam papers (2 for each).

Paper 1 for biology covers cell biology, organisation, infection & response and bioenergetics. Paper 2 covers homeostasis & response, inheritance, variation and evolution, and ecology.

Paper 1 for chemistry covers atomic structure & periodic table, bonding, structure & properties of matter, quantitative chemistry, chemical changes and energy changes. Paper 2 covers rate of chemical change, organic chemistry, chemical analysis, chemistry of the atmosphere and using resources.

Paper 1 for Physics covers energy, electricity, particle model of matter and atomic structure. Paper 2 covers forces, waves, magnetism & electromagnetism.

There are 20 required practicals which pupils are expected to have carried out by the end of the course. Their knowledge of these practical tasks will be assessed in the final exams.

All Science teachers are responsible for the subject policy, planning, teaching, organising support staff, record keeping, data tracking, exam preparation and preparing resources.

Resources and teaching strategies are planned to help all learners access the curriculum.

The progress of all pupils is tracked appropriate targeted intervention helps to enable them to reach their full potential

Homework is set regularly to complement and consolidate work done in class.

Exam techniques and practice take place towards the end of KS4

Revision sessions are offered towards the end of the course for all to raise achievement/potential grades.

### **Mulberry**

In KS3 follow aspects of the national curriculum to run alongside their topic work. Some pupils access attend science lessons in Maple where appropriate and follow the science national curriculum.

At KS4 most pupils complete AQA Entry Level Science either as a single or double award, this is all internally assessed. Some pupils may go on to complete BTEC First Award Applied Science which consists of one external exam and three internally assessed modules covering Biology, Chemistry and Physics.

Some pupils can study AQAGCSE Combined Science (trilogy) in Y10 and 11 alongside students from Maple.

Resources and teaching strategies are planned to help all learners access the curriculum, particular emphasis is placed on the practical components of the science curriculum.

### **Impact**

Interest and confidence in science

Develop confidence in their own abilities and take a pride in their achievements

Pupil progress is carefully tracked and interventions implemented if expected progress is not being made

Pupils are involved in their own learning and progress: verbal and written feedback is discussed as part of the learning process and they are able to make adjustments or improvements they need to make

To develop skills which they will need in further/higher education and the workplace including working independently, researching information, applying their knowledge,

problem solving, analysis and evaluation of evidence, working to deadlines, communication and team work

Parents/carers receive regular feedback on the progress of their son/daughter

To gain a recognised qualification in a core subject which will equip pupils to move onto further/higher education or employment.

### **Equal Opportunities**

All pupils have access to the science curriculum at the level best suited to their abilities.

### **Health and Safety**

Some pupils at Maple are vulnerable due to their life experiences and/or severe and enduring mental health issues. Everyone is advised when sensitive topics will be taught and are able to opt out if they wish. Pupils with medical conditions and/or disabilities may be unable to fully take part in some activities but these will be adapted wherever possible to meet their needs without putting them at risk. The science laboratory is equipped with adjustable tables for wheelchair users.

Pupils are made aware of any health and safety issues during practical work and of any extra guidance for use of certain substances e.g. use of safety glasses.

### **Organisation**

KS3 pupils have 3 hours (15% of lesson time) of science each week.

KS4 pupils have 4 hours (20% of lesson time) of science each week

### **Homework**

Homework is set regularly to complement and build on knowledge and understanding of the curriculum. Opportunities are given every week for pupils to complete homework either at lunchtime or after school with support. The homework policy for Maple is available on the school website.

### **Resources**

A wide range of resources are used to teach Science including text books, revision guides, articles in the news, exam board resources and exam papers in addition to teacher produced resources. There are various online video resources available for revision and consolidation of topics covered in class. The Laboratory is well equipped with apparatus and chemicals. New resources and chemicals can be ordered as necessary.

### **Assessment**

Pupils are involved in the assessment process and receive regular verbal and written feedback on their class work and homework. They peer mark and self mark when written work has been completed.

Regular exam assessments are completed with detailed class feedback to raise understanding and enable pupils to make progress ready for their GCSE exam.

Maple use a tracking system and give termly feedback to parents on their son/daughters progress and interventions are implemented where pupils are not making expected progress. These may include catch up sessions each week at lunchtime and/or after school.

### **Monitoring and evaluation**

The curriculum is monitored and evaluated in line with any changes from the exam board. The curriculum is monitored by the SLT which includes informal discussions, lesson observations, learning walks, peer observation, drop ins, work scrutiny and appraisal and CPD discussions. The Management Committee monitor the curriculum through discussion and feedback with the Head Teacher.

### **Monitoring and review of policy**

The SLT and Management Committee are responsible for monitoring the implementation and review of this policy through observation, discussion, appraisal/CPD meetings review of record keeping and discussions with Management Committee members. The Policy is reviewed every two years.

**Policy Approval date :** .....

**Review date:** .....