



## D & T Curriculum Intent

At Birklands Primary School, we believe that developing:

- Independent learners
- Creative thinkers
- Socially confident and responsible citizens
- Cultural knowledge

will provide our pupils with the positive powers to make a difference in their lives and break the cycle of deprivation associated with the area that we serve.

The impact of this is that through the teaching and learning of Design and Technology we:

- Develop pupils' abilities as 'consumers to evaluate existing products.
- Develop pupils' skills and knowledge as 'technicians' in the use of tools and materials.
- Develop pupils' skills as 'innovators' to design, make and evaluate products for a purpose.
- Learn about notable designers, inventors and engineers.
- Gain an understanding of safe use of tools and equipment.
- Develop an understanding of the design process of *plan, make, evaluate*.
- Develop understanding and application of the principles of nutrition and learning how to prepare food.

The Birklands Design and Technology curriculum gives children the opportunity to develop skills, knowledge and understanding of designing, making and evaluating functional products. Skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children. Design and Technology is taught through our topic based approach, allowing for cross-curricular links to be made. Pupils are encouraged to apply their knowledge from maths, science, computing and art, within these projects

Creativity and innovation are nurtured through design, and by exploring the designed and man-made world in which we all live and work. It encourages children to become independent, creative problem-solvers and thinkers.



# THE PRINCIPLES OF INSTRUCTION

TAKEN FROM THE INTERNATIONAL ACADEMY OF EDUCATION

This poster is from the work of Barak Rosenshine who based these ten principles of instruction and suggested classroom practices on:

- research on how the brain acquires and uses new information
- research on the classroom practices of those teachers whose students show the highest gains
- findings from studies that taught learning strategies to students.

HOW TO  
www.impact.org

## 01 DAILY REVIEW



Daily review is an important component of instruction. It helps strengthen the connections of the material learned. A review also frees working memory for problem solving and creating.

## 02 NEW MATERIAL IN SMALL STEPS



Our working memory is small, only holding a few bits of information at once. Avoid its overload — present new material in small steps and proceed only when first steps are mastered.

## 03 ASK QUESTIONS



The most successful teachers spend more than half the class time lecturing, demonstrating and asking questions. Questions allow the teacher to determine how well the material is learned.

## 04 PROVIDE MODELS



Students need cognitive support to help them learn how to solve problems. Modeling, worked examples and teacher thinking out loud help clarify the specific steps involved.

## 05 GUIDE STUDENT PRACTICE



Students need additional time to rehearse, analyze and summarize new material in order to store it in their long-term memory. More successful teachers build in more time for this.

## 06 CHECK STUDENT UNDERSTANDING



Less successful teachers rarely ask "Are there any questions?" No questions are any take to mean no problems. False. By contrast, more successful teachers check on all students.

## 07 OBTAIN HIGH SUCCESS RATE



A success rate of around 80% has been found to be optimal, showing students are learning and also being challenged. Better teachers taught in small steps followed by practice.

## 08 SCAFFOLDS FOR DIFFICULT TASKS



Scaffolds are temporary supports to assist learning. They can include modeling, teacher thinking aloud, cue cards and checklists. Scaffolds are part of cooperative learning.

## 09 INDEPENDENT PRACTICE



Independent practice provides *overlearning* — a necessary process for new material to be recalled automatically. This ensures no overloading of students' working memory.

## 10 WEEKLY & MONTHLY REVIEW



The effort involved in recalling recently learned material embeds it in long-term memory. And the more this happens, the easier it is to connect new material to each prior knowledge.