We will inform centres about any changes to the specification. We will also publish changes on our website. The latest version of our specification will always be the one on our website (www.ocr.org.uk) and this may differ from printed versions.

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  Curriculum Content
  Thinking Conceptually
  Thinking Contextually

Productive and allocative efficiency
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Delivery guides are designed to represent a body of knowledge about teaching a particular topic and contain:

- Content: a clear outline of the content covered by the delivery guide;
- Thinking Conceptually: expert guidance on the key concepts involved, common difficulties students may have, approaches to teaching that can help students understand these concepts and how this topic links conceptually to other areas of the subject;
- Thinking Contextually: a range of suggested teaching activities using a variety of themes so that different activities can be selected that best suit particular classes, learning styles or teaching approaches.

If you have any feedback on this Delivery Guide or suggestions for other resources you would like OCR to develop, please email resources.feedback@ocr.org.uk.
Curriculum Content: Allocation of resources

**Microeconomics: How competitive markets work > Allocation of resources**
- explain what is meant by resource allocation
- explain the impact of incentives on the behaviour of economic agents and resource allocation
- evaluate the effectiveness of incentives on the behaviour of economic agents and resource allocation
- explain how market, planned and mixed economies allocate resources
- evaluate the advantages and disadvantages of different types of economy in allocating resources
Central to the study of this topic is the idea that incentives determine resource allocation, whether it be the incentives of individuals and households, the incentives of firms or the incentives governing the allocation of resources throughout an economy.

**Approaches to teaching the content**

Students will be familiar with the basic economic problem of scarcity and choice and this is a useful starting point for teaching this new topic because here, students begin to examine different responses to that basic problem. There are many opportunities for group work, although several of the activities below could be adapted so that students attempt the work individually.

**Common misconceptions or difficulties students may have**

Nowadays, the idea of the state planning and co-ordinating all productive activities seems very odd to students. It can be worthwhile setting a research task to find out how the remaining planned economies actually operate. Alternatively, teachers can simply extend the notion of the public sector, with which students are likely to be familiar, and get students to examine what the economy might be like if the government ran an increasingly large proportion of industry.

**Conceptual links to other areas of the specification – useful ways to approach this topic to set students up for topics later in the course**

Links: 'The basic economic problem'; 'Opportunity cost'; 'Objectives of economic agents'; 'Supply and demand and the interaction of markets'; 'Market failure'; 'Business objectives' (A Level only); 'Wage determination' (A Level only).

The notion of incentives leads clearly into the next topic on the specification, 'The objectives of economic agents', but will also come up again numerous times during the study of microeconomics, specifically in the topics listed above.
ACTIVITIES

The activities in this topic are designed to introduce students to the main categories of economic agents, namely households, firms and governments. The activities are set firmly within these contexts so that students can move from the very familiar [households] to the less familiar [firms] and on to the unfamiliar [government].

Activities

**Ticket of your dreams**
Initially, it is probably easier to split out demand and supply for allocation of resources. This activity illustrates price as key factor for demand and allocation of resources.

1) Ask students to imagine a ticket to an event they would really like to attend.

2) If money is no object, how much would they be willing to pay? Gradually escalate the amount suggested.

3) Now tell them they have to pay out of their own money, so how much would they be willing and able to pay? Run through amounts again.

4) Summarise the difference between notional and effective demand and how price becomes so significant.

Duration: 15–20 minutes
### Thinking Contextually Allocation of resources

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Burning the midnight oil</strong></td>
<td></td>
</tr>
<tr>
<td>This activity helps to introduce students to competing uses for scarce resources and factors involved in allocation.</td>
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</tr>
<tr>
<td>1) Split students into 3 groups: consumers, workers and governments.</td>
<td></td>
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<tr>
<td>2) Tell them it has been discovered that there is only enough oil to last to the end of the year. Each group has to make a list of the top 1–3 uses of the oil from their perspective.</td>
<td></td>
</tr>
<tr>
<td>3) Each group has to nominate speakers who each present one use and why it is a good use for the remaining oil.</td>
<td></td>
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<tr>
<td>4) Summarise these on the board.</td>
<td></td>
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<tr>
<td>5) At the end, considering benefits for society as a whole, the class vote for how they would use the oil.</td>
<td></td>
</tr>
<tr>
<td>6) The discussion and results can then be used in summary to emphasise key themes involved in allocation of resources.</td>
<td></td>
</tr>
<tr>
<td>Duration: 30 minutes</td>
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</tbody>
</table>

| **The Econometer**                 |           |
| This exercise can be used to introduce different types of economy and how they allocate resources. |           |
| 1) Draw a ruler on the board and label it with ‘planned’/’mixed’/’free market’. |           |
| 2) Give students basic information about types of economy to read. |           |
| 3) Write a selection of countries on mini whiteboards and then ask the students to place them on the Econometer depending on type of economy. |           |
| Duration: 10–15 minutes            |           |
### Thinking Contextually  Allocation of resources

#### Activities

**Old MacDonald’s Problem**

To illustrate allocation of scarce resources and price as key factor, students are management consultants advising on how many cows/hens Old MacDonald should produce.

There should be 2 groups:

- a) supply-focused with aim of profit maximisation
- b) consumer-focused with aim of satisfaction maximisation.

The suppliers have information on labour and land needed for each animal, total labour/land available, plus how much milk and eggs they produce. The consumers consider uses of milk and eggs. They are told the maximum number of hens that the farmer could support with all his resources allocated to hens and vice versa for cows. Compare quantities and reasoning. Now give prices for eggs and milk that are likely to influence quantities. Take students’ first reaction to this information, discuss and introduce price as the key signal for the market to allocate resources.

Duration: 15 minutes

**Incentives matter**

These clips explain the impact of incentives on the behaviour of economic agents and resource allocation.

YouTube clips for discussion:

- [http://www.youtube.com/watch?v=s1docxnKH8I](http://www.youtube.com/watch?v=s1docxnKH8I)
- [http://www.youtube.com/watch?v=ML3Ai7XIPfk](http://www.youtube.com/watch?v=ML3Ai7XIPfk)

Students should watch the clips then discuss how incentives affect the allocation of resources.

