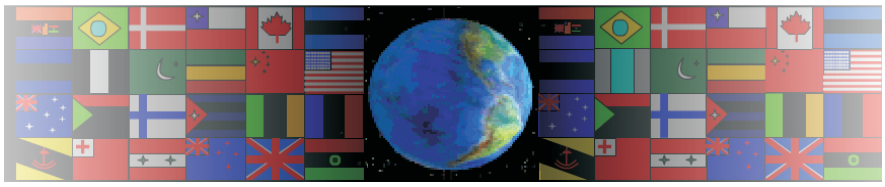
NEW NATIONAL CURRICULUM KEY STAGE 3 LEVELS SIMPLIFIED VERSION (2008)

The World Association of Technology Teachers

W.A.T.T.



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The table below shows the level descriptors for Key Stage Three pupils - following the new National Curriculum—2008. Alongside each NC Level descriptor is a simplified version with examples of how each level can be achieved. The lower level statements must be satisfied before a pupil can be considered for the higher level statements. For example, a pupil must have achieved all the statements at level 3 before being considered for level 4. When writing schemes of work, WATT (World Association of Technology Teachers) recommend that the teacher constantly checks the scheme against the level descriptors to ensure that the pupil work remains focused on level achievement.

When grading / levelling pupils it is recommended that the following criteria is followed for the vast majority of pupils:

Year 7 – LEVELS - 3,4,5
Year 8 – LEVELS - 4,5,6
Year 9 – LEVELS - 5,6,7,8

LEVEL	NC STATEMENT	SIMPLIFIED VERSION
3	(Levels 2/3 are not mentioned in the KS2 2007 NC Document. This level descriptor has been devised to match appropriate skill levels) They must design ideas by collecting and using pictures from a limited range of resources. They use equipment for skilled tasks, label and explain their designs using colour when appropriate. They design for markets. Investigate the work of designers and write about their products and skills. Evaluate their designs comparing their work to that of others. They explain how their ideas/product could be changed in order to improve it.	The pupil produces his / her own ideas. His/her ideas meet the needs of the client / end user. He/she plans the project (ie produces a rich picture / spider diagram). He/she is capable of explaining his / her ideas. He/she uses labelled sketches. He/she uses simple models such as card models, Lego models etc…. He/she plans the practical work by listing the tools, equipment, materials, components and techniques needed. This could be in the form of a sequence drawing. He/she uses tools and equipment, cutting and shaping materials with some accuracy. He/she puts the manufactured parts together. He/she produces an evaluation of designing and making, emphasising improvements.
4	Pupils generate ideas by collecting and using information. They take users' views about aesthetic and technical issues into account as they respond to briefs. They communicate alternative ideas using words, labelled sketches and models, showing that they are aware of constraints. They apply their knowledge and understanding of materials, ingredients and components, and work with them with some accuracy, paying attention to quality of finish and to function. They use some ideas from others' designing to inform their own work. They produce step-by-step plans and then select and work with a range of tools and equipment. They identify what is working well and what could be improved to overcome technical problems. They reflect on their designs as they develop, recognising the significance of knowledge and previous experience.	The pupil draws ideas having used research that he/she has collected. (ie. Pictures from a catalogue or photocopies or photographs or internet etc…) He/she carries out a survey / questionnaire to collect the views of others and shows that these views have been used to solve the design problem. He/she produces step by step plans eg. A flowchart and sequence drawing. He/she uses labelled sketches, text and models as a way of communicating ideas. The pupil shows that he/she understands the constraints of the brief. When making he/she works with a range of materials and components with some accuracy. Attention is paid to the quality of finish. The pupil shows an understanding of the way the completed item should function. Through the use of a sequence drawing he/she shows that he/she is capable of selecting and working with a range of equipment and tools. When drawing the sequence drawing he/she explains the choice of equipment. He/she produces a range of designs and then selects the best one for development. As the selected design is improved he/she explains in note form how the original design has been improved.

