

DT Key Knowledge Progression 2025 - 2026: Year 1 – Year 6

Structures:

	Start at Year A	Start at Year B
Year 1	Design To know: The user is the person who will use the product. Different users may want different things from a design. Who they are designing for makes a difference to what they design. The purpose is what something is for. Existing products can help when deciding what to design. Drawings are a way to explain ideas. Make To know: A plan is deciding what to do first and next. Different equipment does different things. Names of common pieces of equipment. Some tools are sharp like scissors and knives. Spacing cuts or marks evenly can be useful. Different glue can be used to join different things. Evaluate To know: Some products will be better than others. Their ideas or products can be made better. Their ideas can make someone else's work better. Other people's ideas can help make their work better. Technical knowledge To know: A structure is something that has been made and put together. Stable structures do not topple. Shapes and structures with wide, flat bases or legs are the most stable. Adding weight to the base of a structure can make it more stable. Kapow: Stable Structures	Design To know: A design brief helps to decide what to make. Design criteria are the steps for making a product successful. Design criteria help when thinking of ideas. Different products work in different ways and have parts that make them work. Make To know: Some properties of materials, such as hard, soft, flexible, waterproof, strong, etc. The names of some geometric shapes, such as triangle, pyramid, square, cube, circle and sphere. Evaluate To know: Existing products can be evaluated against design criteria. Design criteria help to decide if their product is a success. Improve means to make something better. Technical knowledge To know: A structure is something that has been made and put together. The shape of a structure affects its strength. Materials can be manipulated to improve strength and stiffness. A strong structure is one which does not break easily. A stiff structure or material is one which does not bend easily. Kapow: Build a Chair for a Bear

Y e a r 2	Design To know: A design brief helps to decide what to make. Design criteria are the steps for making a product successful. Design criteria help when thinking of ideas. Different products work in different ways and have parts that make them work. Make To know: Some properties of materials, such as hard, soft, flexible, waterproof, strong, etc. The names of some geometric shapes, such as triangle, pyramid, square, cube, circle and sphere. Evaluate To know: Existing products can be evaluated against design criteria. Design criteria help to decide if their product is a success. Improve means to make something better. Technical knowledge To know: A structure is something that has been made and put together. The shape of a structure affects its strength. Materials can be manipulated to improve strength and stiffness. A strong structure is one which does not break easily. A stiff structure or material is one which does not bend easily. Kapow: Build a Chair for a Bear	Design To know: The user is the person who will use the product. Different users may want different things from a design. Who they are designing for makes a difference to what they design. The purpose is what something is for. Existing products can help when deciding what to design. Drawings are a way to explain ideas. Make To know: A plan is deciding what to do first and next. Different equipment does different things. Names of common pieces of equipment. Some tools are sharp like scissors and knives. Spacing cuts or marks evenly can be useful. Different glue can be used to join different things. Evaluate To know: Some products will be better than others. Their ideas or products can be made better. Their ideas can make someone else's work better. Other people's ideas can help make their work better. Technical knowledge To know: A structure is something that has been made and put together. Stable structures do not topple. Shapes and structures with wide, flat bases or legs are the most stable. Adding weight to the base of a structure can make it more stable. Kapow: Stable Structures
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Y e a r 3	Make To know: That creating accurate shapes improves how they look and sometimes their function. Evaluate To know: Good suggestions help give better feedback. That they can choose to use feedback or not. Technical knowledge To know: That a shell structure is a hollow shape with a thin outer layer. That 3D shapes can form structures. Structures can be strengthened by manipulating materials and shapes. Kapow: Product Packaging	Possible Enrichment: Kapow: Helmets
Y e a r 4	Possible Enrichment: Kapow: Helmets	Make To know: That creating accurate shapes improves how they look and sometimes their function. Evaluate To know: Good suggestions help give better feedback. That they can choose to use feedback or not. Technical knowledge To know: That a shell structure is a hollow shape with a thin outer layer. That 3D shapes can form structures. Structures can be strengthened by manipulating materials and shapes. Kapow: Product Packaging

