

Sentence building

Join the following groups of sentences to make eleven longer sentences, using the connecting words printed at the beginning of each group (except group 6). You may omit words and make whatever changes you think are necessary in the word order and punctuation of the sentences.

EXAMPLE

BECAUSE/AND/HOWEVER

Plastics are used widely in engineering.

They are cheap.

They have a resistance to atmospheric corrosion.

Plastics are not particularly strong.

= Plastics are used widely in engineering because they are cheap and have a resistance to atmospheric corrosion; however they are not particularly strong.

1. AND

There are two types of plastics.

Thermoplastics are plastics.

Thermosets are plastics.

2. AND/WHEREAS/AND

Thermoplastics will soften when heated.

Thermoplastics will harden when cooled.

Thermosets set on heating.

Thermosets will not remelt.

3. FROM/TO

Plastics are used to make a great variety of products.

Plastics are used to make textiles.

Plastics are used to make engineering components.

4. SUCH AS

Plastics are available in many forms.

Plastics are available in the form of sheets, tubes, rods, moulding powders and resins.

5. TO

Various methods are used.

These methods convert raw plastic into finished products.

6. Compression moulding is a common method.

Compression moulding is used for shaping thermosets.

7. WITH/WHICH

The equipment consists of a press.

The press has two heated platens.

The two heated platens carry an upper and a lower mould.

8. THEN

Powder is placed in the lower mould.

This is moulding powder.

The upper mould is pressed down on the lower mould.

9. TO/WHICH

The pressure and the heat change the powder.

The powder becomes liquid plastic.

The liquid plastic fills the space between the moulds.

10. WHEN/AND

The chemical changes have taken place.

The mould is opened.

The moulding is extracted.

11. BY

Plastic bowls are made.

The compression moulding method is used,

Paragraph building

Now group the completed sentences into two paragraphs and give a title to the passage. Include the example as the first sentence of your passage.

Sentence building

Join the following groups of sentences to make 12 longer sentences. Where a connecting word is given at the beginning of a group, use it to join the sentences. Where there is no connecting word, use a relative clause. Make any punctuation changes you think are necessary.

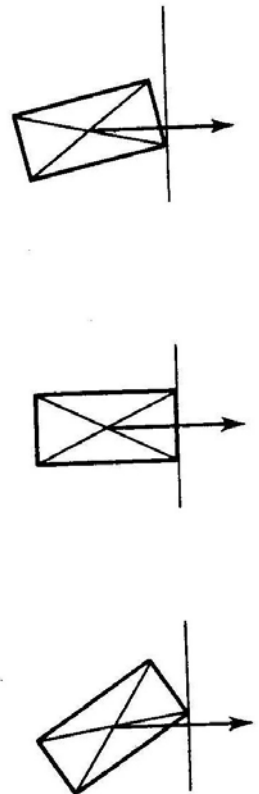
1. We can think of the weight of a body as acting at one point.
This point is known as the body's centre of gravity.
2. **ALTHOUGH**
A body will always act as if its mass were concentrated at its centre of gravity.
Its centre of gravity need not be within the body itself.
3. **SUCH AS**
The centre of gravity of some regular shapes can be found by inspection.
A cube is a regular shape.
4. **FOR EXAMPLE**
It is easy to make such regular shapes stand upright.
A cylinder will stand on its base.
5. If a body is to stand upright, the line of action of its weight must act through the base.
The line of action of its weight passes through its centre of gravity.
6. **AND THEREFORE**
If a rectangular solid is placed on one face its weight will act through the centre of the base.
The solid will stand upright.
7. **BUT**
If the solid is tilted slightly, the line of action of its weight will move towards the edge of the base.
It will still fall within the base.
8. **THEREFORE**
If the solid is tilted further, the line drawn vertically downwards from its centre of gravity will fall outside the base.
The solid will topple over.
9. **WHEREAS**
If a body returns to its original position after a slight disturbance it is said to be stable.
If a body moves into a new position after a slight disturbance it is said to be unstable.
10. **BECAUSE**
Unstable structures can be dangerous.
They have to be stabilized.
11. Cranes are normally stabilized by a large counter-weight.
This counter-weight ensures that the total mass of the crane and its load always acts through the crane's base.
12. **SO THAT**
Cranes often have a warning device which operates when the safe load is exceeded.
The crane is never in danger of toppling over.

Paragraph building

Now group the completed sentences into two paragraphs. You will have to add 'For example' at the beginning of sentence 6, 'For instance' at the beginning of sentence 11 and 'In addition' at the beginning of sentence 12. Give the passage the title 'Stability'.

Using diagrams to illustrate the passage

Here are three sketches to illustrate the passage.



Sentence building

Join each of the following groups of sentences to make eleven longer sentences. You are given some, but not all, of the connecting words which you will need. You may add, omit or change words where you think it is necessary, and you should provide appropriate punctuation.

1. **THUS**
From O to P the specimen extends.
This is in proportion to the force applied to the material.
This illustrates Hooke's law.
2. The material reaches its elastic limit.
This happens soon after point P.
The elastic limit is marked on the graph.
The elastic limit is marked as point E.
3. After the yield point there is a rapid extension.
This is an extension of the specimen.
This rapid extension occurs with each increase in load.
This extension continues until point U is reached.
4. **WHEN**
The specimen will regain its original length up to point E.
The forces are removed.
The forces cause tension.
5. **THAT**
This is what waisting means.
The cross-sectional area of the specimen narrows.
This happens at some point in the specimen's length.
6. **WITHOUT**
U represents the maximum load the specimen can undergo.
Up to this load there is no change in the specimen's cross-sectional area.
7. **AFTER**
The point of maximum load is reached.
The specimen undergoes 'waisting'.
8. **HOWEVER**
If the elastic limit is exceeded.
The specimen will not regain its original length.
9. **ALTHOUGH/BECAUSE OF**
The stress continues to increase.
Note the decrease in cross-sectional area.
The load falls.
10. **WHEN**
The specimen lengthens further.
It lengthens until point F.
The specimen finally fractures.
11. **FOR**
At Y the specimen increases in length.
Y is the yield point.
This is a sudden increase.
There is very little corresponding increase in force.

Paragraph building

Now rearrange the sentences you have written into a number of logically-ordered paragraphs. Begin your first paragraph with sentences 1 and 2.