The Computing Curriculum

"A computer is not a device anymore. It is an extension of your mind and your gateway to other people"

Mark Shuttleworth

Motcombe School

Flying high together

The Computing curriculum at Motcombe has taken many of the content and principles of 'Mastery' in mathematics. We have developed a curriculum which ensures children spend longer being taught the common features and skills in order to have a more coherent Computing curriculum and therefore be able to develop mastery in the subject.

INTENT

<u>End Point</u>

To know that computing allows us to create, store and share information that helps us understand and enjoy the world around us.

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The aims of Computing teaching at Motcombe:

- To develop a positive attitude to Computing
- To develop strong computing skills, e-safety, coding and de-bugging
- To ensure that all children will be given the opportunities to develop their Computing skills regardless of gender, race, ability, culture or ethnicity
- To explore and enjoy the language and enquiry in Computing and begin to transfer this into their vocabulary and thinking, including other subjects

IMPLEMENTATION

Organisation of the Curriculum

The National Curriculum forms the basis for our long-term planning; setting out the expectations in each year group. The medium-term planning organises the topics systematically term by term. Short term unit plans are prepared for daily teaching. Children are taught in mixed ability classes. The curriculum is taught through a carefully chosen progression of skills.

Teaching

Teaching of Computing at Motcombe uses a whole class approach involving small steps. We have embedded an 'I do, we do, you do' approach to lessons. All concepts are introduced through carefully designed lessons for children to explore and understand. As their conceptual understanding develops, they move towards reasoning and applying the skills and concepts to real life situations. Children are not pushed to move through these stages until they have shown understanding, gained by the teacher through skilful assessment. Further intervention can also be given for those who need more intensive support for Computing.

The teacher's role in lessons is to:

- demonstrate a clear model using an 'I do, We do, You do' approach using small steps
- allow time for discussion and pair work
- continually assess children's understanding using multiple hinge questions
- provide support or scaffolding when needed
- present challenge and to develop understanding through expert questioning.

Teachers provide many opportunities for children to explain their understanding by writing, demonstrating or explaining what they understand. Teachers use this to uncover misconceptions, assess and then challenge children. In addition to this, teachers use 'immediate application' to embed concepts. Each lesson is delivered through a variety of vehicles/variation of materials/images and ensures children are applying instantly.

Developing a reasonable sense is a vital part of our Computing curriculum. Children are always asked to explain how they know something, either verbally or any other suitable form.

During each lesson, teachers create AFL (assessment for learning) opportunities to ensure the inclusion and challenge is right for all. Assessing independent work regularly, questioning and then providing additional support, no hands up, 'I do, We do, You do' are strategies embedded in the school to continual check children's understanding.

Marking

Our dynamic marking takes place during lessons for all children giving frequent assessment opportunities to monitor children's progress. When children need further support with a concept, the teacher will support them 1-1 or in a small group. Assessment by the teacher diagnoses errors, and sets further questions to address a misconception if appropriate.

Resources

Children have a wide range of resources to help them develop their Computing skills and knowledge including computers, tablets, beebots and videos.

Monitoring, Evaluation and Review

Leaders will monitor the planning to ensure the objectives for each year group are planned in accordance with the mastery approach. There will be regular drop-ins of lessons, review of weekly plans and work scrutinies to ensure continuity, progression and quality marking. Data analysis will inform intervention planning for year groups, groups and individual children.

Parental Involvement

We encourage parents to be involved in their child's learning by:

- publishing information about the Computing curriculum for each year group on our school website
- supporting their child at home with basic skills such as using a computer, phone or tablet.