LEVEL	NC STATEMENT	SIMPLIFIED VERSION
5	Pupils develop ideas by drawing on and using various sources of information. They clarify their ideas through discussion, drawing and modelling, showing understanding of aesthetic and economic dimensions. They respond to briefs showing understanding of how culture and society are reflected in familiar products when developing and communicating their own ideas. They show that they are aware of constraints as they apply knowledge and understanding of materials, ingredients and techniques. They use understanding of others' designing as they develop their work. They work from their own detailed plans, modifying them where appropriate. They work with a range of tools, materials, ingredients, equipment, components and processes with some precision. They check their work as it develops, solve technical problems and show some evidence of creativity as they modify their approach in the light of progress. They test and evaluate their products, showing that they understand the situations in which the products will function.	He/she uses a range of information sources (internet, survey, questionnaire, catalogues, books etc…) He/she discusses and explains his/her ideas in a meaningful way with other pupils and staff. He/she produces ideas supported with text and uses modelling (card, Lego, spreadsheets etc…) He/she compares existing products with his/her own designs. This can be as simple as notes placed alongside sketched ideas. He/she produces detailed plans for the project in the form of flowcharts and sequence drawings. Throughout the project he/she modifies the plans. This could mean writing alterations on the flowchart and sequence drawing in a different colour or including additional drawings to a sequence drawing and boxes to a flowchart. He/she uses a range of tools, materials, equipment, components and processes when making. This is carried out with some precision. He/she tests the product by using it as outlined in the design brief. He/she tests the functions of the product He/she produces a detailed evaluation and refers to the way limited resources have limited the way the item designed performs.. He/she evaluates the quality of information sources the he/she has used.
6	Pupils draw on and use a range of sources of information, and show that they understand the form and function of familiar products as they develop and model ideas. They respond creatively to briefs, exploring and testing their design thinking. They develop detailed criteria for their products and use these to explore proposals. They apply their knowledge and understanding by responding to several aspects of the problem. They recognise the significance of others' designing and modify their approaches accordingly. They produce plans that outline alternative methods of making progress. They work with a range of tools, materials, ingredients, equipment, components and processes, showing that they understand their characteristics. They check their work as it develops and solve technical problems by modifying their approach in the light of progress. They evaluate how effectively they have used information sources, using the results of their research to inform their judgements when developing products. They evaluate their products as they are being used, and identify ways of improving them.	He/she uses a wide range of sources of information such as; the internet, catalogues, surveys, questionnaires, fellow pupils, the teacher, family and friends, newspapers etc…. He/she clearly explains how this research my be useful when designing. He/she puts together models and drawings whilst designing. (Lego, card, animations etc…. The models are used to test ideas during the designing process. This may be recorded with a camera and included in folder work or the pupil makes notes as he/she tests ideas. He/she discusses designs and ideas with fellow pupils and teachers. He/she produces detailed planning in the form of flowcharts, sequence drawings or a log book. The flowchart shows alternative routes to a successful design ie. includes decision boxes with alternative 'yes' and 'no' routes. He/she lists the functions the final design must meet and compares his/her designs with this list. He/she uses a range of tools, equipment, materials, components and processes. Whilst drawing a sequence drawing he/she explains the characteristics of each tool, equipment, material, etc… A log book could be used for this purpose. He/she selects the best design and develops it further. He/she explains any alterations, modifications and improvements. He/she evaluates the way they have used sources of information. He/she tests and evaluates the product he/she has designed and manufactured detailing improvements.