Y e a r 5	Possible Enrichment: Kapow: Bridges	Design To know: Constraints are limits or conditions when making a product. Environmental impact is how the product and making the product might affect the environment. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Annotations are detailed labels and comments on diagrams. Improving on prototypes can help to improve the final design. Make To know: Materials and equipment lists help with planning. Risks are things that might go wrong. The shape of an object can affect both its aesthetics and function. Aesthetics is how something looks. The finish can make a product suitable to be used outside. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand its successful and less successful parts. Technical To know: A frame structure supports or holds a shape, and is made up of strong parts joined together, like a skeleton or a climbing frame. How to reinforce structures. Triangles can be used to reinforce structures. Triangles can create strong and stable structures. Bracing is a way of reinforcing a structure. Kapow: Playground Pioneers
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Y e a r 6	Design To know: Constraints are limits or conditions when making a product. Environmental impact is how the product and making the product might affect the environment. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Annotations are detailed labels and comments on diagrams. Improving on prototypes can help to improve the final design. Make To know: Materials and equipment lists help with planning. Risks are things that might go wrong. The shape of an object can affect both its aesthetics and function. Aesthetics is how something looks. The finish can make a product suitable to be used outside. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand its successful and less successful parts. Technical To know: A frame structure supports or holds a shape, and is made up of strong parts joined together, like a skeleton or a climbing frame. How to reinforce structures. Triangles can be used to reinforce structures. Triangles can create strong and stable structures. Bracing is a way of reinforcing a structure. Kapow: Playground Pioneers	Possible Enrichment: Kapow: Bridges
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TEXTILES:

	Start at Year A	Start at Year B
Year 1	Design To know: That drawings can help explain how something works. Make To know: That careful alignment and neat application make a join stronger and tidier. That templates and geometric shapes can help create accurate forms that improve how a product works. That balanced and consistent finishing improves the overall appearance of their product. Evaluate To know: That their suggestions can improve someone else's work. Technical knowledge To know: That sewing is a method of joining fabric. That 'joining' means connecting two pieces of material together. That a template (or fabric pattern) is used to cut out the same shape multiple times. Kapow: Pouches	Design To know: Drawings are a way to explain ideas. Make To know: Choosing different materials or components will affect what the product does or looks like. The names of common pieces of equipment. Following instructions helps with safety. Spacing cuts or marks evenly can be useful. Texture is how something feels. Evaluate To know: Their ideas or products can be made better. Their final product might be different to their original idea. Their ideas can make someone else's work better. Other people's ideas can help make their work better. Technical knowledge To know: Evenly spaced stitches help when following a pattern. Kapow: Simple Stitches