Duration: 15–20 minutes
Thinking Contextually  Allocation of resources

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives matrix</td>
<td></td>
</tr>
<tr>
<td>This activity should help students highlight the impact of incentives on different groups and evaluate the effectiveness of incentives on the behaviour of economic agents and resource allocation.</td>
<td></td>
</tr>
<tr>
<td><strong>Part One</strong></td>
<td></td>
</tr>
<tr>
<td>Split the class into 3 groups: households, firms and government. The group covering households should produce a grid to display to or duplicate for the rest of the class. The grid should have 4 quadrants: factors which increase consumption; factors which reduce consumption; factors which increase production; factors which reduce production. The group covering firms should produce a grid to display to or duplicate for the rest of the class. The grid should have 4 quadrants: 3 examples where profit does influence behaviour; 3 examples where profit does not influence behaviour; 3 examples where price does influence behaviour; 3 examples where price does not influence behaviour. The group covering government should produce a 6 section grid for display or duplication showing how subsidies, legislation and taxation influence producers and consumers.</td>
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<tr>
<td>Duration: 20 minutes</td>
<td></td>
</tr>
<tr>
<td><strong>Part Two</strong></td>
<td></td>
</tr>
<tr>
<td>The preceding activity identified incentives affecting households, firms and government. Groups should now be rotated so that each group focuses on a new economic agent. For each incentive affecting an agent, the group should write down effects in the short run, then effects in the long run. These notes should then be duplicated, circulated to the other class members and discussed.</td>
<td></td>
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<tr>
<td>Duration: 10 minutes</td>
<td></td>
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<tr>
<td><strong>Part Three</strong></td>
<td></td>
</tr>
<tr>
<td>Groups should be rotated a final time, so that each group has done one activity for each of households, firms and governments. For each incentive affecting an agent, the group should write down to what extent the factor will affect the agent and why. These notes should then be duplicated, circulated to the other class members and discussed.</td>
<td></td>
</tr>
<tr>
<td>Duration: 10 minutes</td>
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</tr>
</tbody>
</table>
### Activities

**Free market vs planned economies**

This activity will help students to explain how market, planned and mixed economies allocate resources and to evaluate the advantages and disadvantages of different types of economy in allocating resources.

You will need a bag of sweets and some Monopoly money. Split the class into 2 groups. Give each group a template of a simple "product" [a geometric shape could be used] that they have to "produce" [cut out from paper]. Tell group A that for every 20 products produced by the group, everyone will receive a sweet at the end of the activity. Tell group B that each person will receive a sweet as soon as they have made 5 products and will receive a sweet for each additional 5 products made. As well as this, the person who has made the most products at the end of the activity will receive £10, the next highest producer will receive £9 and so forth. Run the activity for 5 minutes, distribute the rewards, then lead a discussion on the merits and drawbacks of the two systems, which you reveal to be the planned and free market economies.

Group A should then produce a poster of the advantages and disadvantages of planned economies, whilst Group B should produce a poster of the advantages and disadvantages of free market economies. Each group should then present the ideas from their poster for discussion with the other group.

Tell the students that they now have to take on the role of economic consultants to the government of a newly established country. Their task is to design an economic system that retains the best features of both planned and free market economies, whilst avoiding the drawbacks inherent in those systems. Each group should make a presentation of their ideas to the President of the new country [you could take on this role yourself or appoint a student].

**Duration:** 75–90 minutes

### Resources
Microeconomics: How competitive markets work > The objectives of economic agents
- explain, using examples, what is meant by maximisation
- identify possible objectives of economic agents
- evaluate the different objectives of the economic agents in an economy.
Underpinning this topic is the notion that economic agents generally prefer more to less and so each agent will attempt to obtain more of what provides them with the highest amount of utility.

**Approaches to teaching the content**
This section would lead quite nicely into ‘Allocation of resources’ and be taught as an introduction for it. It also links with ‘Business objectives’ (within ‘Competition and market power, which is A Level only) and ‘Market failure and government intervention’ and could be revisited prior to studying these.

**Common misconceptions or difficulties students may have**
Students sometimes find the notion of general economic welfare either difficult to grasp or too imprecise and this would require careful explanation, as the concept is revisited in macroeconomics ‘Economic policy objectives’ and ‘The application of policy instruments’.

**Conceptual links to other areas of the specification – useful ways to approach this topic to set students up for topics later in the course**
Links: ‘Concept of the margin’ (A Level only); ‘Opportunity cost’; ‘Allocation of resources’; ‘Supply and demand and the interaction of markets’; ‘Business objectives’ (A Level only) ‘Wage determination’ (A Level only); ‘Market failure’; ‘Economic policy objectives’; ‘The application of policy instruments’.

Although the topic is fairly brief, it includes concepts to which students and teachers will refer numerous times during their study of microeconomics and students thus need a secure grasp of the notion of maximisation.
ACTIVITIES

As in 'Allocation of resources,' the contexts used here are the points of view of the different economic agents. The activities are designed so that each group considers the topic from three different perspectives, those of households, firms and government.

### Activities

<table>
<thead>
<tr>
<th>An Apple a Day</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>This activity will help introduce what the different objectives of consumers and suppliers are.</td>
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</tr>
<tr>
<td>1) A picture of a desirable computer is shown on the screen. The students are split into 2 groups: consumers and suppliers.</td>
<td></td>
</tr>
<tr>
<td>2) The consumers have to draw a spider diagram showing all the factors affecting the decision to buy the computer.</td>
<td></td>
</tr>
<tr>
<td>3) The suppliers have to draw a spider diagram showing all the factors affecting their decision whether to supply the computer.</td>
<td></td>
</tr>
<tr>
<td>4) Put both up on the board and ask the groups to explain in turn.</td>
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<tr>
<td>5) Pull out the key points that link into objectives and also later topics that will be revisited.</td>
<td></td>
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</tbody>
</table>

Duration: 35 minutes
**Thinking Contextually** The objectives of economic agents

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives of economic agents</strong>&lt;br&gt;&lt;br&gt;<em>Part One</em>&lt;br&gt;Remind students of the 3 main categories of economic agents and let them identify possible objectives of households; firms; government. Split the class into 3 groups. On A3 or A4 paper, put the headings households; firms; government, one per sheet. Give one sheet to each group. Students should write down what they think each group's wants are, and then pass the sheet on to the next group until all 3 groups have contributed. The sheets should then be displayed on the whiteboard or a noticeboard and students should discuss the findings.&lt;br&gt;Duration: 20–30 minutes&lt;br&gt;&lt;br&gt;<em>Part Two</em>&lt;br&gt;Name the 3 groups households; firms; government. Give households a card which says “utility” and “wages”. Give firms a card which says “sales”; “revenue” and “profit”. Give government a card which says “economic welfare”. Each group should also have access to an economics dictionary or glossary. Each group must: find an accurate definition of the terms on their card; devise at least two ways to obtain the maximum amount of each of the terms on their card; provide at least one reason why their group would want to maximise that particular factor. Each group should present their findings to the whole class.&lt;br&gt;Duration: 35 minutes</td>
<td></td>
</tr>
</tbody>
</table>
**Curriculum Content** Supply and demand and the interaction of markets

