



Lesson Plan: Manufacturing

Time required for this lesson
60 minutes

Aim of the lesson

To introduce students to the 'Manufacturing' occupational sector.

Learning outcomes

By the end of this lesson students should:

- have a greater understanding of the range of jobs in the Manufacturing occupational area
- have looked at the myths surrounding the manufacturing industry
- have first-hand experience of the manufacturing of a product
- have a greater awareness of what is happening nationally and locally in the area of Manufacturing

Resources required for this lesson

- 'Working in Essex, Southend and Thurrock - Manufacturing' leaflet obtained www.stepon.org
- True or False Worksheet and Answer Sheet
- Manufacturing a Shoe Worksheet
- Manufacturing Quiz and Answer Sheet

Introduction

Explain to the students that this collection of labour market leaflets has been produced by Connexions and the Learning and Skills Council. It is intended to be used as an information, advice and guidance resource to help them understand more about the trends in the labour market in Essex and to support the introduction of the new 14-19 Diplomas. Its ultimate aim is to help students with their decision-making regarding their future career plans. This lesson is all about the occupational area of Manufacturing and can support students who are thinking about doing the Diploma in Manufacturing and Product Design.



Activity 1

True or False (10 minutes)

Worksheet: True or False and Answer Sheet

Explain to the class that manufacturing jobs are those that involve making something and supplying it to the public. Some of our best loved brands are manufactured in the UK (for example Kellogg's Cornflakes, Heinz Baked Beans, Imperial Leather Soap). The manufacturing industry includes the traditional engineering and textile industries, the new modern industries such as electronics and telecommunications and the food, drink and clothing industries.

Explain to the class that there are many myths surrounding the manufacturing industry in the UK and to try and alleviate some of these myths we are going to do a 'true or false' exercise.

Either hand out the 'True or False Worksheet' to the class or get volunteers to come to the front of the classroom and read out the statements on the 'True or False' Worksheet. The class have to decide which of the statements are true and which are false.

Use the 'True or False Answer Sheet' to give out the correct answers.

Activity 2

Manufacturing a Shoe (30 minutes)

Worksheet: Manufacturing a Shoe

Divide the class up into groups of six people. Give each group a copy of the 'Manufacturing a Shoe Worksheet'. Each group also requires four sheets of paper (all different colours) and some sellotape.

Explain to the class that the aim of this activity is to have some first-hand experience of the processes that go into manufacturing a product. This will include the design, production, marketing, pricing and selling of a product.

After 20 minutes get each group to present their shoe to the rest of class and talk through how they came up with their design and how they are going to market it, where they are going to sell it and how much will it cost.

Get some feedback from the class on the skills and qualities that they think are required in manufacturing a product and how they found this activity.

Activity 3

Manufacturing Quiz (15 minutes)

Worksheet: Manufacturing Quiz and Answer Sheet

Pupils will need a copy of the 'Working in Essex, Southend and Thurrock – Manufacturing' leaflet to be able to find the answers to the quiz.

The pupils can work on their own or in pairs to complete the quiz.

Give the pupils 10 minutes to complete the quiz and then spend the last five minutes going through the answers.

Plenary (5 minutes)

Working in pairs get each person to discuss with their partner what they have learnt about the area of Manufacturing in this session. Go round the class and ask everybody to feedback one of the things the person that they are working with has learnt from this session.

End the session by going back over the aims and learning outcomes of the lesson with the students and asking them if they have any questions about anything that they have done.

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Activity 1

True or False - Worksheet

True or False

True

False

Manufacturing jobs are all monotonous, strenuous and low paid

The manufacturing industry offers structured career progression paths

The manufacturing industry uses cutting edge technology

Manufacturing offers little or no career progression

Manufacturing is a dynamic and innovative industry

Manufacturing is not a creative industry

Everything manufactured has to be designed

Manufacturing jobs are only for the under-achieving, less academically able

Manufacturing uses cutting edge technology

There is no long-term future for the UK manufacturing industry

Activity 1

True or False - Answer Sheet

True or False	True	False
Manufacturing jobs are all monotonous, strenuous and low paid		●
The manufacturing industry offers structured career progression paths	●	
The manufacturing industry uses cutting edge technology	●	
Manufacturing offers little or no career progression		●
Manufacturing is a dynamic and innovative industry	●	
Manufacturing is not a creative industry		●
Everything manufactured has to be designed	●	
Manufacturing jobs are only for the under-achieving, less academically able		●
Manufacturing uses cutting edge technology	●	
There is no long-term future for the UK manufacturing industry		●

