Chad Vale Primary Design and Technology Policy

At Chad Vale Primary School we follow:

- **The policies and procedures from Birmingham City Council and Birmingham Safeguarding Children Board (BSCB) which includes the Government's Prevent strategy.**

Policy Written by:	Siobhan Cutts
School adoption date:	January 2018
School's review date:	January 2020

CHAD VALE RESPECTING RIGHTS

This policy is written with consideration to our schools commitment to the Rights of the Child (UNRC) and our achievement of becoming a Rights Respecting School. This policy has been written with full awareness of our responsibility and commitment to this purpose.

As a school we have decided that the following rights link to this policy:

Article 3: Everyone who works with children should always do what is best for each child.
Article 12: We have the right to say what we think should happen and be listened to.
Article 13: We have the right to information.
Article 15: We have the right to meet with friends and join groups and clubs.
Article 17: We have the right to honest information from newspapers and television that we can understand.
Article 23: We have the right to special care and support if we have a special need.

DESIGN TECHNOLOGY POLICY STATEMENT

Design and technology prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making working products and systems. Through the study of design and technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate past and present designs and technologies and its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators.

THE NATIONAL CURRICULUM 2014

Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

- design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria Technical knowledge
- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Key Stage 2
Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].
When designing and making, pupils should be taught to:
Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic

qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

PLANNING

Design and technology is a foundation subject in the National Curriculum. Our school uses the

'Projects on a Page' (created by the Association of Design and Technology) scheme of work as the basis for its curriculum planning in design and technology. Teachers adapt this planning to allow for different abilities within the classroom and to allow the children to become independent designers. We also use the local environment as the starting point for aspects of our work, as well as trying to create cross curricular links with other subjects.

We carry out the curriculum planning in design and technology in three phases: long-term, medium-term and short-term. The long-term plan maps out the units covered in each term during the key stage.

Our medium-term plans, identify learning objectives and outcomes for each unit, and ensure an appropriate balance and distribution of work across each term.

We plan the activities in design and technology so that they build upon the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding and we also build planned progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

The Foundation Stage
We encourage the development of skills; knowledge and understanding that help reception children make sense of their world as an integral part of the school's work. We relate the development of the children's knowledge and understanding of the world to the objectives set out in the Early Learning Goals. These underpin the curriculum planning for children aged three to five. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction materials safely, with increasing control.

We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities take place indoors and outdoors, they attract the children's interest and curiosity and it allows them to explore Design and Technology through a range of experiences.

CROSS-CURRICULAR LINKS

Maths
Design technology contributes to the teaching of Maths in our school by providing many opportunities for children to apply their mathematical skills in different contexts. Children show their learning through choosing and using appropriate ways of calculating measurements and distances. They learn how to check their results of calculations for reasonableness and learn how to use an appropriate degree of accuracy for different contexts. Children use measuring skills in context and apply their knowledge of fractions and percentages to describe qualities and calculate proportions. The children carry out investigations and in doing so; they will learn to read and interpret scales, collect and present data and draw their own conclusions. They will learn about size and shape and make practical use of their mathematical knowledge in order to be creative and practical in their designs and modelling.

English
Design and technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing during their English lessons. Discussion, drama and role-play are important ways that we now employ for the children to develop an understanding that people have different views about design and technology. The evaluation of products requires children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views, opinions and clarify their design ideas.

Computing
We use Computing to support design and technology teaching when appropriate. Children use software to enhance their skills in designing and making, and use draw-and-paint programs to model ideas. They use databases to provide a range of information sources and the internet to research information needed for their particular topic. The teachers use Computing skills to teach their topic and show ideas and data. Upper KS2 use more advanced Computing programs to control and move products.

Personal, social and health education (PSHE) and citizenship
Design and technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

Spiritual, moral, social and cultural development
The teaching of design and technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

TEACHING METHODS AND APPROACHES

The school uses a variety of teaching and learning styles in design and technology lessons. The principal aim is to develop children's knowledge, understanding, planning, designing and making in design and technology. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. We do this through a mixture of whole-class teaching and individual/group activities.

Within lessons, we give children the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials, tools and resources, including Computing.

In all classes there are children of differing abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies:
• setting common tasks that are open-ended and can have a variety of results;
• setting tasks of increasing difficulty where not all children complete all tasks – Higher level thinking questions;
• grouping children by ability and setting different tasks for each group;
• providing a range of challenges through the provision of different resources;
• differentiating the booklets produced to plan and develop the children's ideas and differentiating the task. Lower ability children may be offered a frame to start their design whereas higher ability children may be asked to design their own.
• using additional adults to support the work of individual children or small groups, or by pairing higher ability children with a lower ability child.

ORGANISATION

Business challenges
During the school year the children enjoy the opportunity to take part in a business challenge. This is where the teacher and the children create their own business and design and make a product for profit. The children may visit local businesses to see how they operate. The aim is to make 1p profit and the children develop a clear understanding that the resources cost money in order to run a successful business.

Resources
Our school has a wide range of creative resources to support the teaching of design and technology across the school. Classrooms have a range of basic resources, with the more specialised equipment being kept in the design and technology store. Children must not retrieve or return equipment, without supervision by an adult.

Health and safety
The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene. We teach children how to use and hold tools correctly. *Please read in conjunction with the school Health and Safety Policy*

ASSESSMENT AND RECORD-KEEPING

Teachers assess children's work in design and technology by making assessments as they observe them working during lessons. They record the progress that children make by assessing the children's work against the learning objectives. This information is then placed on the assessment tracker system using the school's assessment vocabulary of Emerging, Developing

Secure and a Year group.

REPORTING

Teachers then use their evaluations to plan the future work of each child and to make an annual assessment of progress for each child, as part of the annual report to parents. Each teacher passes this information on to the next teacher at the end of each year.

Each teacher uploads photographic evidence onto School Pupil Tracker Online to enable the DT leader to monitor the work in a child's portfolio. This demonstrates what the expected level of achievement is in design and technology in each year of the school.

MONITORING/EVALUATION

The monitoring of the standards of children's work and of the quality of teaching in design and technology is the responsibility of the design and technology subject coordinator. The work of the co-ordinator also involves supporting colleagues in the teaching of design and technology, through discussion or team teaching. The subject leader is responsible for informing senior leaders about standards in the subject and for providing a strategic lead and direction for the subject in the school, keeping abreast of new developments and initiatives where necessary.

INCLUSION AND EQUAL OPPORTUNITIES

We teach design and technology to all children, whatever their ability. Design and technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in design and technology takes into account the targets set for individual children in their Individual Education Plans (IEPs).

Policy agreed on: ……

Chair of Governors: ……..