**Microeconomics: How competitive markets work > Supply and demand and the interaction of markets**

- explain what is meant by a market and sub-markets
- explain the relationship between individual and market demand
- explain what is meant by derived, joint, composite and competitive demand
- explain the relationship between price and quantity demanded using marginal utility theory and income and substitution effects (**A Level only**)
- explain, with the aid of a diagram, the difference between a movement along the demand curve (extension/contraction) and a shift of the demand curve (increase/decrease)
- explain the factors which cause a shift of the demand curve
- explain, with the aid of a diagram, what is meant by consumer surplus
- explain and calculate how changes in price affect consumer surplus
- evaluate the impact of changes in price on consumer surplus
- explain the relationship between individual supply and market supply
- explain what is meant by joint, composite and competitive supply
- explain the relationship between price and quantity supplied
- explain, with the aid of a diagram, the difference between a movement along the supply curve (extension/contraction) and a shift of the supply curve (increase/decrease)
- explain the factors which cause a shift of the supply curve
- explain, with the aid of a diagram, what is meant by producer surplus
- explain and calculate how changes in price affect producer surplus
- evaluate the impact of changes in price on producer surplus
- explain, with the aid of a diagram, how demand and supply interact to produce market equilibrium in product markets, financial markets and the markets for factors of production
- evaluate the impact of changes in demand and/or supply in one market on a related market(s)
Curriculum Content  Supply and demand and the interaction of markets

- explain the causes and consequences of disequilibrium in a market
- explain, with the aid of a diagram, how changes in the factors affecting supply and demand will impact on equilibrium price and quantity in moving from an initial equilibrium to a new equilibrium
- explain, with the aid of a diagram, why the price and output of some goods and services may be volatile
- evaluate, with the aid of a diagram, the usefulness of demand and supply in analysing markets, such as commodities, housing and transport
- evaluate the usefulness and limitations of the economic model of supply and demand in explaining real world phenomena.
This topic is central to the study of microeconomics. The laws of demand and supply and their interaction is the foundation for the study of microeconomics.

**Approaches to teaching the content**
This is quite possibly the most important topic in the whole of the Economics specification. If students fully grasp the concepts contained in this topic, they have the foundations of understanding all remaining micro topics. They will know how to construct and analyse diagrams and so many of the diagrams in the rest of the micro section, together with AD / AS analysis in macro, are based upon these simple demand and supply diagrams. It is therefore worth spending a significant amount of time on this topic because it will prepare students for the rest of the micro section in a way that no other topic can.

**Common misconceptions or difficulties students may have**
Students often find the assumptions underpinning the slope and direction of the supply curve difficult to accept. They often use examples where firms will supply more when prices fall and cannot easily be persuaded that firms can choose to sell at different prices and can wait until prices rise before offering their goods for sale. For this reason, one of the activities below allows students to address and challenge the assumptions underpinning the supply curve.

**Conceptual links to other areas of the specification – useful ways to approach this topic to set students up for topics later in the course**
Links: ‘The basic economic problem’; ‘The concept of the margin’ (A Level only); ‘Opportunity cost’; ‘Elasticity’; ‘Business objectives’ (A Level only); ‘Wage determination’ and ‘Labour market issues and themes’ (A Level only); ‘Market failure’; ‘Externalities’.

Teachers may wish to introduce the idea of product and factor markets whilst teaching this topic or they may prefer to wait until they teach ‘Labour markets’. Although markets are presented as being an efficient means of allocating resources, it may be useful at this stage to preview the idea of market failure, so that students are not surprised or shocked when they study later.
## ACTIVITIES

The applications of demand and supply are so wide ranging that many contexts can be used in teaching this topic. Students will be familiar with their own purchase decisions and those of their family, so examples from home are very appropriate. Knowledge of local firms may be brought in to play when considering supply side issues, as can knowledge of firms used by many of the students such as well-known fast food chains and national supermarkets.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
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<tbody>
<tr>
<td><strong>Memory game: sub-markets:</strong></td>
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<tr>
<td>Give students 30 seconds to memorise as much of the Amazon/Tesco departments home page as possible and 3–5 minutes to redraw as much as they can remember and then link to example of sub-markets.</td>
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<tr>
<td>Duration: 10–15 minutes</td>
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<tr>
<td><strong>Introduction to demand:</strong></td>
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<tr>
<td>1) The students have £2.50 to spend at the shop. There are 4 goods to choose between: Cola 50p, Chocolate Bar 50p, Milk 50p, Chocolate Bar with Nuts 50p. Record the choices for the class.</td>
<td></td>
</tr>
<tr>
<td>2) The next day everything is the same, except the price of the Chocolate Bar with Nuts has increased to £1 due to a nut shortage. Record the choices.</td>
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<tr>
<td>3) Discuss what happened due to the price change and use the 2 points for the Chocolate Bar with Nuts to plot the first demand curve.</td>
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<tr>
<td>Duration: 30 minutes</td>
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<tr>
<td><strong>Introduction to supply:</strong></td>
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<tr>
<td>1) Put a table on the board showing the following prices: £5/£10/£15/£20 and corresponding quantities: 5/8/11/14.</td>
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<tr>
<td>2) Students plot price on the y-axis and quantity on the x-axis.</td>
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<tr>
<td>3) Students should then discuss the reasons behind the shape and relationship.</td>
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<tr>
<td>Duration: 15–20 minutes</td>
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</tbody>
</table>
To introduce the law of demand, write it onto whiteboard and explain the relationship between price and quantity demanded. Draw a table with price in the left hand column (£7; £6; £5; £4; £3; £2; £1) and quantity demanded in the right hand column (200; 400; 600; 800; 1200; 1400). Tell students to do the following task: On graph paper, draw a demand schedule, *price* on the vertical axis and *quantity demanded* on the horizontal axis. Join up points you have plotted and label this line "D" (for "Demand"). Next to the graph, explain why the demand curve slopes downwards. On your graph, starting at £6 on the vertical axis, draw a dotted line across to the demand curve and where this intersects, draw a dotted line down to quantity of 400 units. Repeat for price of £4 and corresponding quantity of 800 units. Above the demand curve, draw an arrow from the higher to the lower intersection. Label this "extension of demand – movement along the demand curve caused by a fall in price."

