

ACE MATHS CURRICULUM INTENT

INTENT:

What is the curriculum aim / vision for this subject?

- To equip students with numeracy skills in order to solve problems and reason mathematically.
- Students will be able to use these skills in a wider context.
- To create successful learners who are confident mathematicians and enjoy the subject.
- The curriculum should encourage students to broaden their vocabulary and develop an understanding of subject specific terminology.

We aim to do this by?

- Stimulating an interest in, and enjoyment of, maths.
- Providing the opportunities and challenge for all to achieve their full potential.
- Encouraging a culture of questioning and feeding the natural inquisitiveness of students.
- Developing an awareness of the relevance of maths to real life that will enable pupils to contribute positively to society.
- Providing the best possible standard of teaching and opportunities for learning.

What do ACE students gain from this?

- Enjoyment of the subject.
- Achieve or exceed their expected progress.
- Use their numeracy skills to make a positive contribution to the workplace and society.
- Students become independent learners.

How have we planned this?

- Guided by the national curriculum and focused on key knowledge and skills to allow for deeper learning on a part time timetable.
- We plan to deliver a 3 year KS3 and 2 year KS4 to ensure a wide variety of curriculum content coverage. Due to individual students' entry date to ACE and student numbers year to year we have mixed year 7 and 8 classes and separate year 9 classes.
- We aim to build on KS2 prior knowledge and skills and provide building blocks to access KS4 curriculum, allowing students to achieve their potential and move on successfully to post-16 provision.
- There are strong links with other subjects through numeracy, such as science, with shared mathematical methods to ensure consistent pedagogy which we plan to develop further.
- **Key words** that are subject specific and tier 2 **vocabulary** to enable students to access mathematical problem questions and to assist in the transition after KS4 are covered during lessons supported by techniques such as matching activities, quizzes and classroom displays.

Sequencing

- We sequence our objectives so students can build on prior mathematical knowledge, firstly from KS2, then throughout KS3 and KS4 to create clear progression and elaboration, supporting knowledge retention and topic links so students can access more and more complex mathematical problems. The sequence may need to be adapted on a student by student basis to take into account lack of attendance at school prior to referral. In addition, consideration is given to their individual medical conditions and ability to attend all lessons at ACE.
- Every attempt is made to provide a breadth of curriculum coverage whilst still providing opportunities for in-depth learning.
- Topics within the strands of number, algebra, geometry and measures, ratio and proportion and statistics and probability are sequenced in order to link core maths skills across the different maths topics and strands, aiding understanding of the fundamental concepts by presenting the same concepts in different mathematical contexts.
- Each strand is then developed each year, consolidating and building on skills previously learned.

Integration and transition post 16

- Before students arrive for their first lesson teachers access available school data to gauge the ability of the student. Teachers will spend time reading pupil passports, seeking to learn about pupils' interests and struggles from their previous setting and outside of education. This helps to slowly integrate the student into their maths lessons making them feel as welcome as possible. This may result in an extended settling in period where pupils will not be expected to engage in the classwork until they feel ready.
- Once they have settled in they will be asked to complete their first assessment which will highlight strengths and areas for development which is fundamental for the teachers planning. High expectations will be discussed and pupils will receive regular constructive feedback verbally or written in which they are expected to act upon in line with our marking policy.
- We are developing the inclusion of real life maths by embedding the use of financial contexts in the teaching of secondary mathematics. This then also enhances the **employability** of the students and transition beyond KS4.

IMPLEMENTATION:

Strategy to support progress for gaps in learning

Available data is collated from the home school for new pupils this identifies the amount of time they have been absent from education. In addition, a pupil passport is completed at ACE to identify support needed for each pupil. This is taken into account by class teachers when integrating new pupils and is followed up by an assessment within the first six weeks. Teachers put into place appropriate interventions where needed.

Due to the fact that pupils join ACE at different stages of their secondary education journey and with differing prior learning gaps relevant opportunities to access catch up work by topic area in a structured way are created as the five strands of number, algebra, geometry and measures, ratio and

proportion and statistics and probability cycle throughout each year. From year 7 to year 11 previous skills are consolidated and built upon.