Computing Curriculum Map
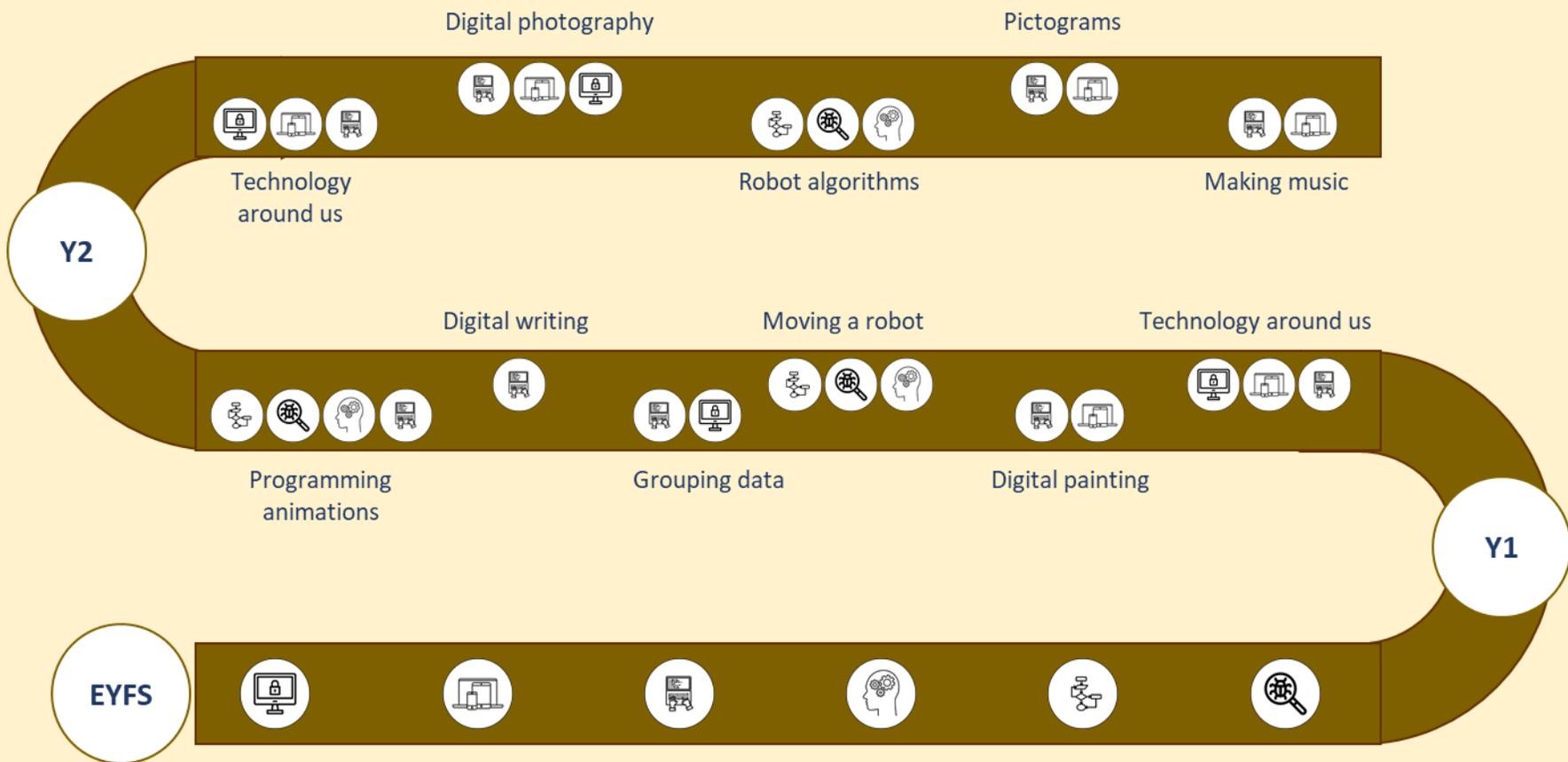
Algorithms

Debugging

Logical reasoning

Online safety

Use of technology

Using technology

Digital photography

Pictograms

Technology around us

Robot algorithms

Making music

Y2

Digital writing

Moving a robot

Technology around us

Programming animations

Grouping data

Digital painting

Y1

EYFS

IMPACT

End Point

To know that computing allows us to create, store and share information that helps us understand and enjoy the world around us.

Conclusion

It is the aim of the school, to raise levels of achievement in Computing by promoting a positive attitude and providing rich computing experiences. Children should view themselves as computer competent and are able to apply knowledge, skills and understanding to everyday life, but to also enjoy and appreciate the excitement and wonder of computing.

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