

WJEC GCSE Portfolio in ICT
Modelling Design for a Given Purpose.

Choose one of the following options from the table. Use the hyperlinks to read more:

A	School indoor football tournament
B	School tuck shop
C	School photo orders
D	School charity fund raising
	Formula explanation template – everyone needs to do this

A. School indoor football tournament [\(Back to top\)](#)

The school wants to run a form 5-a-side football competition in the gym for year 7. The PE teacher has asked for support from the ICT department in running the tournament, keeping a record of results and updating a league table after each round of matches.

He provides the ICT department with the following information:

- The competition is to run on a league basis.
- There are six tutor groups in each year.
- There are 3pts for a win and 2 for a draw.

Extension

- In the event of a tie on points at the end of the competition, goal difference will count.
1. Assume the place of the ICT teacher. On paper design a spreadsheet of the league table which will be suitable for the task. Show text labels, example numeric data and any formulas in your design.
 2. Now type up the design onto a worksheet using Excel, testing it to make sure the formulas work correctly.
 3. Make a copy of the design and select ‘tools/options/formulas’ to show the formula version. Print out both versions and hand in with your paper design.
 4. Type a brief report covering:
 - i. A description of the task
 - ii. An explanation of the text labels, example data and purpose of formulas
 - iii. Where the work will be saved

Summary of work to hand in:

1. Hand drawn design of spreadsheet.
2. Printout of completed spreadsheet in value version, (it shows the numbers). **Printout No.9**
3. Printout of completed spreadsheet in formula version. (Go to *Tools / Options / Formulas* – check in print preview). **Printout No.10**
4. Report, with name as footer, on one side of A4. (Check spelling).

B. School tuck shop

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The school is interested in starting an alternative style *'Health Zone'* tuck shop that sells only fruit and water drinks. The Deputy Head is keen for a group of students to run the tuck shop. They will need to design and create a spreadsheet that keeps a record of how many of each item is sold each week, because the fruit will perish if not sold. He wants a breakdown of total income and profit from sales each week.

You are given the following information by the Deputy Head:

- The shop will sell at least 6, but no more than 10 items, of which 3 are drinks.
- The Deputy Head wants to know which days are the busiest.
- Tuck is purchased from the wholesaler at 75% of the selling price.
- Fruit has no VAT.
- Bottled drinks incur VAT at 17.5%

Extension

- Design a formula that will alert the students that stock is low.
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C. School photo orders [\(Back to top\)](#)

The school secretary collects pupils' money for individual and family group photographs. She uses a pen and paper to keep a list of each order, but would like to computerise the task. The ICT teacher is asked to give the problem to his Key Stage 4 students. They are to design and create a sample spreadsheet that will identify the orders placed by 10 pupils.

The ICT teacher gives the students the following information:

- There are 2 sizes for individual photos;
 - 10cm X 15cm at £4.25
 - 12cm X 18cm. at £5.50
- Family group photos are one size and cost £6.75.
- Proof photos must be returned with any order.
- The school makes 10% profit on its sale of photos.

Extension

- Four weeks is allowed for payment from the date the order the order is placed. Design a formula for overdue payment.
1. On paper design a spreadsheet which will be suitable for the task. Show text labels, example numeric data and any formulas in your design.
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D. School charity fund raising [\(Back to top\)](#)

Two pupils want to do a sponsored car wash of staff cars for charity. The Head teacher is happy for them to go ahead. She insists that they keep accurate records of all income and expenses using a spreadsheet program on the school computer network. Before they begin to wash cars they must have 10 orders and she wants to see how the spreadsheet will work.

The pupils are given the following information:

- They must be sure to wash the correct car.
- There are 2 price brackets, vehicles under 1.6m high and vehicles over 1.6m high.
- The pupils need to buy the following:
 - A recognised car shampoo
 - Quality chamois
 - Special cleaner for cars with alloy wheels
- Cars with alloy wheels cost an extra £1.00 to clean

Extension

- Pupils are given the choice of paying 20% of the profit on 10 vehicles to the school fund OR the school will buy the cleaning fluids and cloths.
1. On paper design a spreadsheet which will be suitable for the task. Show text labels, example numeric data and any formulas in your design.
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