Manufacturing jobs are all monotonous, strenuous and low paid

Over the past twenty years production lines have become increasingly automated and the last generation has witnessed a transformation in manufacturing with employers now requiring a multi-skilled workforce to service an increasingly challenging, diverse and multi-faceted industry. The perception of manufacturing as a low paid industry is also a misnomer, with latest figures confirming that manufacturing jobs do in FACT compare favourably with those in the service sectors - including banking, retail and the creative industries.

Manufacturing offers little or no career progression

Manufacturing offers varying levels of entry and flexible but structured career progression paths from apprenticeships to graduate entry. Modern manufacturing offers a multitude of career opportunities; not just in direct production, but also in marketing, procurement, supply-chain management, logistics, design and research and development.

Manufacturing is not a creative industry

The case against this myth is simple - everything that is manufactured has to be designed. Whether it is a bolt to fit a screw or a sleek body panel to fit a new sports car, all components need to be functionally and creatively designed for purpose.

A good functional design can save a company millions in production costs by eliminating waste, stock surplus and lead times; whilst a creatively designed unit will also help sell a product.

Manufacturing jobs are only for the under-achieving, less academically able

The FACT is that manufacturing, as a multi-disciplined industry, needs people with a variety of skills sets - from vocational practitioners with very specific technical skills to accountants, designers and marketeers.

There is no long-term future for the UK manufacturing industry

There is no doubt that manufacturing in the UK is going through a period of considerable flux. However, despite the many prophecies of doom being cast upon the industry, to many manufacturers globalisation is seen as an opportunity to discover new markets and different and innovative methods of working. In FACT globalisation, rather than sounding the death knell to UK manufacturing, has made manufacturers re-evaluate their business, their supply chains, their customers and their products - ultimately encouraging manufacturers to undertake a process of making their operations and their products 'leaner' and more efficient.

Activity 2

Manufacturing a Shoe - Worksheet

Materials

4 sheets of paper (all different colours)

Sellotape

Your brief

The aim of this activity is to have some first-hand experience of the processes that go into manufacturing a product (in this case it is a shoe).

You have to:

1. Design a shoe
2. Make the shoe using only the coloured paper and the sellotape (no other materials can be used)
3. Decide how you are going to market your shoe
 - a. who will be the target audience (what age range)?
 - b. how will you market the shoe to this audience?
 - c. how will you test your shoe for popularity?
4. How much will the shoe cost?
5. Where will the shoe be sold?

Each group will present their finished product to the rest of the class

Tips

- Discuss possible ideas with your group before you start making your shoe
- Allocate roles to each member of the group (e.g. designer, producer, marketing, presenter etc)
- Be aware of the time

Activity 3

Manufacturing Quiz - Worksheet

Using the 'Working in Essex, Southend and Thurrock Manufacturing' leaflet have a go at answering the questions below.

1. How many people are employed in the food and drink manufacturing sector in the East of England?

2. What has led to the need for higher level technical skills and IT operator skills in the manufacturing industry?

3. What is the annual average salary for a Production Manager in the UK?

4. How many people are employed in the manufacturing sector in Essex?

5. What skills will be in demand for employees in the manufacturing industry?

6. When is the Diploma in Manufacturing and Product Design available from?

7. How many year 11 schools leavers started full-time employment or work based training in the manufacturing sector in 2006?

8. What is the website address for the Sector Skills Council for Science, Engineering and Manufacturing Technologies (SEMTEC)?

Activity 3

Manufacturing Quiz - Answer Sheet

Using the 'Working in Essex, Southend and Thurrock Manufacturing' leaflet have a go at answering the questions below.

