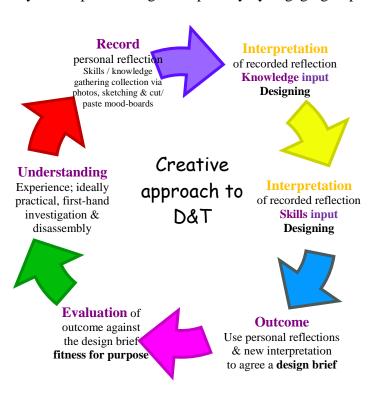# Design & Technology Policy

Black Firs School

Introduction

Throughout history people have used their creativity and inventiveness to change the way they live. We all live in an increasingly technological society. It is important to ensure that children are made aware of the impact of technology upon their lives and upon the environment. Their experience should include an awareness of social, moral, economic and political issues that will develop children's values and attitudes to current and future change.

The ability to use technological equipment and systems in everyday life, is an essential skill for children and adults. There is a need for planned school experience to develop such competence. Children should also discover the fulfilment of being creative, of affecting control of the environment, of manipulating materials and harnessing energy. This technological capability to originate, to perform and to complete tasks, can be developed through a design / problem-solving process, to achieve its intent, namely

'a practical solution to a human need'

Design & Technology in our School has a central role in developing awareness competence and capability. It uses and enhances the knowledge and skills drawn from other curriculum areas by providing opportunities for these to be applied in a practical context. A fundamental principle of Design & Technology is that children can only develop technological capability by engaging in practical, technological activities.

Record personal reflection
Skills / knowledge gathering collection via photos, sketching & cut/ paste mood-boards

Interpretation of recorded reflection
Knowledge input
Designing

Interpretation of recorded reflection
Skills input
Designing

Creative approach to D&T

Understanding Experience; ideally practical, first-hand investigation & disassembly

Evaluation of outcome against the design brief
fitness for purpose

Outcome
Use personal reflections & new interpretation to agree a **design brief**

The Creative Process

At Black Firs we have carried out action research in to how we develop creative thinking in our children. The diagram opposite illustrates our approach. In D&T we start with *1.Understanding* and personalised, relevant response to man-made artefacts or human needs *2.Recording* which could be done using photos, mood-boards, sketch-books. Understanding how things work in the real world are taught *3.Interpretation* reflect on designers work & knowledge of how things are made, materials used or how they work. The next *4.Interpretation* stage is a skills input and an opportunity to try different techniques and examine the skills used in making. Stage 5. *Outcome* is where the child can create their design brief, knowledge, skills & understanding gleaned to produce an outcome. Stage four and five is a little subroutine loop where work can be refined and *6.Evaluated*, reworked & improved. Ask the question *'is this fit for the purpose it was designed for'?* The aim of practical first-hand experience is to gain a deeper *Understanding*.

Intent for Design & Technology in our School

The reasons for including this area of experience and learning are as follows:

✘ to help children develop lively, enquiring minds, the ability to question and argue rationally and to apply themselves to tasks, and physical skills;
✘ to help children acquire knowledge and skills relevant to adult life and employment in a fast-changing world;
✘ to help children use language and number effectively;
✘ to help children to understand the world in which they live;
✘ to help children to appreciate human achievements and aspirations.

Role of the D&T Co-ordinator

The Technology Co-ordinator, is responsible for circulating the Staff Skills Proforma; completing the annual Technology Audit; ordering resources; supporting staff by helping to suggest suitable approaches and identifying resources available. We use the DATA Self-Review Framework tool https://www.data.org.uk/for-education/self-review-framework/ to evaluate our curriculum. They will also:

� Highlight areas for the development of D&T within the School Development Plan.
✹ Ensure that equipment is safe to use.
✹ Review INSET needs of all staff and provide suitable training opportunities.
✹ Disseminate relevant information to all members of staff.
✹ Keep up to date with developments and new technologies.
✹ Develop the progress-map to ensure a whole-school approach to the teaching and learning of D&T.

Professional Development

The role of each member of staff in implementing this policy is to remain bold, enthusiastic and full of courage. Building from strengths and existing competence and to not be embarrassed to ask for help. Staff have completed the Skills proforma which identifies areas of personal strength and a focus for support. INSET will be provided as school-based training or through courses run by other providers. The D&T co-ordinator will discuss with colleagues their INSET needs and encourage them to attend relevant courses or plan whole staff INSET through staff meetings or a Staff Development Day.

Planning and Delivery

The Staff have decided that we will teach D&T through assignment projects where relevant. At KS1 this is equivalent to 3% of teaching time per year. At KS2 this is equivalent to 5% of teaching time per year

The list of suggested activities we have adopted for use in our School is contained in the D&T progress-map. We believe it provides for the principles of relevance and equal opportunities noted below.

While planning, colleagues should ensure children:

1. focus on practical tasks to develop and practice skills and knowledge

2. investigate, disassemble and evaluate products

3. undertake assignments in which they design & make products with a clear purpose.

How we Ensure Progression

Progression does not necessarily mean increased complexity. Progression comes about by allowing reflection and consolidation, plus the development of the ability to transfer knowledge and understanding from one situation to another. The principle of progression is addressed in our progress-map. The mind-map gives progressively deeper understanding and greater competence.

Differentiation

Differentiation should be achieved both through differentiated activities and through differentiation of intended outcomes. For example, children who are progressing rapidly should be encouraged to extend their IT experiences either through use of more challenging software, or simply an alternative software package to provide depth of experience, or by extending the task which has been set.

