Progression of knowledge maps

Subject: Design and Technology

Designing Making Evaluating Technical Knowledge Food and Nutrition							
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Progression of knowledge maps

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Autumn Term	Talk about what they want to make Use the language of design and making (join, build, shapes, longer, shorter, heavier etc) Use a variety of tools and materials to make models Be excited about what they have made Tell somebody about what they have made, including what they are pleased with and what they could make better next time	Think of their own ideas for design Use pictures and words to plan Design a product following design criteria Work in a range of contexts (imaginary, home, school, wider community) Explain what is being made and why Select appropriate tools and equipment for purpose Talk about their own and pre-existing products, saying what is good and what could be improved about them Say whether their product meets the design brief; whether it does what it is meant to do and how it could be improved Choose suitable textiles and use them to measure, cut and join textiles to make a product, with some support	Think of their own ideas and plan what to do next Describe designs using pictures, diagrams, models, mock-ups, words and begin to use ICT Design a product for myself and others, following design criteria Work confidently in a range of contexts (imaginary, home, school, wider community, story-based etc) Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, describing and explaining why they are being used. Describe how their own and pre-existing products work, evaluating what went well and what could be done differently Suggest what went well and what would be done differently when evaluating their own product Measure textiles and join textiles together to make a product, and explain how I did it Carefully cut textiles to produce accurate pieces	Create a design that meets a range of requirements Consider the equipment and tools needed when planning Describe a design using an accurately labelled diagram, and in words Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate own and pre-existing products Suggest what could be changed to improve a design, beginning to link this to the design brief Work accurately to make cuts and holes Join materials Begin to make strong structures Select appropriate tools / techniques Use simple lever and linkages to create movement Join different textiles in different ways	Generate more than one idea for how to create a product Gather information to help design a successful product (e.g. by asking others' views) Produce a detailed plan with labelled diagrams, a written explanation and step-by-step guide Suggest improvements to develop and refine a planned idea Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate the appearance and usability of own and pre-existing products Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief Use number of components in circuit Program a computer to control product	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment expertly Consider the aesthetic qualities and functionality of my work when making Evaluate the function of a product (own and pre-existing) against the original criteria, saying function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials and methods that have been used	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment precisely Consider the aesthetic qualities and functionality of my product as making it, refining details as necessary Evaluate the appearance and test the function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials, methods, sustainability of the product and how

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			Understand where a range of fruit and vegetables come from Know how to use appropriate equipment and utensils to prepare and combine food (with close supervision) Use the basic principles of a healthy and varied diet to prepare dishes	Use simple circuit in product		Know how to use utensils and equipment including heat sources to prepare and cook food Understand about seasonality in relation to food products and the source of different food products Know and use relevant technical and sensory vocabulary.	much a product costs to make Use cams, pulleys and gears to create movement Make a prototype Use a range of joining techniques Know how to use utensils and equipment including heat sources to prepare and cook food Understand about seasonality in relation to food products and the source of different food products Know and use relevant technical and sensory vocabulary.

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Spring Term	Talk about what they want to make Use mark making (pictures and words) to show what they intend to make Use the language of design and making (join, build, shapes, longer, shorter, heavier etc) Use a variety of tools and materials to make models Be excited about what they have made Tell somebody about what they have made, including what they are pleased with and what they could make better next time	Think of their own ideas for design Use pictures and words to plan Design a product following design criteria Work in a range of contexts (imaginary, home, school, wider community) Explain what is being made and why Select appropriate tools and equipment for purpose Talk about their own and pre-existing products, saying what is good and what could be improved about them Say whether their product meets the design brief; whether it does what it is meant to do and how it could be improved Understand where a range of fruit and vegetables come from	Think of their own ideas and plan what to do next Describe designs using pictures, diagrams, models, mock-ups, words and begin to use ICT Design a product for myself and others, following design criteria Work confidently in a range of contexts (imaginary, home, school, wider community, story-based etc) Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, describing and explaining why they are being used. Describe how their own and pre-existing products work, evaluating what went well and what could be done differently	Create a design that meets a range of requirements Consider the equipment and tools needed when planning Describe a design using an accurately labelled diagram, and in words Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate own and pre-existing products Suggest what could be changed to improve a design, beginning to link this to the design brief Know how to use appropriate equipment and utensils to prepare and combine food Know about a range of fresh and processed ingredients appropriate for their product, and whether	Generate more than one idea for how to create a product Gather information to help design a successful product (e.g. by asking others' views) Produce a detailed plan with labelled diagrams, a written explanation and step-by-step guide Suggest improvements to develop and refine a planned idea Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate the appearance and usability of own and pre-existing products Explain how the original design could be improved, considering the appearance and	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment expertly Consider the aesthetic qualities and functionality of my work when making Evaluate the function of a product (own and pre-existing) against the original criteria, saying function of a product (own and pre-existing) against the	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment precisely Consider the aesthetic qualities and functionality of my product as making it, refining details as necessary Evaluate the appearance and test the function of a product (own and pre-existing) against the