1. How many people are employed in the food and drink manufacturing sector in the East of England?

39,700

2. What has led to the need for higher level technical skills and IT operator skills in the manufacturing industry?

The automation of production lines and increased use of robotics

3. What is the annual average salary for a Production Manager in the UK?

£43,569

4. How many people are employed in the manufacturing sector in Essex?

48,200

5. What skills will be in demand for employees in the manufacturing industry?

Multi-skilled workers who have both electrical and mechanical engineering skills and team leader skills

6. When is the Diploma in Manufacturing and Product Design available from?

September 2009

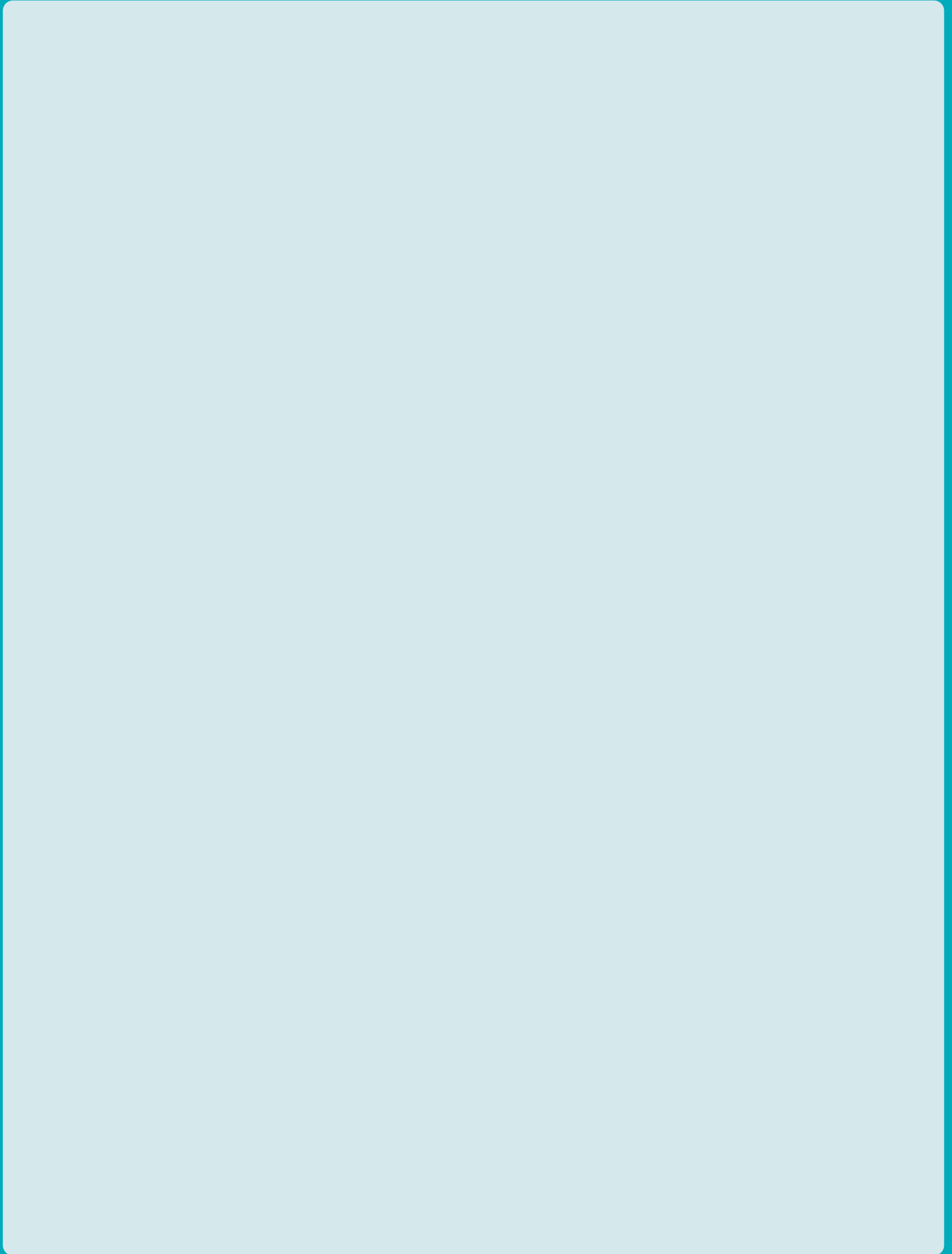
7. How many year 11 schools leavers started full-time employment or work based training in the manufacturing sector in 2006?

140 (125 Essex, 4 Southend, 11 Thurrock)

8. What is the website address for the Sector Skills Council for Science, Engineering and Manufacturing Technologies (SEMTEA)

www.semta.org.uk

Notes

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