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

Structures:

	Start at Year A	Start at Year B
Year 1	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. 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. 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. 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	To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. To know that a 'strong' structure is one which does not break easily. To know that a 'stiff' structure or material is one which does not bend easily. Kapow: Build a Chair

Year 2	To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. To know that a 'strong' structure is one which does not break easily. To know that a 'stiff' structure or material is one which does not bend easily. Kapow: Build a Chair	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. 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. 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. 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
Year 3	To understand that wide and flat based objects are more stable. To understand the importance of strength and stiffness in structures. To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose. To know that a façade is the front of a structure. To understand that a castle needed to be strong and stable to withstand enemy attack. Kapow: Construct a Castle	Possible Enrichment: Kapow: Helmets

Year 4	Possible Enrichment: Kapow: Helmets	To understand that wide and flat based objects are more stable. To understand the importance of strength and stiffness in structures. To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose. To know that a façade is the front of a structure. To understand that a castle needed to be strong and stable to withstand enemy attack Kapow: Construct a Castle.
Year 5	Possible Enrichment: Kapow: Bridges	To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. To understand that in the real world, design can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea. Kapow: Playgrounds
Year 6	To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. To understand that in the real world, design can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea. Kapow: Playgrounds	Possible Enrichment: Kapow: Bridges

TEXTILES:

	Start at Year A	Start at Year B
Year 1	To know that sewing is a method of joining fabric. To know that different stitches can be used when sewing. To understand the importance of tying a knot after sewing the final stitch. To know that a thimble can be used to protect my fingers when sewing. Kapow: Pouches	To know that 'joining technique' means connecting two pieces of material together. To know that there are various temporary methods of joining fabric by using staples, glue or pins. To understand that different techniques for joining materials can be used for different purposes. To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. To know that drawing a design idea is useful to see how an idea will look. Kapow: Puppets

Year 2	To know that 'joining technique' means connecting two pieces of material together. To know that there are various temporary methods of joining fabric by using staples, glue or pins. To understand that different techniques for joining materials can be used for different purposes. To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. To know that drawing a design idea is useful to see how an idea will look. Kapow: Puppets	To know that sewing is a method of joining fabric. To know that different stitches can be used when sewing. To understand the importance of tying a knot after sewing the final stitch. To know that a thimble can be used to protect my fingers when sewing. Kapow: Pouches
Year 3	To know that a fastening is something that holds two pieces of material together. To know that different fastening types are useful for different purposes. To know that creating a mock-up (prototype) of their design is useful for checking ideas and proportions. Kapow: Fastenings	Possible Enrichment: Kapow: Cushions/Collars
Year 4	Possible Enrichment: Kapow: Cushions/Collars	To know that a fastening is something that holds two pieces of material together. To know that different fastening types are useful for different purposes. To know that creating a mock-up (prototype) of their design is useful for checking ideas and proportions. Kapow: Fastenings
Year 5	To know: How designers use pattern pieces when creating textile products. Pattern pieces are like nets/templates. Nets can be folded to create 3D shapes. Products are sometimes made in parts that are sewn together. Safety pins can hold fabric in place before sewing. Consistently sized stitches improve the aesthetic of a product. The shape of an object can affect both its aesthetics and function. There are different types of stitches. What a running stitch is. Aesthetics is how something looks. Kapow: Bags	Possible Enrichment: Kapow: Stuffed Toys

Year 6	Possible Enrichment: Kapow: Stuffed Toys	To know: How designers use pattern pieces when creating textile products. Pattern pieces are like nets/templates. Nets can be folded to create 3D shapes. Products are sometimes made in parts that are sewn together. Safety pins can hold fabric in place before sewing. Consistently sized stitches improve the aesthetic of a product. The shape of an object can affect both its aesthetics and function. There are different types of stitches. What a running stitch is. Aesthetics is how something looks. Kapow: Bags

Cooking and Nutrition

	Start at Year A	Start at Year B
Year 1	To know that 'diet' means the food and drink that a person or animal usually eats. To understand what makes a balanced diet. To know where to find the nutritional information on packaging. To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. To know that nutrients are substances in food that all living things need to make energy, grow and develop. To know that 'ingredients' means the items in a mixture or recipe. To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'. Kapow: A Balanced Diet	Possible Enrichment: Kapow: Fruit and Vegetables

