



# Core links through the curriculum.

## Moving Toys

### Basic Skills

| Key texts                 | Writing opportunities                     | Reading opportunities       | Numeracy opportunities     |
|---------------------------|---|-----------------------------|----------------------------|
| Enid Blyton-Amelia Jayne. | Write a story about a toy coming to life. | Reading stories about toys. | Measuring in cms.<br>shape |

### Real World Applications

| Using Technology | Application of skills   |
|------------------|---|
| algorithms       | Using scratch to create a cartoon of a toy that comes to life |

### Citizenship

| Modern Britain   | SMSC   | Enterprise  |
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| <p>Democracy</p> <p>Rule of law</p> <p>Gender roles<br/>Gender roles boys and girls toys, is bias in toy design appropriate in modern Britain.</p> <p>Individual Liberty</p> <p>Respect and tolerance;<br/>Looking after toys, thanking for gifts.</p> | <p><b>Social:</b><br/>Sharing toys.</p> <p><b>Cultural:</b><br/>Culturally appropriate toys. Toys in other cultures.</p> <p>Recycling toys. Making toys out of recyclable materials.</p> <p><b>Moral</b><br/><b>PSHCE GO Givers:</b><br/>Bullying<br/>Choices<br/>Homophobia<br/>Meet the gogivers<br/>Resolving conflict</p> <p><b>SEAL:</b><br/>Getting on and falling out</p> <p><b>Spiritual</b><br/><b>RE</b><br/>4.1 Belief in the community<br/>Key Question: What does it mean to belong to a faith?</p> | <p>Design leaflets to sell our toy. Present to the class (dragon's den style)</p> |



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| <p><b>Digital Literacy</b><br/>Publisher booklet about Skara Brae<br/>Combining words and pictures</p> | <p><b>E communication and collaboration</b><br/>Research Stone Henge</p> | <p><b>Computer Science</b></p> |
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| <b>KS2 Computing Curriculum Objectives</b>  |  |  |
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| <p>The child can use a range of programs on a computer.<br/>The child can use a range of software on laptop or tablet computers with some degree of independence. Software might include video editing, diagnostic tools, email clients, videoconferencing (with the teacher or another adult), survey design software, spreadsheets and presentation software.</p> | <p>The child can use digital technology safely and show respect for others when working online. The child should know that they need to keep themselves safe when using digital technology. E.g. They should show respect for others when filming and should not normally post videos online. They should take care when using the Command prompt and should treat links and attachments in emails with caution. If responding to online surveys, they should do so anonymously, thinking carefully about information they give out.</p> <p>The child can decide whether a web page is relevant for a given purpose or question. The child can form a judgement about whether a web page is appropriate for finding out the answer to a question they have or for a given purpose.</p> | <p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p style="text-align: center;">Create and debug simple programs</p> <p>Recognise common uses of information technology beyond school</p> |