Make a new graph, using *price* from £0 – £10 on the vertical axis and *quantity demanded* from 0 – 120 on the horizontal axis. Plot three points on the graph: price 7 quantity 20; price 5 quantity 40; price 3 quantity 60. Extend the demand curve backwards until it intersects the vertical axis – this shows the price at which demand would be zero. Extend the demand curve forwards until it intersects the horizontal axis – this shows how many of the product would be demanded if it was given away for free.

On your graph, starting at £5 on the vertical axis, draw a dotted line across to the demand curve and, where this intersects, draw a dotted line down to quantity of 40 units. Repeat for price of £7 and corresponding quantity of 20 units. Above the demand curve, draw an arrow from lower to higher intersection. Label this "contraction of demand – movement along the demand curve caused by a rise in price."

Ask the class to think of three exceptions to the law of demand. For each exception, write down one reason why demand for this product or service does not obey the law of demand.

Duration: 45 minutes
### Consumer surplus

On the whiteboard, draw and label the axes of a micro diagram and a downward sloping demand curve and tell the students to make a copy. Tell them to choose a point in the middle of the y axis, label it P1. They should draw a horizontal dotted line across to the demand curve and where the dotted line intersects the demand curve, draw a dotted line down to the x axis. The point where the dotted line intersects the x axis should be labelled Q1. Students should then shade in the area above the dotted horizontal line and below the demand curve, i.e. the area of consumer surplus. Lead a discussion about the consumers who buy the quantity from 0 to Q1, introducing the concept of individual and market demand.

Tell the students to choose a point on the y axis, above P1. They should draw a horizontal dotted line across to the demand curve and where the dotted line intersects the demand curve, they should shade in the area above the new dotted horizontal line and below the demand curve, i.e. the new area of consumer surplus. Lead a discussion about the effect of price changes on consumer surplus.

Duration: 30 minutes

This Mind your Business article looks at consumer surplus:

http://www.bized.co.uk/current/mind/2005_6/220506.htm

This Activity is designed to be used in the classroom or as a homework task to support the teaching and learning of Consumer Surplus:

http://www.bized.co.uk/educators/16-19/economics/markets/activity/surplus.htm

Related lesson plan:

http://www.bized.co.uk/educators/16-19/economics/markets/lesson/surplus.htm

Related mind map:

http://www.bized.co.uk/educators/16-19/economics/markets/presentation/surplus_map.htm
Activities

**Law of supply**

To introduce the law of supply, write it onto whiteboard and explain relationship between price and quantity supplied. Draw table (supply schedule) with price in left hand column (£1; £2; £3; £4; £5; £6; £7) and quantity demanded in right hand column [300; 600; 900; 1200; 1500; 1800; 2100].

Tell the students to do the following task: On graph paper, draw supply schedule, price on vertical axis and quantity supplied on horizontal axis. Join up points you have plotted and label this line "S" [for "Supply"].

Next to the graph, explain why supply curve slopes upwards. On your graph, starting at £4 on vertical axis, draw dotted line across to supply curve and where this intersects, draw dotted line down to quantity of 1200 units. Repeat for price of £6 and corresponding quantity of 1800 units. Above supply curve, draw arrow from lower to the higher intersection. Label this "extension" of supply – movement along the supply curve caused by a rise in price.

On the same graph, starting at £3 on vertical axis, draw dotted line across to supply curve and where this intersects, draw dotted line down to quantity of 900 units.

Repeat for price of £1 and corresponding quantity of 300 units.

Above supply curve, draw arrow from higher to lower intersection. Label this "contraction" of supply - movement along the supply curve caused by a fall in price.

**Duration:** 45 minutes

Short summary of law of supply, market supply, determinants of supply:

http://thismatter.com/economics/supply.htm

Resources
**Activities**

**Producer surplus**
On the whiteboard, draw and label the axes of a micro diagram and an upward sloping supply curve and tell the students to make a copy. Tell them to choose a point in the middle of the y axis, label it P1. They should draw a horizontal dotted line across to the supply curve and where the dotted line intersects the supply curve, draw a dotted line down to the x axis. The point where the dotted line intersects the x axis should be labelled Q1. Students should then shade in the area below the dotted horizontal line and above the supply curve, i.e. the area of producer surplus. Lead a discussion about the firms who sell the quantity from 0 to Q1, introducing the concept of individual and market supply.

Tell the students to choose a point on the y axis, below P1. They should draw a horizontal dotted line across to the supply curve and where the dotted line intersects the supply curve, they should shade in the area below the new dotted horizontal line and above the supply curve, i.e. the new area of producer surplus. Lead a discussion about the effect of price changes on producer surplus.

Tell the students to do the following task:
Firstly, challenge the assumptions underlying the behaviour of firms who supply goods and services. How realistic is it to assume that: businesses do not choose prices, markets do; businesses will always prefer to sell at a higher price than a lower price; businesses are willing and able to wait for prices to increase before they sell?

The law of supply states that, *ceteris paribus*, supply and price are directly related – if price goes up, so will supply and if price goes down, supply will too. Think of a situation where a business might want to supply more even though prices are falling. Write down one reason why the supply of this product or service does not obey the law of supply.

Duration: 30 minutes
Revision notes for the concept of producer surplus:
[http://tutor2u.net/economics/revision-notes/as-markets-producer-surplus.html](http://tutor2u.net/economics/revision-notes/as-markets-producer-surplus.html)

**Volatile prices**
Students should type “volatile prices news” into a search engine. They should select one story and, using a diagram, write up why price and/or supply in that market can be volatile.