Year 2	Possible Enrichment: Kapow: Fruit and Vegetables	To know that 'diet' means the food and drink that a person or animal usually eats. To understand what makes a balanced diet. To know where to find the nutritional information on packaging. To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. To know that nutrients are substances in food that all living things need to make energy, grow and develop. To know that 'ingredients' means the items in a mixture or recipe. To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'. Kapow: A Balanced Diet
Year 3	To know that not all fruits and vegetables can be grown in the UK. To know that climate affects food growth. To know that vegetables and fruit grow in certain seasons. To know that cooking instructions are known as a 'recipe'. To know that imported food is food that has been brought into the country. Kapow: Eating Seasonally	Possible Enrichment: Kapow: Adapting a Recipe.
Year 4	Possible Enrichment: Kapow: Adapting a Recipe.	To know that not all fruits and vegetables can be grown in the UK. To know that climate affects food growth. To know that vegetables and fruit grow in certain seasons. To know that cooking instructions are known as a 'recipe'. To know that imported food is food that has been brought into the country. Kapow: Eating Seasonally

Year 5	To understand where meat comes from – learning that beef is from cattle and how beef is reared and processed, including key welfare issues. To know that I can adapt a recipe to make it healthier by substituting ingredients. To know that I can use a nutritional calculator to see how healthy a food option is. To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. Kapow: What Could Be Healthier	Possible Enrichment: Kapow: Come DIne With Me
Year 6	Possible Enrichment: Kapow: Come DIne With Me	To understand where meat comes from – learning that beef is from cattle and how beef is reared and processed, including key welfare issues. To know that I can adapt a recipe to make it healthier by substituting ingredients. To know that I can use a nutritional calculator to see how healthy a food option is. To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. Kapow: What Could Be Healthier

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	To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. To know that there is always an input and an output in a mechanism. To know that an input is the energy that is used to start something working. To know that an output is the movement that happens as a result of the input. To know that a lever is something that turns on a pivot. To know that a linkage mechanism is made up of a series of levers. Kapow: Make a Moving Monster

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Year 3	Possible Enrichment: Kapow: Pneumatic Toys	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. 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. 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. 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

Year 4	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. 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. 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. 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

Year 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

Year 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

Digital World

	Start at Year A	Start at Year B
Year 1	N/A	N/A
Year 2	N/A	N/A

Year 3	Possible Enrichment: Kapow: Mindful Moments Timer	To understand that in programming a 'loop' is code that repeats something again and again until stopped. To know that a Micro:bit is a pocket-sized, codeable computer. Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm. Kapow: Electronic Charms
Year 4	To understand that in programming a 'loop' is code that repeats something again and again until stopped. To know that a Micro:bit is a pocket-sized, codeable computer. Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm. Kapow: Electronic Charms	Possible Enrichment: Kapow: Mindful Moments Timer
Year 5	To know that accelerometers can detect movement. To understand that sensors can be useful in products as they mean the product can function without human input. To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. To know that 'multifunctional' means an object or product has more than one function. To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing. Kapow: Navigating the World	Possible Enrichment: Kapow: Monitoring Devices
Year 6	Possible Enrichment: Kapow: Monitoring Devices	To know that accelerometers can detect movement. To understand that sensors can be useful in products as they mean the product can function without human input. To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. To know that 'multifunctional' means an object or product has more than one function. To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing. Kapow: Navigating the World

Electrical Systems

	Start at Year A	Start at Year B
Year 1	N/A	N/A
Year 2	N/A	N/A
Year 3	Possible Enrichment: Kapow: Electric Poster	To understand that electrical conductors are materials which electricity can pass through. To understand that electrical insulators are materials which electricity cannot pass through. To know that a battery contains stored electricity that can be used to power products. To know that an electrical circuit must be complete for electricity to flow. To know that a switch can be used to complete and break an electrical circuit. Kapow: Torches
Year 4	To understand that electrical conductors are materials which electricity can pass through. To understand that electrical insulators are materials which electricity cannot pass through. To know that a battery contains stored electricity that can be used to power products. To know that an electrical circuit must be complete for electricity to flow. To know that a switch can be used to complete and break an electrical circuit. Kapow: Torches	Possible Enrichment: Kapow: Electric Poster

Year 5	Possible Enrichment: Kapow: Wobble Bots	To know that 'form' means the shape and appearance of an object. To know the difference between 'form' and 'function'. To understand that 'fit for purpose' means that a product works how it should and is easy to use. To know that 'form over purpose' means that a product looks good but does not work very well. To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind. To understand the diagram perspectives 'top view', 'side view' and 'back'. Kapow: Steady Hand Game
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