| <b>Classroom Monitor Objective</b>   | <b>Expected Indicators</b>   | <b>Exceeding Indicators</b>   |
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| <b><u>Digital Literacy</u></b>   |  |   |
| <p>C.3.1.1. Select, use and combine a variety of software (including internet services) on a range of digital devices</p>                                | <p>The child can use a range of software on laptop or tablet computers with some degree of independence. Software might include video editing, diagnostic tools, email clients, videoconferencing (with the teacher or another adult), survey design software, spreadsheets and presentation software.</p>   | <p>The child can use multiple programs on laptop or tablet computers to achieve particular goals. E.g. They might create a presentation and then email this to a classmate; create a survey using a survey design application, analyse the results in a spreadsheet and then make a presentation about their findings.</p>  |
| <b><u>E communication and collaboration</u></b>  |  |   |
| <p>C.2.1.1. Use technology safely and respectfully.</p>  | <p>The child can keep safe and show respect to others while using digital technology. The child should know that they need to keep themselves safe when using digital technology. E.g. They should know to use filtered SafeSearch when looking for images on the web and that they should close the lid of a laptop (or similar action) if they find inappropriate images. They should know to respect others' rights, including privacy and intellectual property when using computers, so should not look at someone else's work or copy it without permission and acknowledgement. They should observe age restrictions on computer games.</p> | <p>The child can stay safe and act respectfully and responsibly when using digital technology. The child should know that they need to keep themselves safe when using digital technology. E.g. They should know to use filtered SafeSearch when looking for images on the web and that they should close the screen (or similar action) if they find inappropriate images. They should know to respect others' rights, including privacy and intellectual property when using computers, so should not look at someone else's work or copy it without permission and acknowledgement. They should know that emails can have files attached that could harm their computer. They should know that digital photos sometimes contain hidden (meta)data that can reveal where the photo was taken. They should observe age restrictions on computer games.</p> |
| <p>C.2.1.2. Keeping personal information private.</p>  | <p>The child can understand that they should not share personal information online. The child should understand that personal information should be kept private: it should not be posted online to a public audience and should only be shared privately with those who they (or their parents) would trust. E.g. The child should recognise that photos they take in school should not normally be posted to the open web. They should know that photos taken with smartphones often contain hidden information about where the photo was taken.</p>   | <p>The child can show some understanding of broader issues around online privacy. The child should show some awareness of other issues around privacy. The child might discuss how digital photos can contain hidden information about where they were taken (metadata) or be searched for faces. They can show they are aware that information on computers is likely to remain available for a very long time and cannot easily be removed. They might discuss how their use of the web, searches and email can be monitored by those who provide the services and those who run computer networks, including at school.</p>  |
| <p>C.2.1.3. Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> | <p>The child can understand what to do if they have concerns about content or contact online. The child should know to close the laptop lid or turn the tablet over if they find content, such as inappropriate images, which might disturb them or other children; if someone they don't trust contacts them online; if someone makes inappropriate contact online. They should know</p>  | <p>The child can have a range of strategies for dealing with concerns over content or contact online. The child should know to close the laptop lid or turn the tablet over if they find content, such as inappropriate images, which might disturb them or other children; if someone they don't trust contacts them online; if someone makes inappropriate contact online. They should know to tell their teacher or their parents if this happens, and be</p>  |

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|   | to tell their teacher or their parents if this happens, and be aware that they could talk to another trusted adult or to ChildLine about this.   | aware that they could talk to another trusted adult or to ChildLine about this. They should be aware that they can report inappropriate contact or content to those running websites, but that it would normally be best to ask a parent or teacher to help them in doing so.  |
| <b>Computer Science</b>   |  |  |
| C.2.1.1. Understand what algorithms are.  | The child can understand algorithms as sequences of instructions or sets of rules in everyday contexts. The child can recognise that common sequences of instructions or sets of rules can be thought of as algorithms. Examples could include recipes, but might also be procedures or rules in class, spelling rules, simple arithmetic operations or number patterns.   | The child can appreciate that some algorithms are more efficient than others. The child can think about everyday algorithms, such as classroom rules or procedures, or arithmetic operations, and look for easier or faster ways to get things done. The child can create programs for computers and look for other ways to do the same thing, deciding which way would be better.   |
| C.2.1.2. The child can understand how algorithms are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. | The child can program on screen using sequences of instructions to implement an algorithm. The child can create programs as sequences of instructions when programming on screen. Their program could be written using simple programming apps (such as Blue Bot or Lightbot), ScratchJr or Scratch, perhaps using pre-prepared blocks and sprites in this case.   | The child can understand that the same algorithm can be implemented in multiple programming languages. The child can recognise that an algorithm can be implemented in more than one programming language, e.g. taking an algorithm written for the Bee Bot and running it on the Blue Bot app, in ScratchJr and in Scratch. The child should be able to explain some of the differences between these languages.  |
| C.2.2.1. Create and debug simple programs.  | The child can create a simple program on screen, correcting any errors. The child can create a simple program on screen (e.g. using the Blue Bot app, ScratchJr or with prepared sprites and blocks in Scratch) with a particular goal or purpose in mind (e.g. drawing a shape or moving a sprite from one place to another). The child can debug any errors in their own code.   | The child can create more complex programs on screen, correcting any errors. The child can create more complex programs on screen (e.g. using ScratchJr or Scratch) with a particular goal or purpose in mind (e.g. drawing compound shapes, making a simple scripted animation or modifying someone else's program).  |
| C.2.3.1. Use logical reasoning to predict the behaviour of simple programs  | The child can give logical explanations for what they think a program will do. The child can give logical explanations of what a program will do under given circumstances, including some attempt at explaining why it does what it does. The program could be one they themselves have written or it could be a computer game or a familiar piece of software. The child could use an audio recorder or a video camera to record their explanations. | The child can work out some of the underlying algorithm by experimenting with a program while it runs. The child can take a simple game or piece of application software and reverse engineer at least some of the steps or rules that were present in the underlying algorithm. E.g. When text is selected and the B button is clicked, the text should show as bold; when lives reach zero and health drops to zero, show game over and stop the game. |