Y e a r 2	Design To know: Drawings are a way to explain ideas. Make To know: Choosing different materials or components will affect what the product does or looks like. The names of common pieces of equipment. Following instructions helps with safety. Spacing cuts or marks evenly can be useful. Texture is how something feels. Evaluate To know: Their ideas or products can be made better. Their final product might be different to their original idea. Their ideas can make someone else's work better. Other people's ideas can help make their work better. Technical knowledge To know: Evenly spaced stitches help when following a pattern. Kapow: Simple Stitches	Design To know: That drawings can help explain how something works. Make To know: That careful alignment and neat application make a join stronger and tidier. That templates and geometric shapes can help create accurate forms that improve how a product works. That balanced and consistent finishing improves the overall appearance of their product. Evaluate To know: That their suggestions can improve someone else's work. Technical knowledge To know: That sewing is a method of joining fabric. That 'joining' means connecting two pieces of material together. That a template (or fabric pattern) is used to cut out the same shape multiple times. Kapow: Pouches
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Y e a r 3	Design To know: That extra information on drawings or diagrams can help the user understand a design or idea. That a prototype is a detailed model that helps a user understand how a product will work. Make To know: That ordering the steps of a build can make it easier. That a ruler is used to measure and mark length precisely. That stronger and long lasting joins may be needed depending on the materials and how the product will be used. That accurate shaping and refining of 2D and 3D forms improves appearance and performance. Evaluate To know: That some products are more successful than other because of their function. Technical knowledge To know: That smaller stitches with similar colour thread to the fabric can hide the stitching. That different fastening types are useful for different purposes. That a fastening is something that holds two pieces of material together. Kapow: Fastenings	Possible Enrichment: Kapow: Egyptian Collars
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Year 4	Possible Enrichment: Kapow: Egyptian Collars	Design To know: That extra information on drawings or diagrams can help the user understand a design or idea. That a prototype is a detailed model that helps a user understand how a product will work. Make To know: That ordering the steps of a build can make it easier. That a ruler is used to measure and mark length precisely. That stronger and long lasting joins may be needed depending on the materials and how the product will be used. That accurate shaping and refining of 2D and 3D forms improves appearance and performance. Evaluate To know: That some products are more successful than other because of their function. Technical knowledge To know: That smaller stitches with similar colour thread to the fabric can hide the stitching. That different fastening types are useful for different purposes. That a fastening is something that holds two pieces of material together. Kapow: Fastenings
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Y e a r 5	Design: To know: Different materials have different costs. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Improving on prototypes can help to improve the final design. Make To know: Materials and equipment lists help to plan better. Aesthetics are the way something looks. Research can help decide which materials are best for both aesthetics and functional properties. Risks are things that might go wrong. Different measuring tools can be useful depending on what is being measured. The shape of an object can affect both its aesthetics and function. Aesthetics is how something looks. Nets can be folded to create 3D shapes. Texture can provide functional properties as well as aesthetic. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Looking at other designers' work can help inform designs. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand its successful and less successful parts. Explaining how they used feedback to improve their design can help them create better products in the future. Technical knowledge To know: Using a template (or clothing pattern) helps to accurately mark out a design on fabric. Complete products are sometimes made in parts that are sewn together. Consistently sized stitches improve the aesthetic of a product. Kapow: Bags	Possible Enrichment: Kapow: Stuffed Toys
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Y e a r 6	Possible Enrichment: Kapow: Stuffed Toys	Design: To know: Different materials have different costs. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Improving on prototypes can help to improve the final design. Make To know: Materials and equipment lists help to plan better. Aesthetics are the way something looks. Research can help decide which materials are best for both aesthetics and functional properties. Risks are things that might go wrong. Different measuring tools can be useful depending on what is being measured. The shape of an object can affect both its aesthetics and function. Aesthetics is how something looks. Nets can be folded to create 3D shapes. Texture can provide functional properties as well as aesthetic. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Looking at other designers' work can help inform designs. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand its successful and less successful parts. Explaining how they used feedback to improve their design can help them create better products in the future. Technical knowledge To know: Using a template (or clothing pattern) helps to accurately mark out a design on fabric. Complete products are sometimes made in parts that are sewn together. Consistently sized stitches improve the aesthetic of a product. Kapow: Bags
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Cooking and Nutrition