Duration: 20 minutes

**Resources**

**Click here**
**Activities**

<table>
<thead>
<tr>
<th>Up or down, left or right?</th>
</tr>
</thead>
<tbody>
<tr>
<td>After explaining the economic concepts of supply and demand to your students, conduct this simple but fun activity to check if your students really understand how supply and demand and price are related:</td>
</tr>
<tr>
<td><a href="http://avbarn.museum.state.il.us/sites/default/files/supply-demand-Aqclsrm.pdf">http://avbarn.museum.state.il.us/sites/default/files/supply-demand-Aqclsrm.pdf</a></td>
</tr>
<tr>
<td>Duration: 20 minutes</td>
</tr>
<tr>
<td>Explain to the class that they are going to play a game to help them to learn about the effects of Price and the Non Price Determinants of demand and supply. Recap the differences between movements along and shifts of the demand and supply curves. Create a set of arrow shaped cards which say: DEMAND, SUPPLY, MOVEMENT, SHIFT. Give a set of cards to each team.</td>
</tr>
<tr>
<td><a href="https://www.tes.co.uk/teaching-resource/The-Demand-and-Supply-Game-6312935">https://www.tes.co.uk/teaching-resource/The-Demand-and-Supply-Game-6312935</a></td>
</tr>
<tr>
<td>Duration: 20 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of demand and supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribute amongst the class cards with one of each of the following terms: market; sub-market; derived demand; joint demand; composite demand; competitive demand; joint supply; composite supply; competitive supply. The student, pair or group who receives the card must: research the meaning of the term and make an illustration to show the term. Once all the illustrations are complete, they should be shown to the rest of the class, who have to figure out the meaning of the picture. If the class cannot derive the meaning, they can be told the name of the term to help them.</td>
</tr>
<tr>
<td><a href="http://www.bized.co.uk/sites/bized/files/docs/surplus.ppt">www.bized.co.uk/sites/bized/files/docs/surplus.ppt</a></td>
</tr>
<tr>
<td>Duration: 45 minutes</td>
</tr>
</tbody>
</table>

**Resources**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up or down, left or right?</td>
<td><a href="http://avbarn.museum.state.il.us/sites/default/files/supply-demand-Aqclsrm.pdf">http://avbarn.museum.state.il.us/sites/default/files/supply-demand-Aqclsrm.pdf</a></td>
</tr>
<tr>
<td>Types of demand and supply</td>
<td><a href="https://www.tes.co.uk/teaching-resource/The-Demand-and-Supply-Game-6312935">https://www.tes.co.uk/teaching-resource/The-Demand-and-Supply-Game-6312935</a></td>
</tr>
</tbody>
</table>
**Activities**

**Apply the theory of demand and supply**
This research activity can be done in groups.

*Part 1 – research*
Choose a market that you are interested in e.g. transport, housing or commodities. Using Google or any other search engine of your choice, type in “transport” [or whichever market you choose] + news. This will probably give you a news story about your chosen market.

*Part 2 – report*
Write a summary of the main points of the news story. Explain how your chosen market has been affected. Explain which of the determinants affected your market and how. Use diagrams in your explanation. Evaluate the usefulness of using demand and supply to analyse markets.

*Part 3 – review*
Make a presentation of the news story, your analysis of it and your evaluation of the usefulness of using demand and supply to analyse markets. In the presentation, explain how your chosen market has been affected. Show which of the determinants affected the market and how.

Duration: Depends on numbers of groups, at least 90 minutes

Further ideas how to teach the concepts of demand and supply:
- [https://www.tes.co.uk/teaching-resource/Consolidating-demand-and-supply-theory-6116835](https://www.tes.co.uk/teaching-resource/Consolidating-demand-and-supply-theory-6116835)
- 10 minute video tutorial summarising consumer and producer surplus: [http://www.econclassroom.com/?p=2599](http://www.econclassroom.com/?p=2599)
**Activities**

The following summaries can be used to help explain the relationship between price and quantity demanded using marginal utility theory and income and substitution effects:

http://www.economicsonline.co.uk/Competitive_markets/Demand_curves.html

This one could be used to make sets of revision cards or a quiz:

http://www.peoi.org/Courses/Coursesen/mic/fram1.html

This summary also includes a set of questions with answers, including multiple choice:

http://www.google.co.uk/url?url=http://documents.routledge-interactive.s3.amazonaws.com/9780765641779/student/Ch02_SGr.docx&rct=j&frm=1&q=&esrc=s&sa=U&ei=VSy-VNmvC8a67gb4z4GgAg&ved=0CEsQFjAM&sig2=J5ly-maaVnNm4C80Ijvo2w&usg=AFQjCNGjABZxWmj7T8bgzzyDlOIOl2oDaQ

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**Resources**

- **A Level only**
  - Click here
  - Click here
  - Click here
Microeconomics: How competitive markets work > Elasticity

- explain what is meant by elasticity
- explain what is meant by price elasticity of demand (PED)
- calculate PED using point elasticity
- explain, with the aid of a diagram, the different values of PED
- explain why price elasticity of demand varies along a straight line demand curve
- explain, with the aid of a diagram, the relationship between PED and a firm's total revenue
- evaluate the factors which determine the degree of PED
- evaluate the effect of PED on the impact of an indirect tax and of a subsidy
- explain what is meant by income elasticity of demand (YED)
- calculate YED
- evaluate the significance of the numerical value and sign of YED
- explain the difference in YED of inferior, normal and superior goods
- explain what is meant by cross elasticity of demand (XED)
- calculate XED
- evaluate the significance of the numerical value and sign of XED
- explain the difference in XED of substitute, complementary and non-related goods
- explain what is meant by price elasticity of supply (PES)
- calculate PES using point elasticity
- explain, with the aid of a diagram, the different values of PES
- evaluate the factors which determine the degree of price elasticity of supply
- evaluate the usefulness of and significance of PED, YED, XED and PES to all economic agents.
Students need to understand that all forms of elasticity are about the responsiveness of one dependent variable to a change in a determinant variable, the key word here being “responsiveness”. The determinant variable in PED, PES and XED is price, whilst in YED it is income. In each case, a change in the determinant variable causes a change in a dependent variable and it is the size of this second change in relation to the first that is the focus of the study of elasticity.

**Approaches to teaching the content**

It is well worth spending time on whichever type of elasticity you choose to teach first, usually PED, in order to establish the features of elasticity common to all types: the issue of responsiveness; the calculation of the coefficient of elasticity. When teaching each individual type, one should make clear the determinants of elasticity for that type and the relevance to firms of the results of the calculation of the coefficient of elasticity.

**Common misconceptions or difficulties students may have**

Some students struggle with negative numbers and the way in which they indicate the degree of elasticity for PED, XED for complements and YED for inferior goods. They know that -2 is smaller than -1 and thus find it difficult to understand that a coefficient of -2 is more elastic than a coefficient of -1. A useful way to overcome this is to draw on the board a number line of coefficients of elasticity from -2 to +2 and to explain to students that values between -1 and +1 indicate that the response of the dependent variable is proportionally lower than the initial change in the determinant variable and can thus be categorised as inelastic. Responses outwith this range i.e. from -1 to -2 and beyond, also from +1 to +2 and beyond, indicate that the response of the dependent variable is proportionally larger than the initial change in the determinant variable and can thus be categorised as elastic.

