# Bridgewater Curriculum Intent (Design and Technology)

# The fundamental aim of the Design and Technology Faculty is to create an inspiring, effective, purposeful and relevant curriculum that is ambitious and designed to give all learners, particularly the most disadvantaged, the knowledge and cultural capital they need to succeed in life and encourage a love of learning and resilience in achieving personal success and progress.

The curriculum is planned as a sequence at KS3 to link with the demands of the new GCSE specifications and future career opportunities that may arise. It will deliver a breadth of knowledge across Food and Nutrition, Graphic Design and Product Design making links with STEM where appropriate. The curriculum should ensure learners understand:

* In D&T

The importance and relevance of design and the development of technological discoveries in the world we live in and every-day life. How design has changed and is developing over time. KS3 students should build knowledge on a range of materials and their properties, industrial practices, design strategies, product investigation, modelling and practical skills using CAD/CAM, powered machinery and hand tools. In KS4 students will further develop their understanding and take on the challenging problems a real designer may face with the prototypes they design and make. Whilst considering the social, moral, cultural and environmental issues responsible designers should take on board.

* In Food Preparation and Nutrition

How a healthy balanced diet that includes good nutritional values can enable us to live a healthier life long term. In KS3 learners will develop basic food preparation and cookery skills that enable them to present a range of dishes that could feed a family. In KS4 students will develop more detailed understanding of nutrition, the role of ingredients, product investigation and higher-level food preparation and cooking skills. [Food provenance, food science]

To enable this to happen our curriculum in planned around the following **6 dimensions**:

1. Clarity around the sequence of learning over 5 years.
2. Clarity around the knowledge and the application of knowledge.
3. Vocab and literacy
4. Subject content which is Aspiring, Inspiring and ‘Real World Learning'
5. Memory and Cognition.
6. Assessment. Clarity around the end points and the assessment of what students know and can do.

**Six Dimensions of the BWH Curriculum**

1. **Clarity around the sequence of learning over 5 years**

**Knowing and understanding more at each stage of the curriculum.**

In D&T, we have carefully considered the sequence of topics and development of key practical skills and understanding of theory concepts. In each year at KS3 we aim to revisit the skills required to succeed at KS4 building complexity as the years progress.

In Food and Nutrition KS3 learners will develop understanding of health and safety, nutrition, environmental and social issues, the role of ingredients, basic food preparation, use of tools and equipment and cookery skills that enable them to present a range of dishes that could feed a family. In KS4 students will develop more detailed understanding of nutrition, the role of ingredients, product investigation and higher-level food preparation and cooking skills. [Food provenance, food science]

Across D&T subjects KS3 learners will develop understanding of health and safety, use of a range of hand and powered tools and equipment to shape a range of materials, presentation of ideas using CAD and hand drawn techniques, manufacturing of models and prototypes by hand and using CAM, understanding of the properties of materials, human, environmental, social, cultural and moral issues, research and evaluation methods and a range of manufacturing techniques.

In D&T and Food and Nutrition at KS4 students should aim to build and expand previous knowledge and understanding.

1. **Clarity around the knowledge and the application of knowledge**

**Explicit teaching of subject knowledge and relevant background knowledge that can be applied to problem solving and is transferable between contexts and subjects.**

Opportunities for retrieval of skills are built into the curriculum through starters/homework quizzes, retrieval activities and the sequencing of projects so that pupils can transfer skills between topics and contexts in the DT curriculum and across other subject areas where applicable. At KS3 every project will be supported by a knowledge organiser. Response to verbal/ feedback is also used to check understanding.

To design out barriers to success at KS4, the KS3 curriculum will also focus on the development of key skills which will be sequenced and repeated across the key stage to enable students to be more familiar, and better able to cope, with the demands of KS 4. Furthermore, some KS4 theory content will also be embedded within Key Stage 3 to ensure there is contextual understanding and familiarity.

QMAs and key pieces in each project are also used to assess gaps in knowledge and understanding of topics.

At KS4 students are supported with revision guides/workbooks and online materials.