	Start at Year A	Start at Year B
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Y e a r 1	Design To know: That a design brief helps to decide what to make. That design criteria are the steps for making a product successful. That the design criteria help when thinking of ideas. Make To know: That a plan is deciding what to do first and next. That some pieces of equipment are better suited to certain jobs. That some tools are sharp like scissors and knives. That following instructions means using tools safely. That changing grip and how a material is held can make cutting safer and more accurate. Evaluate To know: That existing products can be evaluated against design criteria. That design criteria help to decide if their product is a success. What different tools and equipment do. That improve means to make something better. That their suggestions can improve someone else's work. Technical knowledge To know: That 'diet' means the food and drink that a person or animal usually eats. That the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. That a balanced diet is eating foods from different food groups. That 'ingredients' means the items in a mixture or recipe. That different foods have different appearance, taste and smell. That kitchen equipment can be used to prepare foods. Kapow: A Balanced Diet	Possible Enrichment: Kapow: Smoothies
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Year 2	Possible Enrichment: Kapow: Smoothies	Design To know: That a design brief helps to decide what to make. That design criteria are the steps for making a product successful. That the design criteria help when thinking of ideas. Make To know: That a plan is deciding what to do first and next. That some pieces of equipment are better suited to certain jobs. That some tools are sharp like scissors and knives. That following instructions means using tools safely. That changing grip and how a material is held can make cutting safer and more accurate. Evaluate To know: That existing products can be evaluated against design criteria. That design criteria help to decide if their product is a success. What different tools and equipment do. That improve means to make something better. That their suggestions can improve someone else's work. Technical knowledge To know: That 'diet' means the food and drink that a person or animal usually eats. That the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. That a balanced diet is eating foods from different food groups. That 'ingredients' means the items in a mixture or recipe. That different foods have different appearance, taste and smell. That kitchen equipment can be used to prepare foods. Kapow: A Balanced Diet
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Y e a r 3	Design To know: That a problem or need is something that a designer can help to solve. That thinking together can help generate ideas. That not everything can be made in the classroom. That extra information on drawings or diagrams can help the user understand a design or idea. Make To know: That ordering the steps of a build can make it easier. That form is the look and shape of something. That function is what something does and how it works. That different pieces of equipment will be used at different stages in a plan. That different tools and equipment have different dangers. That different tools and techniques are suited to specific materials and levels of resistance. That finishing techniques can improve both the look and performance of a product. Evaluate To know: That some products are more successful than other because of their function. That choices of materials and equipment can affect the final product. That feedback is ideas and suggestions from other people that can help improve their work. That the better the suggestions the better the feedback. That they can choose to use feedback or not. Technical knowledge To know: That not all fruits and vegetables can be grown in the UK. That climate affects food growth. That vegetables and fruit grow in certain seasons. That cooking instructions are known as a 'recipe'. That imported food is food which has been brought into the country.	Possible Enrichment: Kapow: Adapting a Recipe.
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	That similar coloured fruits and vegetables often have similar nutritional benefits. That the appearance of food is as important as taste. To know which foods are grown in the UK in a specified season. To know which foods can be cut and peeled using equipment. Kapow: Eating Seasonally	
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Year 4	Possible Enrichment: Kapow: Adapting a Recipe.	Design To know: That a problem or need is something that a designer can help to solve. That thinking together can help generate ideas. That not everything can be made in the classroom. That extra information on drawings or diagrams can help the user understand a design or idea. Make To know: That ordering the steps of a build can make it easier. That form is the look and shape of something. That function is what something does and how it works. That different pieces of equipment will be used at different stages in a plan. That different tools and equipment have different dangers. That different tools and techniques are suited to specific materials and levels of resistance. That finishing techniques can improve both the look and performance of a product. Evaluate To know: That some products are more successful than other because of their function. That choices of materials and equipment can affect the final product. That feedback is ideas and suggestions from other people that can help improve their work. That the better the suggestions the better the feedback. That they can choose to use feedback or not. Technical knowledge To know: That not all fruits and vegetables can be grown in the UK. That climate affects food growth. That vegetables and fruit grow in certain seasons. That cooking instructions are known as a 'recipe'. That imported food is food which has been brought into the country.
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		That similar coloured fruits and vegetables often have similar nutritional benefits. That the appearance of food is as important as taste. To know which foods are grown in the UK in a specified season. To know which foods can be cut and peeled using equipment. Kapow: Eating Seasonally
Year 5	Design To know: That problems can be large and small. That environmental impact is how making the product might affect the environment. That different materials have different costs That original and innovative ideas are different from what has been made before. Make To know: That materials and equipment lists help to plan better. That research can help decide on form and function. That some equipment can work well with other equipment. That precision in cutting affects how well parts fit, function and look. That the form of a product influences how it looks, feels and performs. Evaluate To know: That looking at other designers work can help inform designs. That their final product can still be improved by different materials or techniques. That evaluating their designs in detail will help them understand its successful and less successful parts. Technical knowledge To know: That meat comes from animals. Kapow: Developing a Recipe	Possible Enrichment: Kapow: Come Dine With Me

Y e a r 6	Possible Enrichment: Kapow: Come Dine With Me	Design To know: That problems can be large and small. That environmental impact is how making the product might affect the environment. That different materials have different costs That original and innovative ideas are different from what has been made before. Make To know: That materials and equipment lists help to plan better. That research can help decide on form and function. That some equipment can work well with other equipment. That precision in cutting affects how well parts fit, function and look. That the form of a product influences how it looks, feels and performs. Evaluate To know: That looking at other designers work can help inform designs. That their final product can still be improved by different materials or techniques. That evaluating their designs in detail will help them understand its successful and less successful parts. Technical knowledge To know: That meat comes from animals.
		Kapow: Developing a Recipe