**Conceptual links to other areas of the specification – useful ways to approach this topic to set students up for topics later in the course**

Links: ‘The concept of the margin’ (A Level only); ‘Supply and demand and the interaction of markets’; ‘Business objectives’ (A Level only); ‘Alternative methods of government intervention’.

Degrees of elasticity of demand will be a factor which influences business decision making and so will bear recapping during the teaching of ‘Business objectives’. When studying ‘Alternative methods of government intervention’, it is worthwhile revisiting PED and the impact of an indirect tax and a subsidy, and in particular the respective burdens borne by consumer and producer.
ACTIVITIES

A Level students are often quite sophisticated consumers and their own experiences are a fertile context for the study of PED and XED. Many have some form of income and even though that income may be small, it can still serve as a starting point for the study of YED and one can go on to consider YED effects on those citizens in different types of full time employment. When studying PES, small local firms are a useful context, as are larger businesses such as retailers and fast food businesses used by the students.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elasticity</strong></td>
<td></td>
</tr>
<tr>
<td>Duration: 10 minutes</td>
<td></td>
</tr>
<tr>
<td><strong>The Earthquake Rule</strong></td>
<td></td>
</tr>
<tr>
<td>Duration: 10 minutes</td>
<td></td>
</tr>
</tbody>
</table>
### Activities

**PED:**
1. Put up a list of 5 goods on the board e.g. strawberries, holidays, books, train journeys, pasta, with a ruler with one end labelled ‘most elastic i.e. responsive to change in price’ and the other ‘most inelastic i.e. unresponsive…’
2. Give students 5 minutes to discuss and decide how to rank the goods in responsiveness to price change.
3. Discuss the results and link to theory.

**PES:**
The activity can be repeated with a focus on factors affecting PES.

**YED:**
After being introduced to the concepts of normal, inferior and superior goods, students could create a Venn diagram with these categories and locate a selection of shouted out ‘goods’ in the ‘right’ areas.

**XED:**
Using 2 goods such as Pepsi and Coca Cola, students could discuss the demand for Coca Cola when price of Pepsi increases and create diagrams to represent the relationship.

**Duration:** 30 minutes

---

### Elasticity overview and exercises
This presentation explains what is meant by PED, how it is calculated, why it varies along a straight line demand curve, and relationship between PED and a firm’s total revenue as well as the factors which determine the degree of PED. It also includes practice questions.

[Click here](http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDgQFjAAhMQoQFjAAhMQoQ&url=http://dragonomics.weebly.com/uploads/1/7/1/4/17146702/elasticities_ch._4_part_1_ped.ppt&usg=AFQjCNHxGX5joxEk3O6Qj0LPO6sPlvDz_Q)

**Duration:** At least 120 minutes (68 slides)
# Activities

**YED**

To introduce the topic, give students the following activity to do:

List three goods which you buy – Firstly, one where you are likely to buy a lot more if your income rises. Secondly, one where your income rises and you buy only a little more. Thirdly, one where an increase in income does not change your demand for the good at all.

Start with an imaginary annual income of £25,000 – how many of each good would you buy each year? How many would you buy if your income were increased to £50,000? Use this to lead in to a discussion of inferior, normal and superior [a.k.a. luxury, Veblen] goods.

Get students to draw out a table with 3 columns: inferior goods [YED]; normal goods [YED between 0 and 1]; superior goods [YED >1]. Students should complete the table with examples.

Duration: 15–20 minutes

**YED and types of goods**

Remind students of the earthquake rule – elasticity is calculated by response / cause, in this case % change in quantity demanded / % change in income. Now they need to learn how to interpret the coefficients by looking at the sign and the size.

Write the following on the board: if the sign is – the good must be inferior, so a rise in income will cause a fall in demand. If the sign is + and the size is between 0 and 1, this must be a normal good, often a necessity. If the sign is + and the size is greater than 1, this is a superior good.

Get students to draw a table with 4 columns: YED; change in income; change in demand; type. Go through the following example: -2.1; inferior; +3%; -6.3%; inferior.

Fill in the following figures for YED: +0.4; =1.6. Make the change in income 3% both times and get the students to complete the table [answers are +1.2%, normal and +4.8%, superior]. Students should then make up an example of their own and test it out on class members.

To learn the determinants of income elasticity, students should memorise the acronym “LAD” – level of income; availability of substitutes; degree of necessity. Students should discuss and write down how each determinant affects income elasticity.

Duration: 15 minutes
Activities | XED
---|---
Remind students of the earthquake rule and tell them that for XED, the response is the change in quantity demanded, whilst the cause is a change in the price of a related good. Remind students of the 2 categories of related good, substitutes and complements. They should discuss for each category whether XED will be positive or negative and why [substitutes positive, complements negative].

Students should draw up a table with 4 columns, headed product, strong complements, weak complements and no relationship. They should complete the table with examples.

Students should then draw up a table with 4 columns, headed product, close substitutes, weak substitutes and no relationship. They should then complete the table with examples. Students could go on to compare the two tables.

Duration: 25–30 minutes

Presentation with exercises on XED:


Duration: 45–60 minutes (17 slides)
Remind students of the earthquake rule – elasticity is calculated by response / cause, in this case % change in quantity supplied / % change in price. The coefficient of elasticity of supply will be positive due to the direct relationship of price and quantity supplied, thus the response and cause will either both be positive for an increase in price or both negative for a decrease in price. In the latter case dividing one negative number by another will give a positive answer. Tell students to create 3 examples of their own and to test them on their classmates.

The concept of point elasticity can now be revisited. Get students to make a table with four columns: price; quantity supplied; TC [Total Cost]; PES. Give them the following figures for Price: 100; 90; 80; 70; 60; 50; 40; 30; 20; 10. Give them the following figures for quantity supplied: 40; 36; 32; 28; 24; 20; 16; 12; 8; 4. They should then complete the table and discuss their findings.

Teach students the acronym FITS to help them remember the determinants of PES: factor substitution; inventory available; time frame [short run / long run]; spare production capacity. Students should discuss and write down how each factor can affect price elasticity of supply.