# Design Technology

| Classroom Monitor Objective   | Activity   |
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| <p><u>Lower KeyStage 2 Design he/she can generate and develop his/her ideas through discussion.</u></p> <p><u>Lower KeyStage 2 Design he/she can design products that are functional and designed for purpose.</u></p>  | Design a moving toy fit for a KS1 child  |
| Lower KeyStage 2 Design he/she can create a cross sectional drawing of his/her design.  | Draw the inside mechanism of our moving toy.   |
| <p><u>Lower KeyStage 2 Make he/she can create a shell or frame structure, strengthening with diagonal struts.</u></p> <p>Lower KeyStage 2 Make he/she can create simple joins with wood. e.g. Butt joint, dowel joint.</p> <p>Lower KeyStage 2 Make he/she can measure and mark a square section &amp; dowelling to the nearest cm</p> <p>Lower KeyStage 2 Make he/she can use a bradawl to mark hole positions</p> <p>Lower KeyStage 2 Make he/she can use a hand drill to make tight holes and loose holes.</p> | Create the box frame for our moving toy. Ensure that it is sturdy by adding diagonal struts. |
| Lower KeyStage 2 Make he/she can use simple mechanical systems in his/her products e.g. Gears, levers and cams.   | Add the moving mechanism onto our toy  |
| <u>Lower KeyStage 2 Evaluate he/she can explain strengths and weaknesses of existing products.</u>  | Evaluate our moving toy.   |
| Lower KeyStage 2 Evaluate he/she can explain strengths and weaknesses of existing products.   | Find out about the inventor of Lego  |
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| Lower KeyStage 2 Health and Wellbeing he/she can use vocabulary to describe the intensity of good and bad feelings and discuss ways to manage those feelings.            | Lower KeyStage 2 Religious Knowledge he/she can use his/her developing religious vocabulary to describe some key features of religions, including religious celebrations and worship. |
| Lower KeyStage 2 Health and Wellbeing he/she can describe a variety of ways to stay safe in different environments. e.g. On the street, at school, on the internet etc.. | Lower KeyStage 2 Religious Knowledge he/she can ask important questions about religion and beliefs, making links between his/her own and others' responses.                           |
| Lower KeyStage 2 Health and Wellbeing he/she understands when it is necessary to share secrets with others so they do not put themselves or others at risk.              | Lower KeyStage 2 Religious Knowledge he/she can identify the impact of religion on believers' everyday lives.   |
| Lower KeyStage 2 Health and Wellbeing he/she understands when it is necessary to seek help from others and who they can ask for that help.                               | Lower KeyStage 2 Religious Knowledge he/she can make links between values and commitments, and his/her own attitudes and behaviour.   |
| Lower KeyStage 2 Relationships he/she can explain how others are feeling and describe how they can support them.   | Lower KeyStage 2 Religious Knowledge he/she can respond to questions that cause wonder, staying respectful to others' beliefs and ideas.  |
| Lower KeyStage 2 Relationships he/she understands how his/her actions impacts on others and how they can address problems caused.  |   |
| Lower KeyStage 2 Relationships he/she recognises from his/her own and others actions what is fair and unfair, kind and unkind and right and wrong                        |   |
| Lower KeyStage 2 Relationships he/she can describe how they are important to others and how they can care for others.  |   |
| Lower KeyStage 2 Relationships he/she understands that differences and similarities arise from a number of factors. e.g. Family, culture, religion, age, sex, etc.       |   |
| Lower KeyStage 2 Relationships he/she recognises a dare and understands how to not give in to pressure.  |   |
| Lower KeyStage 2 Living in the Wider World. he/she understands that our society has rules and laws which govern us.  |   |