Mechanisms and Mechanical Systems

	Start at Year A	Start at Year B
Year 1	Possible Enrichments: Kapow: Wheels and Axles Kapow: Make a Fairground Wheel Kapow: Slider Game	Design To know: That different products work in different ways and have parts that make them work. Drawings can help explain how something works. A label explains part of a drawing. Make To know: Many things that move have parts inside to help make them work. Some properties of materials, e.g., hard, soft, flexible, waterproof, strong, etc. Some pieces of equipment are better suited to certain jobs. Some tools are sharp like scissors and knives. Following instructions helps with safety. Technical knowledge To know: Many things that move have parts inside to help them work. Mechanisms usually limit unwanted movement. A pivot is the part that a lever moves around. Kapow: Levers

Y e a r 2	Design To know: That different products work in different ways and have parts that make them work. Drawings can help explain how something works. A label explains part of a drawing. Make To know: Many things that move have parts inside to help make them work. Some properties of materials, e.g., hard, soft, flexible, waterproof, strong, etc. Some pieces of equipment are better suited to certain jobs. Some tools are sharp like scissors and knives. Following instructions helps with safety. Technical knowledge To know: Many things that move have parts inside to help them work. Mechanisms usually limit unwanted movement. A pivot is the part that a lever moves around. Kapow: Levers	Possible Enrichment: Kapow: Wheels and Axles Kapow: Make a Fairground Wheel Kapow: Slider Game
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Y e a r 3	Possible Enrichment: Kapow: Pneumatic Toys	Design To know: Extra information on drawings or diagrams can help the user understand a design or idea. An exploded diagram shows how the parts of a product fit together. A prototype is a detailed model that helps users understand how a product will work. A problem or need is something that a designer can help to solve. A target audience is a group of people that might like the idea. Make To know: Different tools and equipment have different dangers. A ruler can be used to measure length. Scissors are useful for cutting out complex shapes. A hot glue gun can be used to join materials. Different pieces of equipment will be used at different stages in a plan. Evaluate To know: The better the suggestions, the better the feedback. They can choose to use feedback or not. Some products are more successful than others because of their function. Designers and inventors create products. Choices of materials and equipment can affect the final product. Feedback is ideas and suggestions from other people that can help improve their work. Technical To know: A mechanical system can allow us to move something more easily. Mechanical systems have more than one mechanism that moves to make them work. Mechanical systems are often hidden in products to make them look more appealing. Kapow: Mechanical Cars
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Y e a r 4	Design To know: Extra information on drawings or diagrams can help the user understand a design or idea. An exploded diagram shows how the parts of a product fit together. A prototype is a detailed model that helps users understand how a product will work. A problem or need is something that a designer can help to solve. A target audience is a group of people that might like the idea. Make To know: Different tools and equipment have different dangers. A ruler can be used to measure length. Scissors are useful for cutting out complex shapes. A hot glue gun can be used to join materials. Different pieces of equipment will be used at different stages in a plan. Evaluate To know: The better the suggestions, the better the feedback. They can choose to use feedback or not. Some products are more successful than others because of their function. Designers and inventors create products. Choices of materials and equipment can affect the final product. Feedback is ideas and suggestions from other people that can help improve their work. Technical To know: A mechanical system can allow us to move something more easily. Mechanical systems have more than one mechanism that moves to make them work. Mechanical systems are often hidden in products to make them look more appealing.. Kapow: Mechanical Cars	Possible Enrichment: Kapow: Pneumatic Toy
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Y e a r 5	Possible Enrichment: Kapow: Automata Toys	To know: Mechanical systems that use gears in everyday objects (e.g. bicycle, clock, etc.). Gears and pulleys allow us to transfer movement and force from one part of a mechanical system to another. Gears allow us to increase the output of a mechanism. Market research is a way of collecting information about problems or needs. Constraints are things that might stop our ideas from being successful. Original and innovative ideas are different from what has been made before. Annotations are detailed labels and comments on diagrams. Risks are things that might happen. Hot glue creates a strong bond quickly. It is often better to choose safer equipment. Sustainability means thinking about the materials that were used to make a product and how the product was made. Their final product can still be improved by different materials or techniques. Evaluating their designs in detail will help them understand their successful and less successful parts. Feedback should be positive, helpful and specific. That explaining how they used feedback to improve their design can help them create better products in the future. Kapow: Gears and Pulleys
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Y e a r 6	To know: Mechanical systems that use gears in everyday objects (e.g. bicycle, clock, etc.). Gears and pulleys allow us to transfer movement and force from one part of a mechanical system to another. Gears allow us to increase the output of a mechanism. Market research is a way of collecting information about problems or needs. Constraints are things that might stop our ideas from being successful. Original and innovative ideas are different from what has been made before. Annotations are detailed labels and comments on diagrams. Risks are things that might happen. Hot glue creates a strong bond quickly. It is often better to choose safer equipment. Sustainability means thinking about the materials that were used to make a product and how the product was made. Their final product can still be improved by different materials or techniques. Evaluating their designs in detail will help them understand their successful and less successful parts. Feedback should be positive, helpful and specific. That explaining how they used feedback to improve their design can help them create better products in the future. Kapow: Gears and Pulleys	Possible Enrichment: Kapow: Automata Toys
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Digital World