LEVEL	NC STATEMENT	SIMPLIFIED VERSION
7	Pupils use a wide range of appropriate sources of information when developing and modelling ideas. They investigate form, function and production processes as they respond creatively to briefs. They apply their knowledge and understanding, recognising the different needs of a range of users, and search for trends and patterns in existing solutions as they develop fully realistic products. They use their understanding of others' designing to inform their own as they communicate creative ideas. They produce plans that predict the time needed to carry out the main stages of making products. They work with a range of tools, materials, ingredients, equipment, components and processes, taking full account of their characteristics. They adapt their methods of manufacture to changing circumstances as they solve technical problems, providing a sound explanation for any change from the design proposal. They select appropriate techniques to evaluate how their products would perform when used and modify their products in the light of this evaluation to improve their performance.	He/she uses a wide range of sources of information such as; the internet, catalogues, surveys, questionnaires, fellow pupils, the teacher, family and friends, newspapers etc.… He/she clearly explains how this research my be useful when designing. Before designing, he/she produces a sheet which explains the industrial processes used to manufacture an existing product. Detailed notes are added to all design ideas. He/she produces flowcharts and sequence drawings which show clear planning of the project. However, he/she also produces a time chart which clearly predicts the timing of each stage of designing and making. He/she uses a range of tools, equipment, materials, components and processes. Whilst drawing a sequence drawing he/she explains the characteristics of each tool, equipment, material, etc… A log book could be used for this purpose. As he/she makes, appropriate methods of manufacturing are used. If there is a need to change the way the product is manufacture or its design - he/she must explain why this was necessary. This can be recorded in the evaluation or in a log book of manufacture. He/she tests and evaluates the product he/she has designed and manufactured detailing improvements. He/she modifies his/her product in light of the evaluation. (ie. Listen carefully to the views of adults and fellow pupils and adopt their views)
8	Pupils use a range of strategies to fully develop and model appropriate ideas, responding to information they have identified. They identify conflicting demands on a product and respond creatively to briefs, suggesting ways forward and explaining how their ideas address these demands. When applying knowledge they make decisions on materials, ingredients and techniques based on their understanding of physical properties and working characteristics. They use their understanding of others' designing by reinterpreting and applying learning in new contexts. They organise their work so that they can carry out processes accurately and consistently, and use tools, equipment, materials, ingredients and components with precision. They use accurate testing to inform their judgements when solving technical problems. They identify a broad range of criteria for evaluating their products, clearly relating their findings to environmental, ethical, and social and cultural dimensions.	He/she collects a range of useful resources which he/she then uses to develop ideas (see level 7). He/she clearly identifies how some of this research will help in the development of the product. He/she selects materials based on an understanding of the properties of materials and working characteristics. He/she lists writes a specification which highlights the functions of the product to be designed. Each idea is tested against the detailed specification. Designs are modified to address all statements in the specification. He/she produces flowcharts and sequence drawings which show clear planning of the manufacturing. He/she produces a scaled working drawing which is used whilst manufacturing to ensure the accuracy of the final product. He/she evaluates the final manufactured product by comparing it against the specification.

LEVEL	NC STATEMENT	SIMPLIFIED VERSION
EXP.	Pupils seek out information to help their design thinking. They recognise how products contribute to lifestyle and choices of a variety of client groups as they develop and model ideas in an innovative way. Responding creatively to briefs, they are discriminating in their selection and use of information sources to support their work. They interpret and apply knowledge and understanding creatively in new design contexts and communicate ideas in new or unexpected ways. They use understanding of others' designing in innovative ways. They work with tools, equipment, materials, ingredients and components to a high degree of precision. They make products that are reliable and robust and that fully meet the quality requirements given in the design proposal. They reflect critically and effectively throughout designing and making processes.	He/she uses a wide range of sources of information such as; the internet, catalogues, surveys, questionnaires, fellow pupils, the teacher, family and friends, newspapers etc…. He/she clearly explains how this research my be useful when designing for the client group. He/she explains why some of the sources of information are useful to the development of a design/product whilst other sources are not. He/she uses plans such as flow charts, time charts and sequence drawings which clearly show best use of time. He/she produces flowcharts and sequence drawings which show clear planning of the manufacturing. He/she produces a scaled working drawing which is used whilst manufacturing to ensure a high degree of accuracy of the final product. When test. His/her product are proven to be reliable and robust. He/she uses quality assurance to ensure the quality of the product. This may be laid out as a quality assurance flow chart which shows quality assurance critical stages of manufacture.