



7.3 Spreadsheet modelling (Harry Plotter)

Number of weeks (between 6&8)	Content of the unit	Assumed prior learning (tested at the beginning of the unit)
6	<p>This unit is a practical, skills-based unit covering the principles of creating and formatting basic spreadsheets to produce and use simple computer models. The unit is centred on creating a financial model for a TV show. Pupils start by looking at different types of model and then use basic spreadsheet techniques to create and format a simple financial model to calculate the expected income from sales figures.. The model is then extended to include sales from merchandising, with the introduction of “what if” scenarios. Finally the pupils create CHARTS and calculate income from sales. Spreadsheet features covered include SUM, AVERAGE, MAX, MIN, IF and COUNTIF functions, cell naming for absolute referencing, conditional formatting, validation, charting and simple macros.</p> <p>Microsoft Excel software is used in this unit. As each lesson progresses the tasks become more and more challenging.</p>	<p>The tasks in this unit assume that most pupils will have some experience of creating basic spreadsheets from Key Stage 2. Pupils’ knowledge and experience is assessed during the first lesson of this unit so that teachers can adapt subsequent lessons accordingly.</p>

Assessment points and tasks	Written feedback points	Learning Outcomes (tested at the end and related to subject competences)																																																																																																																																																																																																																																																																														
<p>Pupils will sit a written test as their final assessment.</p> <p>This Schemes of work is aimed towards GCSE Grades F-D</p>	<p>Provide feedback mid-way through the unit.</p> <p>Provide written feedback following the end of unit assessment.</p>	<table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> </tr> </thead> <tbody> <tr> <td>Detail</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can calculate sums by hand or use a calculator</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use simple formulae using + - * etc.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use SUM and/or the Autosum feature</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use one parameter function e.g. MIN, MAX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use 2+ parameter functions: IF, COUNTIF</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a VLOOKUP</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can tell the difference between the terms 'row', 'column' and 'cell'</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can adjust cell height/width</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can change and alter the grid lines</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use shading</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a basic spreadsheet structure</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can adjust cell formats e.g. currency, date, number</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can format my work so that it fits on one page</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use conditional formatting</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can explain what validation is, and what it is used for</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use limited data validation</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can change a variable to show a different outcome</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use relevant data validation to minimise errors</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can use a spreadsheet to model a variety of outcomes</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a macro & explain how they work</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create bespoke spreadsheets based on end user requirements</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a basic graph or chart with no labelling</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a basic graph or chart with some labelling</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can create a graph or chart with headings/labelling</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>I can format charts and graphs appropriately</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		1	2	3	4	5	6	7	8	9	Detail										I can calculate sums by hand or use a calculator										I can use simple formulae using + - 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<p>At the end of this Unit all pupils should be able to:</p> <ul style="list-style-type: none"> • Format a simple spreadsheet model • Use simple formulae and functions • Name cells in a spreadsheet model • Create a basic pie chart to display results 																																																																																																																																																																																																																																																																																



7.3 Spreadsheet modelling (Harry Potter)

		<p>Most pupils will be able to:</p> <ul style="list-style-type: none">• Explain the advantages of naming cells in a spreadsheet model• Format, construct and manipulate a simple spreadsheet model using formulae• Use conditional functions in calculations• Use a spread sheet model to predict and test the outcomes for different scenarios <p>Some pupils will be able to:</p> <ul style="list-style-type: none">• Use a simple Spreadsheet model to explore different “what if” scenarios• Use conditional formatting• Justify the formatting they have used in a spreadsheet model• Present information from a spreadsheet model in a variety of formats• Create a macro and assign it to a button on the spreadsheet• Customise a chart to present information effectively• Evaluate the effectiveness of a computer model
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7.3 Spreadsheet modelling (Harry Potter)

Lesson	Clear learning intentions	Clear success criteria	Hook	Presentation of content	Guided practice	Independent practice (homework)	Closure
1	<p>Identify what are the key words associated with spreadsheets? How can a spreadsheet be formatted? How do I use formulas in spreadsheets?</p>	<ul style="list-style-type: none"> Give examples of how computer models are used in the real world Format a simple spreadsheet model Use simple formulae and functions Use absolute cell references 	<ul style="list-style-type: none"> Pupils should copy the 7.2 Spreadsheets folder from the student drive into an appropriate folder in My Documents. <p>Pupils should complete the Lesson 1 Starter.docx activity.</p> <p>Use this activity and slide 8 of KQ Lesson 1.pptx to introduce the concept of spreadsheets and the associated key words.</p> <p>Explain how formulas have been used and how they are important in spreadsheet work.</p>	<ul style="list-style-type: none"> Introduce students to the project. Explain the Harry Potter scenario and how they will carry out tasks around this theme. Pupils have three activities to complete: <p>Pupils to access 'Activity 1 Shopping List.doc' which is colour coded red and should be completed by all pupils. Once pupils have completed this task they should move on to 'Activity 2 Shopping List.doc' which is colour coded amber and should be completed by most students. Finally pupils move onto 'Activity 3 Shopping List.doc' which is colour coded green and should be completed by some pupils.</p>	<p>KQ Lesson 1.pptx</p> <p>Lesson 1 Starter.docx</p> <p>Activity 1 Shopping List.doc</p> <p>Activity 2 Shopping List.doc</p> <p>Activity 3 Shopping List.doc</p> <p>Lesson 1 Plenary.pptx</p> <p>Lesson 1 Homework.doc</p> <p>Differentiated tasks are provided for the less able to attempt first. Extension – green tasks should be attempted by the most able. Level 5 pupils should be able to annotate and explain their work.</p>	<p>Lesson 1 Homework.doc</p> <p>Complete Lesson 1 Homework.docx on Cell references. Set individual homework for pupils who have not completed a sufficient amount of work.</p>	<p>Pupils should complete the worksheet labelling parts of a spreadsheet. Go through with the class.</p>