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		Know how to use appropriate equipment and utensils to prepare and combine food (with close supervision) Use the basic principles of a healthy and varied diet to prepare dishes	Suggest what went well and what would be done differently when evaluating their own product Join materials in different ways Use joining, rolling or folding to make it stronger Use own ideas to try to make product stronger Use levers or slides	they are grown, reared or caught Know and use relevant technical and sensory vocabulary appropriately	usability and linking this to the design brief Measure carefully to avoid mistakes Attempt to make product strong Continue working on product even if original didn't work Select most appropriate tools / techniques Think about user when choosing textiles Program a computer to control product Know how to use appropriate equipment and utensils to prepare and combine food Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught Know and use relevant technical and sensory vocabulary appropriately	original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials and methods that have been used Select materials carefully, considering intended use of product and appearance Measure accurately enough to ensure precision Ensure product is strong and fit for purpose Think about how to make product strong and look better Incorporate switch into product Confidently use number of components in circuit Begin to be able to program a computer to monitor changes in environment and control product	original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make Select materials carefully, considering intended use of the product, the aesthetics and functionality. think about user's wants/needs and aesthetics when choosing textiles Program a computer to monitor changes in environment and control product

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Summer Term	Talk about what they want to make Use mark making (pictures and words) to show what they intend to make Use the language of design and making (join, build, shapes, longer, shorter, heavier etc) Use a variety of tools and materials to make models Be excited about what they have made Tell somebody about what they have made, including what they are pleased with and what they could make better next time	Think of their own ideas for design Use pictures and words to plan Design a product following design criteria Work in a range of contexts (imaginary, home, school, wider community) Explain what is being made and why Select appropriate tools and equipment for purpose Talk about their own and pre-existing products, saying what is good and what could be improved about them Say whether their product meets the design brief; whether it does what it is meant to do and how it could be improved Begin to measure and join materials, with some support	Think of their own ideas and plan what to do next Describe designs using pictures, diagrams, models, mock-ups, words and begin to use ICT Design a product for myself and others, following design criteria Work confidently in a range of contexts (imaginary, home, school, wider community, story-based etc) Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, describing and explaining why they are being used. Describe how their own and pre-existing products work, evaluating what went well and what could be done differently	Create a design that meets a range of requirements Consider the equipment and tools needed when planning Describe a design using an accurately labelled diagram, and in words Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate own and pre-existing products Suggest what could be changed to improve a design, beginning to link this to the design brief Join materials Begin to make strong structures Select appropriate tools / techniques Use simple lever and linkages to create movement	Generate more than one idea for how to create a product Gather information to help design a successful product (e.g. by asking others' views) Produce a detailed plan with labelled diagrams, a written explanation and step-by-step guide Suggest improvements to develop and refine a planned idea Accurately use a range of tools and equipment Measure, mark out, assemble and join materials and components with some accuracy Evaluate the appearance and usability of own and pre-existing products Explain how the original design could be improved, considering the appearance and	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment expertly Consider the aesthetic qualities and functionality of my work when making Evaluate the function of a product (own and pre-existing) against the original criteria, saying function of a product (own and pre-existing) against the	Generate innovative ideas through research which could include surveys, interviews and questionnaires Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes. Suggest alternative plans, considering the positive aspects and drawbacks of each Use a range of tools and equipment precisely Consider the aesthetic qualities and functionality of my product as making it, refining details as necessary Evaluate the appearance and test the function of a product (own and pre-existing) against the

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		Suggest ways to make material/product stronger Begin to use levers or slides	Suggest what went well and what would be done differently when evaluating their own product Begin to understand how to use wheels and axles	Learn about how to program a computer to control product.	usability and linking this to the design brief Attempt to make product strong Make a strong, stiff structure Select most appropriate tools / techniques Use levers and linkages to create movement Use pneumatics to create movement	original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials and methods that have been used Select materials carefully, considering intended use of product and appearance Measure accurately enough to ensure precision Ensure product is strong and fit for purpose Begin to reinforce and strengthen a 3D frame Begin to use cams, pulleys or gears to create movement Think about how to make product strong and look better	original criteria, saying whether it is fit for purpose Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make Reinforce and strengthen a 3D frame Incorporate hydraulics and pneumatics Make product attractive and strong Use different types of circuit in product Think of ways in which adding a circuit would improve product