	Start at Year A	Start at Year B
Y e a r 1	N/A	N/A
Y e a r 2	N/A	N/A

Y e a r 3	Possible Enrichment: Kapow: Mindful Moments Timer	Design To know: A problem or need is something that a designer can help to solve. Not everything can be made in the classroom. CAD is computer-aided design. CAD can be used to better communicate ideas. Extra information on drawings or diagrams can help the user understand a design or idea. A prototype is a detailed model that helps a user understand how a product will work. Make To know: Form is the look and shape of something. Function is what something does and how it works. Different pieces of equipment will be used at different stages in a plan. Evaluate To know: Some products are more successful than others because of their function. Designers and inventors create products. Feedback is ideas and suggestions from other people that can help improve their work. Technical To know: Creating simple programs can help control products. Some features of a micro:bit. A simulator is able to replicate the functions of an existing piece of technology. Kapow: Wearable Technology
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Y e a r 4	Design To know: A problem or need is something that a designer can help to solve. Not everything can be made in the classroom. CAD is computer-aided design. CAD can be used to better communicate ideas. Extra information on drawings or diagrams can help the user understand a design or idea. A prototype is a detailed model that helps a user understand how a product will work. Make To know: Form is the look and shape of something. Function is what something does and how it works. Different pieces of equipment will be used at different stages in a plan. Evaluate To know: Some products are more successful than others because of their function. Designers and inventors create products. Feedback is ideas and suggestions from other people that can help improve their work. Technical To know: Creating simple programs can help control products. Some features of a micro:bit. A simulator is able to replicate the functions of an existing piece of technology. Kapow: Wearable Technology	Possible Enrichment: Kapow: Mindful Moments Timer
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Y e a r 5	Design To know: Problems can be large and small. Market research is a way of collecting information about problems or needs. Environmental impact is how making the product and the product itself might affect the environment. Different materials have different costs. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Improving on prototypes can help to improve the final design. Make To know: Aesthetics are the way something looks. Research can help decide which materials are best for both aesthetics and functional properties. Some equipment can work well with other equipment. Risks are things that might go wrong. The shape of an object can affect both its aesthetics and function. The finish can make a product suitable for use outside. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Looking at other designers' work can help inform designs. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand their successful and less successful parts. Feedback should be positive, helpful and specific. That explaining how they used feedback to improve their design can help them create better products in the future. Technical knowledge To know: Coding can complete tasks when used with a controller like the micro:bit. Features of a micro:bit that are useful for the product.	Possible Enrichment: Kapow: Monitoring Devices
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	Conditional statements (and, or, if) in programming can be used to monitor and control products. Some micro:bit functions can detect movements. Kapow: Navigating the World	
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Y e a r 6	Possible Enrichment: Kapow: Monitoring Devices	Design To know: Problems can be large and small. Market research is a way of collecting information about problems or needs. Environmental impact is how making the product and the product itself might affect the environment. Different materials have different costs. Original and innovative ideas are different from what has been made before. Drawings and diagrams can be communicated in 3D. Improving on prototypes can help to improve the final design. Make To know: Aesthetics are the way something looks. Research can help decide which materials are best for both aesthetics and functional properties. Some equipment can work well with other equipment. Risks are things that might go wrong. The shape of an object can affect both its aesthetics and function. The finish can make a product suitable for use outside. Evaluate To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. Looking at other designers' work can help inform designs. Their final product can still be improved by using different materials or techniques. Evaluating their designs in detail will help them understand their successful and less successful parts. Feedback should be positive, helpful and specific. That explaining how they used feedback to improve their design can help them create better products in the future. Technical knowledge To know: Coding can complete tasks when used with a controller like the micro:bit. Features of a micro:bit that are useful for the product.
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		Conditional statements (and, or, if) in programming can be used to monitor and control products. Some micro:bit functions can detect movements. Kapow: Navigating the World
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Electrical Systems

