Jerry Clay Academy

Design and Technology Guidance

Updated September 2022

Intent

At Jerry Clay Academy, we teach Design and Technology as a discrete subject throughout the JCA theme model. We believe in developing pupils to become creative, risk-taking individuals, allowing them opportunity to understand risk and explore their ideas by providing them with a range of stimulating purposeful projects. Through inspiring creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Pupils will use their sketch books to record their Design and Technology projects across a range of contexts. The process will begin with the delivery of a design brief and evaluating existing products to finally evaluating their own product. Teaching staff use the learning journey in DT, as in every other, focussing on the various steps and skills needed before achieving a final outcome. Final outcomes will be developed for a range of contexts, e.g. home, school, leisure, culture, enterprise and industry to reflect the purpose of DT in 'real-life'.

Implementation

Using creativity and imagination, pupils at Jerry Clay Academy will design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils will learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, pupils will develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education – encompassing a progressive range of skills and knowledge – is vital.

The national curriculum for design and technology **aims** to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world

- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users

- critique, evaluate and test their ideas and products and the work of others

- understand and apply the principles of nutrition and learn how to cook.

Resources are stored in the DT hub, which is baseedd in the Year 4 and 5 porch. **It is the responsibility of all teachers to ensure that the storage areas are kept tidy and safe.** The DT Subject Leader will audit resources and ensure a broad provision is maintained. Staff are to advise the DT Leader of specific resource needs for their next unit of work in advance (when submitting Medium Term Planning) so that resources are in good stock.

Class teachers are responsible for the planning and delivery of progressive DT lessons. The DT Leader has provided a template to all staff based on 8 key stages (6 stages in KS1) to ensure progression throughout a unit of work, as well as familiarity of key DT stages and processes across school. These are:

-delivering the design brief

- evaluating existing products

-market researching

-technique/skills development

-quality development

-designing and planning

-making

-evaluating and reflecting

-the design brief, evaluating of existing products, market

Children assess the needs of the product against its appeal and audience

As a minimum expectation, teaching of DT is delivered in each term. Teachers will use the JCA DT templates (slides) to share the Learning Objective for the lesson. Teachers are encouraged to plan backwards from an intended end product (final piece), building up the necessary skills over a learning unit. We intend for pupils to become familiar with the process of experimentation and skills development. Pupils understand what a quality end product will be like through exposure to, and analysis of, a 'WAGOLL' provided by the teacher. Sketchbooks are personal records of learning journeys, showing knowledge, skills and constant evaluation. There is an additional progressive vocabulary document for DT which highlights the key vocabulary to be taught across each year group, in alignment with the areas of DT taught (skills, processes and equipment).

Professional development and staffing needs are audited regularly through a staff questionnaire and CPD is planned, as part of the whole school 3 year subject CPD plan.

Progression of knowledge and skills in DT has been developed at Jerry Clay Academy and demonstrates the Success Criteria which the teacher will assess through continuous observation or through specific assessment activities. These cover the main strands of Design and Technology. Teachers will complete ongoing assessment for the particular strand taught. Pupils' sketchbooks are their personal learning journeys of progression throughout a particular strand of work, finalising in an end outcome, that has been designed, planned and made by them. Teachers are encouraged to take photographs to record evidence of end products and these will be evaluated by the pupils. Progress in DT is reported annually to parents alongside other curriculum subjects.

DT is monitored as part of the JCA monitoring cycle. The Subject Leader evaluates planning and will observe lessons through drop ins. Regular scrutiny of sketchbooks is completed to assess progression through the school and within the individual's own learning journey. When appropriate, it is also possible that the DT Subject Leader will seek the support and advice of a specialist to evaluate particular areas of the curriculum.

At Jerry Clay Academy, pupils have access to a range of extra-curricular clubs which allow them to develop their skills in the DT/STEM Science. This includes both after school clubs and organise lunch time activities. Subject specialists lead these as well as teachers or teaching assistants. In addition, the school's Junior Leadership team take small lunch time groups depending on demand. These include activities in Food technology, Resistant Materials and STEM clubs and are available to all children across school. These clubs may come at an additional cost to parents due to the resource requirements.

Strategies to support children with SEN

At Jerry Clay Academy, in Design and Technology, we use a number of evidence-based strategies to support children with SEN. Strategies include:

Scaffolding

- Support for SEN children with learning vocabulary; this may include flash cards.
- Support in writing sentences eg, missing words rather than writing the whole sentence.

 All scaffolding follows a 'I do, you do, we do' approach.

Explicit Instruction

- Pupils may be supported in their thought process in Design and Technology.
- Pupils will be given specific opportunities by adults to practise specific skills that are barriers to learning. They will – where necessary – use adapted equipment in order to support them to meet the learning intention.
- Visual aids and concrete examples will be used to support learning.

Cognitive and Metacognitive Strategies

- Tasks may be 'chunked' into smaller steps.
- Vocabulary prompts may be used to support sentence work.
- Depending on ability, children with SEN may be asked to evaluate their own progress and discuss what they can do to move their learning forward.

<u>Flexible Grouping/Fading</u>

- Temporary groups may be established to support learning a particular concept.
- Pre-teaching and support with new vocabulary may be used.

<u>Use of technology</u>

- Tasks set may include useful apps/websites to move learning forward.
- Speech generating apps may be used for recording.

Impact

Through their monitoring of the subject, the subject leader should be confident in leading the subject and assisting staff when needed. The monitoring cycle should be rigorous in DT and should allow the opportunity for staff to receive and act upon feedback given through staff meetings or staff training.

Through implementing the key steps identified in the Action Plan, DT should be heightened across the school and pupils should be confident in talking freely about the subject. Teacher's confidence in DT should be heightened and they should teach the subject each half term, focusing on different domain.

In ensuring that the points made in the 'Implementation' section of the guidance are followed rigorously, pupils' enjoyment, and therefore attainment in the subject will be of a high standard. This will be monitored by the subject leader.

Miss R Harling- Design & Technology Subject Leader