Get students to put the following products in order of most elastic supply to least elastic supply: tractors; paper clips; tinned tuna; fresh tuna. Next to each item, they should give a reason why they have placed it there.

Duration: 45 minutes

Usefulness and significance of PED, YED, XED and PES to all economic agents

Divide the class into 3 groups: households, firms and governments. Each group should research the ways in which their given economic agents are affected by the 4 different types of elasticity and what strategies they can use to deal with this. Each group should make a presentation of their findings to the whole class.

Duration: 50–60 minutes

Impact of an indirect tax and a subsidy

To evaluate the effect of PED on the impact of an indirect tax and a subsidy, this tutorial provides a recap of the concepts of consumer and producer surplus:


Duration: At least 60 minutes (29 slides)
<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further ideas on how to explain elasticity:</td>
<td>Click here</td>
</tr>
<tr>
<td>This website offers a summary:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.bized.co.uk/educators/16-19/economics/markets/activity/elasticity1.htm">http://www.bized.co.uk/educators/16-19/economics/markets/activity/elasticity1.htm</a></td>
<td>Click here</td>
</tr>
<tr>
<td>Related lesson plan:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.bized.co.uk/educators/16-19/economics/markets/lesson/elasticity.htm">http://www.bized.co.uk/educators/16-19/economics/markets/lesson/elasticity.htm</a></td>
<td>Click here</td>
</tr>
<tr>
<td>Related mind map:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.bized.co.uk/educators/16-19/economics/markets/presentation/elasticity_map.htm">http://www.bized.co.uk/educators/16-19/economics/markets/presentation/elasticity_map.htm</a></td>
<td>Click here</td>
</tr>
<tr>
<td>Related activity:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.bized.co.uk/educators/16-19/economics/markets/activity/elasticity2.htm">http://www.bized.co.uk/educators/16-19/economics/markets/activity/elasticity2.htm</a></td>
<td>Click here</td>
</tr>
<tr>
<td>Summary presentation on different types of elasticities:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.google.co.uk/url?url=http://dragonomics.weebly.com/uploads/1/7/1/4/17146702/elasticities_ch_4_part_1_ped.ppt&amp;ct=j&amp;frm=1&amp;q=&amp;esrc=s&amp;sa=U&amp;ei=1Te-VMOTOHjHe7AbYDoEY&amp;ved=0CDqQFjAGOsQg8s7g&amp;usg=AFO7cOIdUxGxSJoExO6Q0LPO5sPV6Dz_Q">http://www.google.co.uk/url?url=http://dragonomics.weebly.com/uploads/1/7/1/4/17146702/elasticities_ch_4_part_1_ped.ppt&amp;ct=j&amp;frm=1&amp;q=&amp;esrc=s&amp;sa=U&amp;ei=1Te-VMOTOHjHe7AbYDoEY&amp;ved=0CDqQFjAGOsQg8s7g&amp;usg=AFO7cOIdUxGxSJoExO6Q0LPO5sPV6Dz_Q</a></td>
<td>Click here</td>
</tr>
<tr>
<td>Several approaches and ideas for a lesson:</td>
<td>Click here</td>
</tr>
<tr>
<td><a href="http://www.jamestierney.com/teaching-elasticity-with-a-couple-of-news-articles/">http://www.jamestierney.com/teaching-elasticity-with-a-couple-of-news-articles/</a></td>
<td>Click here</td>
</tr>
</tbody>
</table>
Curriculum Content Productive and allocative efficiency

Microeconomics: How competitive markets work > Productive and allocative efficiency

- explain what is meant by productive efficiency
- explain what is meant by allocative efficiency
- explain what is meant by economic efficiency
- explain and distinguish between static and dynamic efficiency (A Level only)
- explain what is meant by x-inefficiency (A Level only)
- explain the conditions under which productive and allocative efficiency can be achieved (A Level only)
- evaluate whether other market structures may not always lead to productive and allocative efficiency (A Level only)
- evaluate the importance of productive, allocative and dynamic efficiency.
Some would say that the issue of efficiency is the very raison d'être of the science of Economics. The efficient allocation of resources is the response to the basic economic problem of scarcity and choice in the face of infinite wants.

**Approaches to teaching the content**
Teachers may wish to consider revisiting this topic before studying 'Market structures and their implications for the way resources are allocated and the interdependence of firms' in year two. This will enable candidates to better understand the conditions necessary for productive and allocative efficiency, the meaning of x-inefficiency and the role of dynamic efficiency.

**Common misconceptions or difficulties students may have**
Some students initially find it hard to understand the conditions necessary for the achievement of the different measures of efficiency. This can be resolved by following the advice above.

**Conceptual links to other areas of the specification – useful ways to approach this topic to set students up for topics later in the course**
Links: 'The basic economic problem'; 'Opportunity cost'; 'Allocation of resources'; 'The objectives of economic agents'; 'Business objectives' (A Level only); 'Market structures and their implications for the way resources are allocated and the interdependence of firms' (A Level only); 'Market failure'.

Teachers will find it useful to recap the basic economic problem as a means of showing the significance of economic efficiency. Efficiency has implications for the achievement of firms' objectives which itself may be linked to the market structures in which firms operate and so previewing these topics may be useful when teaching efficiency. Also worthy of discussion at this point is the idea that markets do not always achieve an efficient allocation of resources.
ACTIVITIES

One particularly useful context is that of firms such as Ikea or Ryanair which are well known for providing their goods or services at low cost. They can usefully be compared to firms such as Gucci which provide high quality yet high cost goods. Examples of firms which are monopolies can be useful when studying dynamic efficiency and the use of abnormal profits.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productive efficiency</strong></td>
<td></td>
</tr>
<tr>
<td>1) Use an image from Charlie and the Chocolate Factory to discuss productive inefficiency and highlight key points.</td>
<td></td>
</tr>
<tr>
<td><strong>Productive efficiency and PPCs</strong></td>
<td></td>
</tr>
<tr>
<td>2) Recap PPC diagrams and ask students to draw a diagram illustrating three points: productively efficient, inefficient and impossible.</td>
<td></td>
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<tr>
<td><strong>Duration:</strong> 15–20 minutes</td>
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</tr>
<tr>
<td><strong>Allocative efficiency (Pin the tail…)</strong></td>
<td></td>
</tr>
<tr>
<td>1) This should introduce the idea that allocative efficiency occurs where a value put on a good by consumers is equal to the cost of production so the 'correct' quantities of resources are allocated to their 'best' uses for the bundle of goods in an economy.</td>
<td></td>
</tr>
<tr>
<td>2) Explain the market mechanism as a theory to allocate these resources on a micro level. Get students to draw a D&amp;S diagram for a good.</td>
<td></td>
</tr>
<tr>
<td>3) They then decide where a point of allocative efficiency might be on the diagram.</td>
<td></td>
</tr>
<tr>
<td>4) Discuss problems with this and the positioning of the curves to lead into market failure.</td>
<td></td>
</tr>
<tr>
<td><strong>Duration:</strong> 15–20 minutes</td>
<td></td>
</tr>
</tbody>
</table>
### Activities

