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| **Reception** |
| **Moving body parts** |
| **Links made with other subjects** | Dependent on purpose/theme of the picture:Linked to writing stimulus: charactersPersonal, Social and Emotional Development: All about mePhysical development: to show how body parts move (joints)Expressive Arts and Design |
| **The BIG Question** | How can we make body parts move? |
| **The BIG Outcome** | To incorporate moving parts in to models by using split pins to make body parts move. |
| **DT objectives**(link to NC)  | Design * Design purposeful, functional, appealing products for themselves and other users based on design criteria;
* Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make * Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing];
* Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

 Evaluate * Explore and evaluate a range of existing products;
* Evaluate their ideas and products against design criteria.

Technical knowledge * Build structures, exploring how they can be made stronger, stiffer and more stable;
* Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.
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| **Prior knowledge**What prior knowledge is needed for children to be successful in this unit?  | This unit builds on children’s early exploring of working with a range of materials and joining products within EYFS settings and learning how to follow simple oral instructions. |
| **Future learning**Consider the conceptual knowledge within a subject that pupils need for future learning (not just the recall of facts but the importance of concepts). | This unit gives prior knowledge to:Year 1: Design and make a moving pictureYear 2: Design and make a wheeled toy using axles and wheelsYear 3: Design and make a moving robot using pneumaticsYear 4: Design and make a story pop-up book using a range of mechanismsYear 5: Design and make a moving vehicle using a batteryYear 6: Design and make a fairground using electronic systems |
| **Resources** | * a selection of products with moving parts such as: scissors, balances, puppets, cards;
* disposable pictures which can be cut up for experimentation;
* paper, card, pre-cut strips of card;
* paper fasteners, masking tape, glue, plier punch or single-hole punch, scissors;
* a selection of coloured papers, pens, paints.
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| **Vocabulary/ Glossary** | Designing: idea, discuss, choose, drawing, labelling, cutMaking: hole punch, paper fastener, join, cut carefully, planning Knowledge and understanding: moving, split pin, metal, parts, length Types of movement: up, down, round |
| **Knowledge** | The knowledge that children will learn and remember:1. Understand the mechanisms which allow the product to move: *a split pin* and how they create different movement;
2. to know that mechanisms are used in everyday products and be able to identify these;
3. to know how to make simple mechanisms;
4. know how to cut a range of materials, using appropriate tools, equipment and techniques;
5. to know how to use tools safely;
6. to make their design using appropriate techniques;
7. to know how to evaluate their product by discussing how well it works in relation to the purpose.
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| **SEND expectations** | 1. Understand the mechanisms which allow the product to move: *a split pin* and how they create different movement;
2. to know how to make simple mechanisms;
3. know how to cut a range of materials, using appropriate tools, equipment and techniques;
4. to know how to use tools safely
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Suggestions

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| **Questioning**Questions you can pose to deepen, consolidate and challenge pupil’s understanding  | 1. Who is your product for? (audience)
2. What is the purpose of your product? (persuade, inform, entertain)
3. Does your product do what you intended it to do? (fulfil its purpose)
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| **Websites** | * Split pin template:
* <https://www.twinkl.co.uk/resource/t-d-034-blank-split-pin-person-template>
* <https://www.twinkl.co.uk/resource/t-tp-6241-little-red-riding-hood-themed-split-pin-cut-outs>
* https://www.twinkl.co.uk/resource/t-t-28996-superhero-themed-split-pin-activity
* Video – how to add split pins safely
* <https://www.youtube.com/watch?v=bsordXVQUq0>
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| **Suggested activities** | Discuss with the children how body parts work. Which areas of the body move? How do they move?*What does the moving part do? How does it work? What effect does it have?* Use a simple moving template (see website links) to talk about how split pins can be used to make movement.Ask the children to investigate products that include levers e.g. a pair of scissors. Encourage children to make drawings to show where the split pins will be added.Demonstrate how to make simple moving mechanisms by using card strips and split pins.Ask the children to draw a picture of themselves on card and make one part of their body move. Remind children not to draw too small. (A prepared drawing of a child/teddy could be given for this activity.) Talk through ideas with the children as they begin to make and during different stages of making. How well is this working? What could you do to make it better? Evaluate the final moving picture by discussing strengths and areas for development. |