	Start at Year A	Start at Year B
Y e a r 1	N/A	N/A
Y e a r 2	N/A	N/A

Y e a r 3	Possible Enrichment: Kapow: Electric Poster	Design To know: A problem or need is something that a designer can help to solve. A target audience is a group of people that might like the idea. Not everything can be made in the classroom. Extra information on drawings or diagrams can help the user understand a design or idea. A cross-sectional diagram shows the inside of a product. Make To know: Form is the look and shape of something. Function is what something does and how it works. Evaluate To know: Some products are more successful than other because of their function. Designers and inventors create products. Choices of materials and equipment can affect the final product. Technical To know: An electrical system is a group of parts (components) that work together to transport electricity around a circuit. Some common features of an electric product (e.g. switch, battery, plug, dials, buttons, etc). A battery contains stored electricity that can be used to power products. An electrical circuit must be complete for electricity to flow. A switch can be used to complete and break an electrical circuit. Kapow: Exploring Electrical Products
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Y e a r 4	Design To know: A problem or need is something that a designer can help to solve. A target audience is a group of people that might like the idea. Not everything can be made in the classroom. Extra information on drawings or diagrams can help the user understand a design or idea. A cross-sectional diagram shows the inside of a product. Make To know: Form is the look and shape of something. Function is what something does and how it works. Evaluate To know: Some products are more successful than other because of their function. Designers and inventors create products. Choices of materials and equipment can affect the final product. Technical To know: An electrical system is a group of parts (components) that work together to transport electricity around a circuit. Some common features of an electric product (e.g. switch, battery, plug, dials, buttons, etc). A battery contains stored electricity that can be used to power products. An electrical circuit must be complete for electricity to flow. A switch can be used to complete and break an electrical circuit. Kapow: Exploring Electrical Products	Possible Enrichment: Kapow: Electric Poster
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Y e a r 5	Possible Enrichment: Kapow: Wobble Bots	Design To know: To know that drawings and diagrams can be communicated in 3D. To know that annotations are detailed labels and comments on diagrams. To know that improving on prototypes can help to improve the final design. Make To know: To know that research can help decide on form and function. To know that some equipment can work well with other equipment. To know that precision in cutting affects how well parts fit, function and look. To know that joins may need reinforcement or adjustment to improve strength and stability. To know that the form of a product influences how it looks, feels and performs. Evaluate To know: To know that looking at other designers work can help inform designs. To know that evaluating their designs in detail will help them understand its successful and less successful parts. Technical knowledge To know: To know the names of components that can form an electrical system. Kapow: Steady Hand Game
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Y e a r 6	Design To know: To know that drawings and diagrams can be communicated in 3D. To know that annotations are detailed labels and comments on diagrams. To know that improving on prototypes can help to improve the final design. Make To know: To know that research can help decide on form and function. To know that some equipment can work well with other equipment. To know that precision in cutting affects how well parts fit, function and look. To know that joins may need reinforcement or adjustment to improve strength and stability. To know that the form of a product influences how it looks, feels and performs. Evaluate To know: To know that looking at other designers work can help inform designs. To know that evaluating their designs in detail will help them understand its successful and less successful parts. Technical knowledge To know: To know the names of components that can form an electrical system. Kapow: Steady Hand Game	Possible Enrichment: Kapow: Wobble Bots
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