



THE TIMES 100

BUSINESS CASE STUDIES

Research and development teacher guide (Syngenta)

GCSE activity – flow chart

Independent enquirers	Team workers	Effective participants	Self managers	Reflective learners	Creative thinkers
✓	(✓)	✓			

'A'-level activity – research activity

Independent enquirers	Team workers	Effective participants	Self managers	Reflective learners	Creative thinkers
	✓				✓

Research and development worksheet

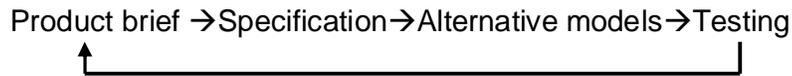
1. Research and development (R&D) is the scientific research and the technical development involved in developing new products or processes
2. Reasons for new product development include:
 - a. Replacing declining products
 - b. Adding to the current product portfolio
 - c. Filling a gap in the market
 - d. Maintaining a competitive advantage
 - e. Competing with rivals products
 - f. Attracting new customers
3. The active ingredients must be:
 - a. effective
 - b. specific to solving crop-related problems
 - c. novel in the way they work
 - d. safe



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4. The four stages are



5. Protecting intellectual property can slow down the speed of research. Exchanging technology with other similarly placed organisations R&D can continue to move forward, benefiting all organisations involved.

6. Benefits include:

- a. Providing a unique selling point
- b. Providing a competitive advantage by bringing innovative products on the market
- c. Ensuring long term income and profits
- d. Identifying chance opportunities that were not anticipated
- e. Enhancing reputation which can build the brand and nurture the trust of farmers and growers

7. R&D is important to the food industry because:

- a. Trends and tastes change within the food industry, just as any other
- b. Without crop protection 40% of the world's food would not exist
- c. The world's population is growing and the need for food is forecast to increase by 50% in the next four decades
- d. Global climate change may impact on food production

E-D students are likely to identify some benefits of R&D in the context of the food industry.

C-A students are likely to analyse the importance of R&D in the food industry. For a balanced answer, students may point out that R&D will not be the only influence on the future of the food industry. There are other important factors to consider e.g. reducing the amount of food wasted.



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8. On the one hand, firms should be market orientated because they run the risk of spending huge sums of money developing products and services that customers do not want otherwise. A market orientated approach can therefore reduce the risk for many organisations.

However, for firms like Syngenta, specialist knowledge is needed which the market may not have. Customers may not actually know that they would want something if it doesn't currently exist. Some firms have successfully developed new products and then found markets for them.

E-D students are likely to identify some arguments for and/or against a market orientated approach, providing examples to support their arguments

C-A students are likely to analyse arguments for and against a market orientated approach. For AO4 students should reach a justified conclusion.