Strategy to support progress for low attenders

For some pupils whose health significantly affects their attendance appropriate interventions are put in place to support their progress. These will include:

- LSA Support
- Differentiated work
- Adaptive teaching
- SEN support
- Catch up work
- Basic skills Intervention

How does learning develop over the five years?

- Students follow the national curriculum for Mathematics across Years 7 to 11.
- At ACE students follow a 3 year KS3 scheme of learning and a 2 year KS4 scheme of learning.
- Maths skills are revisited and built upon throughout KS3 and KS4 in the strands of number, algebra, geometry and measures, ratio and proportion and statistics and probability giving pupils joining ACE with previous learning gaps opportunities to access catch up work by topic area in a structured way and allowing for consolidation of knowledge.
- Students develop conceptual fluency in order to problem solve and reason mathematically.
- Enrichment is embedded into lessons in order to enthuse students and help them to understand the practical applications of the subject in the world and work place.

What principles have guided our decision making in developing this curriculum? What is distinctive about our curriculum?

- We follow the National Curriculum for Mathematics (from 2015) and use the White Rose Scheme of Learning.
- Small class sizes aid the setting of personalised targets for the students.

How is the timetabled curriculum supplemented or enriched by other approaches to learning?

- We are developing the inclusion of real life maths by embedding the use of financial contexts in the teaching of secondary mathematics. This then also develops the students' cultural capital by outlining the best examples of teaching and role models from students to learn from.
- We enrich the mathematics curriculum with problem solving activities, such as those provided on the Nrich maths website and the celebration of maths days during the year such as World Maths Day, Pi Day and Fibonacci Day.
- We provide numeracy intervention & LSA support in lessons.
- AQA Entry Level Maths qualification is offered as an additional qualification where appropriate.
- Times table and numeracy activities are utilised to develop key fluency skills.

IMPACT:

What forms do assessments take? What is the purpose of assessment?

Summative assessment

- KS3 – pupils have 3 summative assessments throughout the year at an appropriate point in the National Curriculum Map
- End of term assessments for KS4:
 - Assess progress made in each term
 - Topic and question analysis to inform necessary intervention, targeted revision and teacher planning
 - Report progress to parents

Formative assessment

- End of half term assessment/progress tasks for KS4
- Teacher questioning
- Time given for students to reflect on feedback they've been given.
- Diagnostic questioning and quick quizzes at the start of and during lessons create high challenge and low threat opportunities for the pupils to gain **knowledge**.
- Topic based quizzes provide a reflection opportunity for teacher and learner to deal with misconceptions and to aid **knowledge** retention by leaving planned gaps between initial learning and revision and quizzing.
- Games to consolidate maths **knowledge**.

Feedback

Assessments and classwork is marked by the class teacher and detailed feedback given to pupils highlighting areas of strength and weakness. Pupils also review their own work and are involved in setting their own targets. This is in order for them to understand and acquire the relevant skills to equip them for the next stage in their secondary maths journey, exam success, future study and requirements of their future employment and lives.

How do we know if we have a successful curriculum?

- Pupil voice, staff voice, parental voice.
- Monitoring target grades against results.
- Learning walks and lesson observations.
- Scrutiny of student work.
- Self-evaluation via links with other mainstream schools in the authority.
- The development of real life maths in financial contexts to enhance the **employability** of the students and transition beyond KS4.

READING

At ACE we are passionate and dedicated to promoting the importance of literacy. We aim to facilitate student's success to expand and enrich subject knowledge and opportunities in life.

In order to introduce, embed and master vocabulary we at ACE in maths will:

- Provide key words relevant to the topics being studied on a half termly basis to KS3 and KS4 and complete activities.
- Provide definitions for command words with examples in the context of KS3 maths questions and Pearson Edexcel GCSE questions.
- Collaborate to share common vocabulary amongst subjects.
- Widen student's vocabulary and deepen learning to apply the language in different contexts.
- Provide opportunities through cross-curricular vocabulary through a common theme to support and develop exposure to new language and exam terminology to increase confidence.