<table>
<thead>
<tr>
<th>Economic efficiency</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remind students of the 3 questions faced by all economies: what to produce; how to produce; for whom to produce. Students should make spider diagrams, one for each of the questions, showing issues which need consideration when answering the questions. Students should then discuss the way in which the process of answering these 3 questions leads to economic efficiency.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allocative and productive efficiency</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>This presentation gives a short and very simple illustration of allocative and productive efficiency: <a href="https://www.tes.co.uk/teaching-resource/Goldilock-the-three-bears-in-Allocative-Efficiency-6318512">https://www.tes.co.uk/teaching-resource/Goldilock-the-three-bears-in-Allocative-Efficiency-6318512</a></td>
<td>[Click here]</td>
</tr>
<tr>
<td>Ask students to make a table of the advantages and disadvantages of allocative efficiency.</td>
<td></td>
</tr>
<tr>
<td>Give students the following instructions to illustrate the concept of productive efficiency diagrammatically:</td>
<td></td>
</tr>
<tr>
<td>Draw a demand and supply diagram but instead of labelling the demand curve “D”, label the demand curve “D = AR = P” and instead of labelling the supply curve “S”, label the supply curve “S = MC”. Now indicate on the diagram the point where MC = P. Research task – find out why demand, average revenue and price are all different ways of showing the same thing, and why and under what circumstances supply and MC equate.</td>
<td></td>
</tr>
<tr>
<td>On the whiteboard, draw a cost / output diagram, showing the MC curve cutting the AC curve from below at its lowest point and explain why MC = AC is the condition for productive efficiency. Students should copy and annotate their own version of the diagram.</td>
<td></td>
</tr>
</tbody>
</table>

**Duration:** 50–60 minutes
# Thinking Contextually

**Productive and allocative efficiency**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Static and dynamic efficiency</strong>&lt;br&gt;Remind students that static means at one point in time, that allocative and productive efficiency are forms of static efficiency and dynamic means over a period of time.&lt;br&gt;Students should draw a demand and supply diagram. Indicate where the static point is on the diagram and write a sentence showing why this is static.&lt;br&gt;In order to give due consideration to dynamic efficiency, students should be asked to complete a grid: benefits of investment; drawbacks of investment; benefits of research &amp; development; drawbacks of research &amp; development.&lt;br&gt;Lead a discussion on whether or not the higher prices charged in order to pay for the investment and research and development are economically efficient, given that in this case, P&gt;MC.&lt;br&gt;Duration: 35 minutes</td>
<td><strong>A Level</strong>&lt;br&gt;only</td>
</tr>
<tr>
<td><strong>X-inefficiency</strong>&lt;br&gt;Split the class into 4 groups. Give each group one of the following titles: why may labour costs be higher than expected; why may material costs be higher than expected; why may operational [production] costs be higher than expected; consequences of products/services costing more than expected. Each group makes a list then presents it to the rest of the class, with consequences of products/services costing more than expected going last. Once the lists have been presented, the teacher should lead a discussion on cost minimisation.&lt;br&gt;Duration: 30–40 minutes&lt;br&gt;Two scholarly articles for stretch&amp;challenge; students could prepare a written summary or a presentation on these:&lt;br&gt;Harvey Leibenstein's original 1966 essay on x-inefficiency: &lt;br&gt;&lt;a&gt;<a href="https://msuweb.montclair.edu/~lebelp/leibensteinxefffaer1966.pdf">https://msuweb.montclair.edu/~lebelp/leibensteinxefffaer1966.pdf</a>&lt;/a&gt;&lt;br&gt;and Peter Earl's article on ‘Consumer X-inefficiency and the problem of market regulation’:&lt;br&gt;&lt;a&gt;<a href="http://hei.sdsu.edu/~frantz/docs/Earl.pdf">http://hei.sdsu.edu/~frantz/docs/Earl.pdf</a>&lt;/a&gt;</td>
<td><strong>A Level</strong>&lt;br&gt;only</td>
</tr>
</tbody>
</table>
### Activities

**Importance of productive, allocative and dynamic efficiency**

Students could create a table as shown below and complete the final column:

<table>
<thead>
<tr>
<th>Type of efficiency</th>
<th>Condition required</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocative</td>
<td>$P = MC$</td>
<td></td>
</tr>
<tr>
<td>Productive</td>
<td>$AC = MC$</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>$P &gt; MC$</td>
<td>[existence of abnormal profits]</td>
</tr>
</tbody>
</table>

Below the table, students should write why each form of efficiency is important.

Duration: 15–20 minutes

**Market structures and efficiency**

Once students have completed ‘Market structures and their implications for the way resources are allocated and the interdependence of firms’, they will be able to draw up a second table:

<table>
<thead>
<tr>
<th>PCSR</th>
<th>PCLR</th>
<th>MSR</th>
<th>MLR</th>
<th>OSR</th>
<th>OLR</th>
<th>MCSR</th>
<th>MCLR</th>
</tr>
</thead>
</table>
| Allocative
| Productive
| where $SR =$ short run, $LR =$ long run, $PC =$ perfect competition, $M =$ monopoly, $O =$ oligopoly and $MC =$ monopolistic competition. Students will be able to simply tick the relevant boxes in the table and discuss the respective efficiencies of the different market structures.

Duration: 30 minutes

**More ideas to teach efficiency**

This 6 minute clip explains allocative, productive, dynamic efficiency and $X$ inefficiency:

[https://www.youtube.com/watch?v=vZuZK9vHRIM](https://www.youtube.com/watch?v=vZuZK9vHRIM)

Revision quiz on efficiency:

[http://www.tutor2u.net/blog/index.php/economics/comments/10-questions-on-economic-efficiency](http://www.tutor2u.net/blog/index.php/economics/comments/10-questions-on-economic-efficiency)
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