



Numeracy and Mathematics Policy

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Our Ethos

Cumbria Academy for Autism is an all age (3-19) specialist school for young people with Autism many of whom also have additional learning need; because of this it is important that in conjunction with the best learning and teaching we have a focus on teaching the young person and not their autism or disability, whilst focussing on what each young person needs to learn and how they need to learn.

We do this by providing an outstanding education that supports all pupils towards their individual next steps beyond School. We are a 'Learning Centred' school, meaning that each element of whole school and classroom practice is designed with an understanding of how our children learn best at its heart, providing them with practical and functional approaches to maths that means each young person will reach the highest levels of function in numeracy they can.

It's also important to understand that for our young people maths and numeracy cannot be limited to *just* their maths lessons, we have to ensure they can apply their numeracy skills and knowledge in the broadest possible context, which means teaching them in the broadest possible contexts.

Because of the diversity of young people's needs CAA we also deliver learning with similar diversity, similarly because of the nature of young people's learning needs the teaching of functional numeracy skills plays an important part in their learning.

Aims of the Policy

- To ensure our young people have a maths curriculum which is accessible to their needs and supports them to fulfil their potential.
- To ensure that our young people can apply and use their numeracy skills in *the real world*, i.e. that numeracy learning is understood and not remembered facts or processes
- To ensure maths is taught in a functional and practical way that lends itself to real life contexts and situations.
- To teach in a way that enables young people to see purpose in their learning and understand its application
- To identify and respond to the changing needs of our pupils

How we understand Maths, and its teaching and learning

Mathematics equips pupils with uniquely powerful ways to describe, analyse and change the world. It can stimulate moments of pleasure and wonder for all pupils when they solve a problem for the first time, discover a more elegant solution, or notice hidden connections.

Pupils who are functional in mathematics and financially capable are able to think independently in applied and abstract ways, and can reason, solve problems and assess risk. Mathematics is a creative discipline. The language of mathematics is international. The subject transcends cultural boundaries and its importance is universally recognised. Mathematics has developed over time as a means of solving problems and also for its own sake. For our pupils this is crucial as Maths provides a wider route into understanding the wider world, functioning in the wider world and being as independent as possible.

Although an inclusive approach to learning and its assessment is desirable where it is both feasible and valuable, it's Worthing noting that Rochford's Review and guiding principles (2016) also state that equality is not necessarily always about treating people in the same way. Sometimes the fairest and most positive way to provide for some children is to use a different approach.

As a School it's vital our assessment follows what our young people need to learn, which can then inform the plan for the next steps in their learning. To support this numeracy targets for each young person are assessed and planned for termly to ensure their learning cycle is always enabling them to make the best progress in the most appropriate direction.

Objectives of the policy

- To show how maths is taught at CAA and its impact of learning for our pupils
- To ensure pupils maths learning is purposeful
- To give pupils the confidence in making the next step and reaching their potential
- To listen and respond to our pupils and help them move forward in their learning
- To understand how we assess and how it helps our pupils learn
- Involving parents and carers in their child's maths education and ensuring we listen to them

- To ensure the teaching of maths is consistent across the key stages and the teachers feel empowered and skilled to teach engaging and purposeful lessons
- To explain how our learning environment is ordered, the atmosphere is purposeful and most of all our children feel safe and ready to learn.

How do we teach Maths at CAA and what does it mean for our pupils?

The reader should refer and read in conjunction with this policy our Curriculum Document which sets out our curriculum into 3 different curriculums, the Informal, Semi-formal and Formal.

Different approaches are used within each curriculum, but with each there is an onus of the application of knowledge as well as its acquisition, it's also worth noting that whilst a young person's talents may mean their art learning sits within a formal approach, their maths learning can sit within the semi-formal approach, this follows are expectation that we will look at each young person's learning in detail and ensure we have the best approach for them, rather than expecting them to sit with predetermined one.

At CAA we believe that skills taught in maths focussed sessions must be transferrable throughout the pupil's daily activities and lessons, this means as we teach and pupils learn more generally we should use mathematical language and basic maths concepts both formally and informally throughout the school day.

Are learners ready to learn?

Teaching teams have to ensure the young people in their class are ready to learn; typically this will include ensuring the sensory and physical environment is appropriate to learning, and that the pupils are at an appropriate level of sensory and physical comfort.

The learning framework, i.e. the way learning is framed for the pupil will need to be appropriate to needs, with resourcing, communication and language all at an appropriate level to enable to learning.

Pre Formal Curriculum

Young people who are working within the Pre -Formal curriculum, have a timetable which, has been distilled into My Communication, My thinking, Me and My Community and My Body, these better reflect the priorities of these learners. *My Thinking* is the area of the curriculum which is most associated with the numeracy needs of the pupils.

The development of thinking and cognition comes about as the pupil can perceive themselves as part of a world in which they belong and their interaction within it. The student will only be able to develop their thinking by receiving many opportunities to become aware of and to explore this world. These opportunities are designed and constructed to develop exploration, engagement and manipulation of objects and their environment. Our pupils will be learning to problem solve and notice relationships, their sequence and patterns.