1. **Vocab and Literacy**

**Vocabulary: Explicit teaching of vocabulary at all stages of a subject.**

Key vocabulary consists of a combination of key subject terminology and command words to improve cognition. The teaching of keywords and use of correct terminology is a key point in most lessons. They are expected to be used throughout the key stages in discussion, annotation of both written and design work and all written classwork. Key vocabulary is included in knowledge organisers and in glossaries. In each year there are pieces that require extended reading and comprehension of that information. Keywords are on display in most classrooms.

Quick definitions tests on core technical skills following spaced practice; frequent writing activities requiring use of key terms such as ‘extended response’ questions at GCSE as well as spelling test starters at KS3.

1. **Subject content which is Aspiring, Inspiring and ‘Real World Learning'**

D&T subjects are creative, affect and influence everyday life. They also have a wide connection across the curriculum covering a multitude of subject areas including social, moral, environmental and cultural issues, science and maths skills, links to geographical and historical content and Art and Design movements.

Both DT and Food require students to question what is happening now and establish an understanding of how to develop responsible solutions to a range of problems they are set. The subjects require students to develop skills that will help them in the real world. Collaborative working, confident researching, working to deadlines and manufacturing solutions. Through this approach we aim to develop students’ enjoyment and curiosity about the opportunities the subjects might bring to them.

For the last 10 years Yr10 DT Students have been commissioned and sponsored by the local firm, ‘Solvay Interox’ to create trophies for CIA Awards. They have also had the responsibility of making the KS3/4 awards for school celebrations. The whole of Yr7 will take part in a trip to ‘Techniquest Glyndwr’ where they have completed workshops in areas such as programming robots, making structure and taken part in a ‘Mathemagics Show’.

At KS3 there are Cooking and DT clubs

In the summer term there is usually an exhibition of KS4 work

1. **Memory and Cognition**

In Design and Technology content is re-visited at some point in each year at KS3 through recall questioning at the start of every lesson and quizzes on ‘Show my Homework’ before QMA’s. Knowledge organisers are used in each project at KS3. From September 2019 students opted for 2 D&T subjects in Year 9 which allows for development of more in-depth knowledge and closing the gaps in knowledge and expectations if they opt for D&T subjects at KS4.

At KS4 ‘Retrieval Roulette’ and recall questions are used as a starter to cover sections of Core knowledge in DT. Short 1 or 2 mark questions are used in Food and Nutrition to encourage students to recap/recall prior learning. A whole school approach to the teaching of command words and memory/revision strategies will take place and students have an understanding of why this is important.

1. **Assessment: Desired outcomes and how they are measured.**

The assessment of Design and Technology at Key Stages 3 and 4 includes both formative and summative judgements. Pupils are assessed through demonstration of a range of practical skills and the use of targeted questioning to assess their knowledge and check for understanding. Such methods are used to address any misconceptions and inform future lesson planning. AWOL criteria are used at Key Stage 3 to assess pupils’ overall ability within each unit of work and pupils are actively encouraged to self and peer assess at least once per term. ‘Success Sheets’ are also used at KS3 to support learners in understanding how to achieve/exceed their target in the 3 key pieces in each term linked to AWOL.] Students response to teacher feedback also aids them in achieving targets.

At GCSE, pupils are assessed regularly through targeted questioning, low stakes retrieval quizzes and specific examination questions for each topic. There are also a range of more formal assessment opportunities which are provided through the QMA cycle/end of unit tests and mock examinations in both Years 10 and 11.

Assessment at Bridgewater:

**i) Promotion of Learning**

**ii) Informing teaching**

**iii) Is both formative and summative**

**iv) Recognises student progress and achievement**

**Class Level.**

At class level students are assessed through the following strategies:

* Recap quizzing as homework
* Targeted questioning. (no hands up)
* Hinge questions
* Retrieval/recall tasks
* Self-quizzing
* Low stakes testing in KS4-Retreival Roulette/starter questions [DT] and lesson starter questions[F&N]
* Multiple choice questions
* Quality Mark Assessment [One in each term or project]

**School Level**

Whole school/year assessment points are planned as the best fit to support learning, in a manner which is year group specific.  Whole school assessment is not tail wags the curriculum dog.

KS4 Formal standardised pre-public exams twice a year.

KS3 Formal examination style testing based on retrieval of information throughout the key stage.