Assessment of children and Records of Progress

We assess Designing and Making aspects of technology in accordance with the National Curriculum, using the end of end of key-stage Attainment Targets provided. Staff record children's progress, by year group, using the Schools Foundation Subject Framework spreadsheet which is on our SharePoint here We record children's learning outcomes in Earwig saving photographs of the children's written, drawn information as evidenced in their Studywork books. This evidence is automatically reported to parents through the child's Earwig time-line throughout the year.

Equal Opportunities

Design & Technology has relevance for children of all ages, irrespective of gender, ethnic group or social origin. Because its essence is in practical activities, imagination and the manipulation of abstract ideas, it can be matched to the needs of children at all stages of conceptual development. The range of activities, are broad enough to

allow individual children with particular disabilities and difficulties to participate. Extra help may be needed to sustain and support the efforts of children with special needs. We must ensure that all our children:

1. have equal access to D&T resources

2. have equal opportunities to develop D&T capability

3. use equipment which is appropriate to their ability

Health and Safety
We will adopt the NADIT "Make it Safe" document as a guide to safety in School. This will be kept in the Subject Resources Area; details will be highlighted during InSeT. https://www.data.org.uk/shop-products/make-it-safe/

Resources and their Management
The major resource we possess, which is essential for technology, is an enthusiastic staff who not afraid to learn alongside the children. http://wiki.dtonline.org/index.php/Primary_D%26T_Toolkit

Equipment available in School is stored in the mobile workbench stored in upper juniors' practical area. It has appropriate equipment for Infant & Junior Departments.

A list of equipment in School can be found here.

Monitoring, Evaluation and Review
We will evaluate the teaching of technology in the curriculum are by evaluating annually how well we are covering the scheme of work and by moderating an example of children's work from each class, per year.

The effectiveness of this policy will be monitored by the D&T co-ordinator, in consultation with the Headteacher and Staff. The coordinator will meet annually with their link Governor to discuss this policy and the current action plan. This will be reported back to LGB via the Link Governor Report.

Staff Skills Proforma - Technology

Could you please complete the following proforma so that I may establish in what areas your strengths lie? Don't be bashful about your aptitudes. Your responses will help us to support your professional development in this curriculum area.

Thanks Martin.

Name	Date
Curriculum Co-ordinator for	

1. I have experience or qualifications in the following practical areas...

2. Personal Skills & hobbies. At home I can... *(e.g.. bake, work on the car, play the piano, work with ceramics, knit, paint in oils, build walls, etc.)*

3. I have attended the following relevant INSET courses... *(approx. dates)*

4. My most successful technology project was...

5. I would most like some INSET in...

6. I feel happy; unsure; terrified; never worked with; when working with: *(try to put one phrase for each area)*

food	
wood	
plastics	
card & paper	
hand-tools - *which in particular*	
computers - *which in particular*	
software packages - *which in particular*	
textiles - *surface decoration*	
textiles - *construction*	
control equipment – *BeBots or Roamers*	
control equipment - *Lego interface*	
construction kits	
electrical circuits	
general construction	

7. I would most like some help in school with... *(e.g. computers, Roamers, hand tools)*

8. Do you find planning for technology difficult?   yes   no

Why is that...?

9. I think my themes & story for the next year may include...?

10. How could technology be made easier to include in your class teaching...?

Equipment & Resources Proforma - Technology

Could you please complete the following proforma so that I may establish what equipment you have in your classroom. If the equipment is shared please mark it S. Please put the quantity of each item & condition if it is appropriate.

Thanks Reuben.

Name ....   Date   ....

Tools
Glue Guns
Screw Drivers
Junior Hacksaws
Files
Circle Cutter
Safety Snips
Hole punch
Cutting Mats
Wire Strippers
G Clamps
Bench hooks
Vices
Strip Link Joiners
Engineers Pliers
Pistol-grip Drill
Hand Drill
Paper Drill
Set of drills
Hammer
Safety Rulers
Safety Goggles
Shaper Saw
Serform
Lynx Stripper Joiners

Infant Department

2 Glue Guns	Bauplay
3 Screw Drivers	Lego Duplo
2 Junior Hacksaws	Luna Park
1 Tenon Saw	Multi-build
1 Hole punch	Wood Town
2 Pairs wire cutters	Link-It
2 Small clamps	Building Bricks
2 Hand Drills	Construction Company
1 Set of drills	Stickle Bricks
1 Hammer	Wooden Construction, Wooden Wheels
1 Safety Ruler	

Junior Department

2 Glue Guns (1 hot)	Polydron, solids & shapes
3 Electricians Screw Drivers	3 trays Lego
4 Junior Hacksaws	Luna Park
1 round file	Capsela

1 flat file
1 pair Safety Snips
1 Hole punch
1 Paper Drill
1 Pair wire strippers
2 G Clamps
5 Strip Link Joiners
1 Pistol-grip Drill
1 Set of drills
1 Claw Hammer
1 Safety Ruler

Wooden Construction Kit
1 tray Ramagon
Plastic Construction Kit
Wooden Wheels Kit
4 Lynx Joiners
Syringes & plastic tube

School based equipment

2 Glue Guns (1 hot)
2 Screw Drivers
4 Junior Hacksaws
1 round file, 1 flat file
1 Circle Cutter
1 pair Safety Snips
1 Hole punch
1 Paper Drill
1 Pair wire strippers
2 G Clamps
5 Strip Link Joiners
1 Pistol-grip Drill
1 Set of drills
1 Warrington Hammer
4 Safety Rulers

Polydron Kit
1 tray Lego
1 Small Serform
2 pairs Safety Goggles
1 Shaper Saw
4 bench hooks
2 Vices
2 Cutting Mats
4 Lynx Joiners
Syringes & plastic tube
1 pair Engineers Pliers