To enable this to happen a variety of multi-sensory approaches are used, with a high degree of repetition so the learners can learn to predict and explore in variety of contexts without fear, but with excitement and anticipation.

Our pupils at this very early stage of development will need familiar people around them who can help them to explore and interpret the world. They will need to experience the *My Thinking* activities over and over again if they are going to learn from them. The individual learning Programmes will be child centred and tailored to the individual child's needs and interests so that their learning is achievable enjoyable .

Semi-formal Curriculum

The Semi-formal curriculum begins to introduce some specific mathematical language and concepts, and for some pupils there will be formal *maths lessons* whilst for others the multi-sensory approach can be extended; underlying the curriculum is learning how to relate concepts such as the concept of number, comparisons or time to the real world.

It remains essential for the curriculum to remain flexible and responsive to young people, and to weave in and out of other *subjects*. The curriculum is made up of 5 core areas (Living Skills – Myself and Others, Communication and Literacy, Numeracy, Thinking Skills and Problem Solving, Creative Development, Knowledge and Understanding of the World and Physical Development).

For this curriculum learnt numeracy skills will be relearnt and applied in areas across the week, teachers will need to be aware of vehicles for learning and being very specific which skills are being taught and learnt, e.g. if pupils are singing a *maths* song are they learning maths skills or learning how to sing the song.

Formal Curriculum

In the Formal Curriculum specific maths lessons will be seen, as young people start to understand and apply concepts independently, for example working out how much a shopping list will cost. They will also begin to be able to work abstractly and use common mathematical language such as divide, multiply or addition.

There is a need to be assured that young people have deeply learnt concepts, i.e. they can apply concepts in a functional way or to *new* situations. Care is taken to avoid the trap of setting targets as means of progressing understanding as opposed to check that learnt concepts can be used across a variety of situations. This is of particular importance to learners such as those on the Autistic Spectrum who may be good at spotting patterns but less able to understand why the pattern exists.

For older learners formal qualifications will be considered as pathway into future college choices or employment, for these learners part of the considerations will need to be both the level of qualification and the exam board used to avoid the risk that the curriculum becomes about passing an exam and not about extending mathematical understanding and its application.

Post-16 Curriculum

The Post-16 Curriculum is set up to enable young people to make the next beyond Cumbria Academy for Autism, this is of course a very individual step as such their curriculum reflects and teaching also reflects this.

Numeracy is taught in a functional way, and has a definite focus on applying and making numeracy as functional as possible. For some pupils, especially those operating previously in the formal curriculum qualifications will provide a definite pathway into future college and work opportunities. For pupils accessing formal

qualifications learning how to complete course work or an exam will need to be taught.

An onus on community learning will be prevalent as this will enable young people to be as independent as possible when they leave, it should be noted that classroom learning will continue to provide the bedrock for this application to be successful.

Assessing of Learning

Our assessment follows our pupils learning; as such we have different ways of assessing. The Head of School in conjunction with class teacher can chose from a suite of assessments including the EYFS Framework, Roots for Learning, Autism Education Trust Framework, P-levels, and qualification pathways.

Targets are set, reviewed and challenged for next steps with Teacher and Head of School. Core targets are set in addition through a young person's Individual Education Plan, this is done in partnership with families so numeracy can be developed outside of school.

Care is taken to understand if mathematical concepts are fully understood, i.e. can the pupil apply these concepts to new or other situations from those that were learnt in. Consequently progression can be measured in a longitudinally along a linear progression but importantly also laterally across a functional pathway. Both must have equal standing and be seen of equal value.

The reader should consult our marking policy to more fully understand how we and pupils use assessment to enable learning.

Quality Assurance of Numeracy and Mathematical Learning

Quality assurance follows several pathways with young people using assessment for learning to challenge themselves and staff on the next steps of their learning.

Teaching Teams will quality assure their own delivery through daily weekly and half termly discussions, with the teacher having a formal workshop with the head teacher to discuss progression and learning approaches.

The Trust quality assures learning through termly standards meetings, which include challenge on pupil targets as well as the outcomes, i.e. avoiding the risk we as school become too *comfortable* with the progression we see.

The numeracy coordinator and senior leadership team will engage in learning walks in partnership with class teams, to check and understand the quality (potentially including limiting factors such supporting equipment or approaches).

In addition to this the School also engages in peer to peer challenge with other schools, again to check our perspective of progression and challenge our expectations.

Formal quality assurance of progression also takes place with statutory testing and external exam boards as key stages across the School.

Continuing Professional Development will also act as quality assurance measure as new learning for staff is shared and challenges teachers perceptions of learning and strategies.

DISSEMINATION OF THE POLICY

The policy will be given to all members of staff and copies will be available for parents and available on our school website.

PROCEDURES FOR MONITORING AND EVALUATION

The head teacher, members of the senior management team and members of the curriculum leadership team, will monitor the policy.