7.3 Spreadsheet modelling (Harry Potter)

<p>2</p>	<p>How can spreadsheets be formatted?</p> <p>How do I use the following formulas in spreadsheets: SUM AVERAGE MAX MIN ABSOLUTE CELL REFERENCE</p>	<ul style="list-style-type: none"> • Format, construct and manipulate a simple spreadsheet model using formulae • Use absolute cell references 	<p>Lesson 2 Strater.xlsx can be printed or completed onscreen. Re-caps pupil's understanding of cell references and formulas. Use as a basis for discussion of the main principles in spreadsheets.</p>	<p>Creating a spreadsheet</p> <p>Students should open Houses.xlsx and follow the instructions carefully. Demonstrate at start of lesson.</p> <p>Remind them to use the video tutorials.</p> <p>Pupils to access 'Activity 1 Houses.doc' which is colour coded red. Once pupils have completed this task they should move on to 'Activity 2 Houses.doc' which is colour coded yellow and then finally pupils move onto 'Activity 3 Houses.doc' which is colour coded green.</p> <p>Provide assistance as required.</p>	<p>KQ Lesson 2.pptx</p> <p>Houses.xlsx</p> <p>Lesson 2 Starter.docx</p> <p>Activity 1 Houses.doc</p> <p>Activity 2 Houses.docx</p> <p>Activity 3 Houses.docx</p> <p>Lesson 2 Homework.docx</p> <p>Differentiated tasks are provided for the less able to attempt first. Extension – green tasks should be attempted by the most able. Level 5 pupils should be able to annotate and explain their work.</p>	<p>Lesson 2 Homework.doc</p> <p>Complete Lesson 2 Homework.docx on Cell references and Understanding a spreadsheet. Set individual homework for pupils who have not completed a sufficient amount of work.</p>	<p>Use slides in presentation to go through skills/knowledge from the three activities. Get pupils to show progress made using thumbs up/down or traffic light cards. Second plenary to unscramble key words associated with spreadsheets</p>
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7.3 Spreadsheet modelling (Harry Potter)

3	<ul style="list-style-type: none"> How can I format a spreadsheet? What types of formulas can be used in a spreadsheet? How can I create a chart? Use a spreadsheet to model outcomes Use functions including Max, Min and If Name a cell Sort data into different sequences Try out different 'What if' scenarios to achieve a goal Display the formulae in a spreadsheet 	<ul style="list-style-type: none"> Name cells in a spreadsheet model Use a spreadsheet model to predict and test the outcomes for different scenarios 	<p>Lesson 2 Strater.xlsx needs to be printed for each pupil. This is a series of questions to test knowledge of spreadsheets from lessons 1 and 2. Answers are provided. A differentiated version is available for less able pupils.</p>	<p>Introduce the scenario. Pupils to open 'School Test.xlsx' and access 'Activity 1 School Test.docx' which is colour coded red. Once pupils have completed this task they should move on to 'Activity 2 School Test.docx' which is colour coded yellow and then finally pupils move onto 'Activity 3 School Test.docx' which is colour coded green. Pupils should be familiar with the approach to this unit by this lesson.</p> <p>Extension - Pupils should paste graphs into the 'School Tests Charts.docx' and explain their findings. Provide assistance as required Demonstrate how to find the product with the maximum profit. Show pupils how to name this cell.</p> <p>Demonstrate how to sort the data.</p> <p>Pupils can now experiment with different scenarios to try and reach the target profit</p> <p>Demonstrate how to display and print formulae, including the quick key combination.</p>	<p>KQ Lesson 3.pptx</p> <p>School test.xlsx</p> <p>Lesson 3 Starter.docx</p> <p>Activity 1 School test.docx</p> <p>Activity 2 School test.docx</p> <p>Activity 3 School test.docx</p> <p>School tests charts.docx</p> <p>Lesson 3 Homework.docx</p> <ul style="list-style-type: none"> Differentiated tasks are provided for the less able to attempt first. <p>Extension – Pupils to complete a report on explaining the data/charts</p>	<p>Lesson 3 Homework.doc Complete Lesson 3 Homework.docx on key terms using a word search and a crossword. Set individual homework for pupils who have not completed a sufficient amount of work.</p>	<p>Pupils to show progress made using thumbs up/down or traffic light cards. Second plenary to unscramble key words associated with spreadsheets. Exits pass to leave the room.</p>
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7.3 Spreadsheet modelling (Harry Potter)

