**Federation of Penny Acres and Wigley Primary Schools Design and Technology Long Term Map KS2**

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|  | Autumn | | Spring | | Summer | |
| Year A  DT  (2023-2024) | It’s All Greek to Me!  (Y3/4)  **Food and Nutrition – Healthy and Varied Diet**  Design a healthy snack for an Olympian: sandwiches, wraps, pitta pockets, rice cakes, snack bars, blinis.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, evaluating (talking about what went well, what I would do differently), sustainability and seasonality (UKS2), healthy diets, where food comes from, aesthetics, preparation, working hygienically and safely. | It’s All Greek to Me!  (Y5/6)  **Food and Nutrition – Celebrating culture and seasonality**  Design a seasonal (using Greek flavours if possible) snack/meal for an Olympian:  Pizza, savoury biscuits/scones/  muffins, soup, cereal snack.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, evaluating (talking about what went well, what I would do differently), sustainability and seasonality (UKS2), healthy diets, where food comes from, aesthetics, preparation, working hygienically and safely. | What a Disaster!  (Y3/4)  **Electrical Systems – Simple circuits, programming and control**  Illuminated warning sign, torches, lamps, hands-free head lamp, siren for a vehicle, nightlight.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), simple circuits (LKS2), switches (UKS2), computer programming. | What a Disaster!  (Y5/6)  **Electrical Systems – Complex switches and circuits**  Security lighting system, automatic nightlight, electrical boardgame  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), simple circuits (LKS2), switches (UKS2), computer programming. | WW2  (Y3/4)  **Textiles – 2D shape to 3D product** purse/wallet, soft toy/mascot, apron, beach bag, pencil case  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), joining materials, describing materials and using, fabric shapes into 3D products. | WW2  (Y5/6)  **Textiles – Combining different fabric shapes**  shopping bag, garden tool belt, sandals, slippers, fabric door stop, tablet case, fabric advent calendar  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), joining materials, describing materials and using, multiple, fabric shapes into 3D products, strengthening, templates. |

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| Year B  DT  (2024-2025) | Chocolate  (Y3/4)  **Structures – Shell structures (with CAD)**  Packaging, giftbox, cool box. for chocolate product  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), combining materials, strengthening structures, making cuts and holes, properties of materials, computer aided design. | Chocolate  (Y5/6)  **Structures – Frame structures (with CAD)**  Design market stall for chocolate product – inc. banners, bunting etc.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), combining materials, strengthening structures, making cuts and holes, properties of materials, computer aided design. | Invaded Island  (Y3/4)  **Mechanical Systems – Levers and Linkages**  Information book, greetings card, story book, poster, storyboard.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using levels and linkages to create movement, make cuts and combine materials, properties of materials. | Invaded Island  (Y5/6)  **Mechanical Systems – Cams**  Interactive museum exhibit/display, children’s toy – Viking longship  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using cams to create movement, make cuts and combine materials, properties of materials. | Earth’s Extremes  (Y3/4)  **Mechanical Systems – Pneumatics**  Moving toy, jack in the box, moving class display, shop window display, moving creature.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using pneumatics to create movement, make cuts and combine materials, properties of materials. | Earth’s Extremes  (Y5/6)  **Mechanical Systems – Pulleys or gears**  Controllable toy vehicle with gears or pulleys, mountain themed fairground ride, ski lift?  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using pulleys or gears to create movement, make cuts and combine materials, properties of materials. |

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| Year C  DT  (2025-2026) | Walk Like an Egyptian  (Y3/4)  **Electrical Systems – Simple circuits, programming and control**  trap/alarm for Egyptian tomb, nightlight, illuminated sign for museum.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), simple circuits (LKS2), switches (UKS2), computer programming | Walk Like an Egyptian  (Y5/6)  **Electrical Systems – Complex switches, circuits, monitoring and control**  trap/alarm for Egyptian tomb, electrical board game, automatic nightlight  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), simple circuits (LKS2), switches (UKS2), computer programming. | Roaring Rainforests  (Y3/4)  **Textiles – 2D shape to 3D product**  purse/wallet, apron, beach bag, pencil case  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), joining materials, describing materials and using, fabric shapes into 3D products. | Roaring Rainforests  (Y5/6)  **Textiles – Combining different fabric shapes**  Shopping bag, garden tool belt, sandals, slippers, fabric door stop, tablet case, fabric advent calendar.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), joining materials, describing materials and using, multiple, fabric shapes into 3D products, strengthening, templates. | What did the Romans do for us?  (Y3/4)  **Food and Nutrition – Healthy and varied Diet**  Designing a dish for a healthy banquet: sandwiches, wraps, pitta pockets, rice cakes, snack bars, blinis.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, evaluating (talking about what went well, what I would do differently), sustainability and seasonality (UKS2), healthy diets, where food comes from, aesthetics, preparation, working hygienically and safely. | What did the Romans do for us?  (Y5/6)  **Food and Nutrition – Celebrating culture and seasonality**  Designing a dish for a cultural (Italian) banquet:  Pizza, savoury biscuits/scones/  muffins, soup, cereal snack.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, evaluating (talking about what went well, what I would do differently), sustainability and seasonality (UKS2), healthy diets, where food comes from, aesthetics, preparation, working hygienically and safely. |

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| Year D  DT  (2021-2022) | Finding Our Way (Y3/4)  **Structures – Shell structures (with CAD)**  Lunchbox, cool box (link to food preservation?), desk tidy, gift box/container  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), combining materials, strengthening structures, making cuts and holes, properties of materials, computer aided design. | Finding Our Way  (Y5/6)  **Structures – Frame structures (with CAD)**  Shelter, bird hide, parasol, tent  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), combining materials, strengthening structures, making cuts and holes, properties of materials, computer aided design. | Out of this World  (Y3/4)  **Mechanical Systems – Pneumatics**  Moving toy (space buggy), moving creature (alien), moving class display, space themed jack in a box, tipper truck  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using pneumatics to create movement, make cuts and combine materials, properties of materials. | Out of this World  (Y5/6)  **Mechanical Systems – Pulleys or gears**  Controllable toy vehicle with gears or pulleys (space buggy), space themed fairground ride (rockets?)  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using pulleys or gears to create movement, make cuts and combine materials, properties of materials. | Off with Their Heads!  (Y3/4)  **Mechanical Systems – Levers and Linkages**  Information book, greetings card, story book, poster, storyboard for a museum.  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using levels and linkages to create movement, make cuts and combine materials, properties of materials. | Off with Their Heads!  (Y5/6)  **Mechanical Systems – Cams**  Interactive museum exhibit/display  **Progression covered:**  Generating ideas based on existing products, design criterion, create design, sketch ideas, describe functionality and appeal to user, creating plans, mock ups and prototypes, evaluating (talking about what went well, what I would do differently), using cams to create movement, make cuts and combine materials, properties of materials. |