4	<ul style="list-style-type: none"> Can I format a spreadsheet to show currency? Can I use a formula to get data from one worksheet into another? 	<ul style="list-style-type: none"> Use conditional functions in calculations Use link worksheet formatting 	<p>Lesson 4 Starter.docx – exercise to label the toolbar. Checks pupil’s knowledge of the toolbar and some of what they have learnt from the last 3 lessons.</p>	<ul style="list-style-type: none"> Introduce the scenario. Pupils to open ‘Spells Costs Modelling.xlsx’ and access ‘Activity 1 School Test.docx’ which is colour coded red. Pupils should progress onto Activity 2 (Amber) and Activity 3 (Green). The activities underpin skills from previous lessons and introduce the new skill of using formulas covering two different worksheets. All pupils should complete Activity 1 and 2. Most pupils should complete Activity 3 including completing ‘School Tests Charts.docx’ Extension –More able pupils should complete ‘Spell Cost Modelling Extension.docx’ changing variables in the spreadsheet. Provide assistance as required. 	<p>KQ Lesson 4.pptx Spell Costs Modelling.xlsx Lesson 4 Starter.docx Activity 1 Spells Cost Modelling.docx Activity 2 Spells Cost Modelling.docx Activity 3 Spells Cost Modelling.docx Spell Costs Charts.docx Spell Cost Modelling Extension.docx Lesson4 Homework.docx</p> <p>Activities are differentiated through each activity getting increasingly more difficult.</p> <p>There are differentiated activities to use with the less able. More able pupils should complete all activities, including the specified extension task.</p>	<p>Complete Lesson 4 Homework.docx on key terms using a word search and gap fill exercise. Set individual homework for pupils who have not completed a sufficient amount of work.</p>	<p>Present 5 statements about spreadsheets. Pupils use traffic light cards to answer true or false.</p>
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7.3 Spreadsheet modelling (Harry Plotter)

5	<ul style="list-style-type: none"> Can I do the following with a spreadsheet? -Format it: fonts, colours, £, bold, shading -Use formulas -Create charts: column, pie Can I develop a spreadsheet? 	<ul style="list-style-type: none"> Create a basic pie chart to display results Customise a chart to present information effectively Formatting 	<p>Lesson 5 Starter.docx – pupils think of 5 possible questions for 2 answers that have been given. Give an example of a question that could be posed where ‘column’ was the answer.</p>	<ul style="list-style-type: none"> Introduce the scenario. Print ‘Activity 1 Stationery Shop.docx’ and provide to pupils to complete the table. Pupils to start a new spreadsheet and follow the instructions in ‘Activity 1 Stationery Shop.docx’, ‘Activity 2 Stationery Shop.docx’ and ‘Activity 3 Stationery Shop.docx’ All pupils should complete Activity 1 and 2. Most pupils should complete Activity 3. More able pupils should independently identify ways of developing the model Extension –this has been built in to Activity 3. <p>Provide assistance as required.</p>	<p>KQ Lesson 5.pptx</p> <p>Lesson 5 Starter.docx</p> <p>Activity 1 Stationery Shop.docx</p> <p>Activity 2 Stationery Shop.docx</p> <p>Activity 3 Stationery Shop.docx</p> <p>Spell Costs Charts.docx</p> <p>Lesson 5 Homework.docx</p>	<p>Complete Lesson 5 Homework.docx which is a traffic light review of what they have learned with spreadsheets. Set individual homework for pupils who have not completed a sufficient amount of work. Revise for assessment next lesson.</p>	<p>Get volunteers to work on Lesson 5 Plenary.xls. Target questions to pupils to explain how things are done and why they are done.</p> <p>Go over the different skills that pupils have learned in the last five weeks. Remind pupils of the usefulness of the Excel Help when they can’t remember how to do something.</p> <p>The unit has covered:</p> <ul style="list-style-type: none"> Computer models and in particular, financial modelling using a spreadsheet Formulae and functions such as Sum, Max, Min, IF, Countif Formatting and conditional formatting Validation of input data Macros Charts <p>How well do they understand each part?</p>
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7.3 Spreadsheet modelling (Harry Potter)

6	<ul style="list-style-type: none">Assessment of learning for the unit.			<p>Briefly revise at the start of the lesson.</p> <p>Explain rules for the assessment.</p> <p>Explain how the assessment is to be completed.</p>	7.3 Spreadsheet modelling (Harry Potter) assessment test	Introduction to the next unit - Find three news stories about phishing	Explain to pupils what the next unit will be about.
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