

2.2. Stretching springs

1. Here are nine words related with forces and their effects. Separate the words using a solidus (/) and match each word with its picture.

spring/stretchkicksquashpullcompresspushrubber _bandlength



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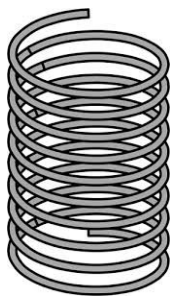
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2. Read the following paragraph.

If you pull or push an object, its shape will change. For example, when you kick a football, it becomes squashed. If you stretch a rubber band, it gets longer. Pushing or pulling more, makes the shape to change more.

Now complete the sentences below using words or phrases from the list to fill the gaps. This will give the same information using correct scientific terms.

COMPRESSED

BECOME DEFORMED

EXERT A FORCE ON

DEFORMATION

INCREASING THE FORCE

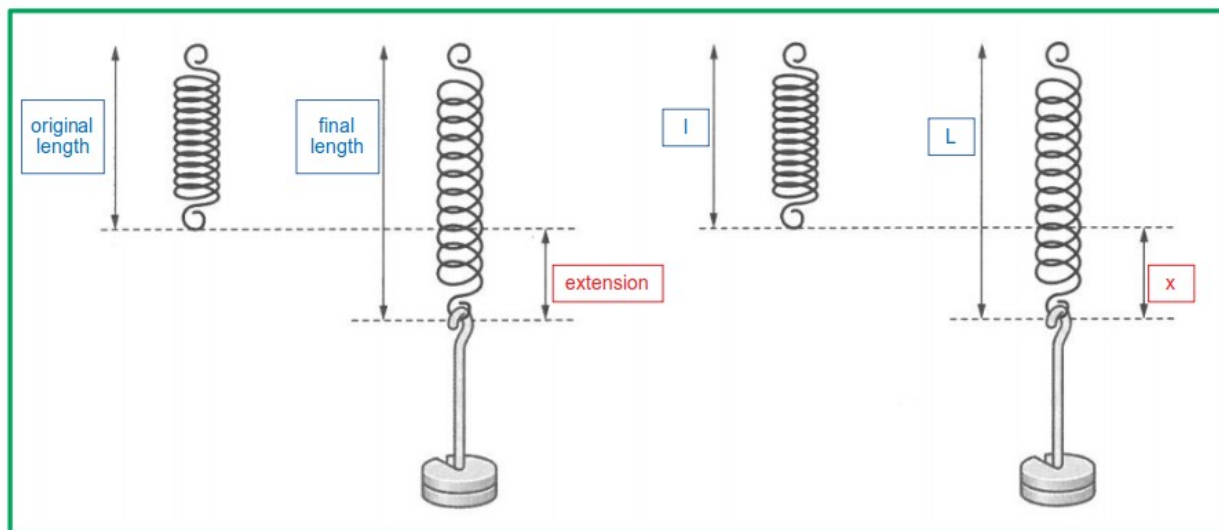
EXTENDS

- a) If you an object, it will
- b) For example, when you kick a football, it becomes
- c) If you stretch a rubber band, it
- d) will increase the

3. Using words from question 2, give the scientific words which mean the same as the following verbs:

- a) to **get longer** = to
- b) to **change shape** = to
- c) to **become more** = to
- d) to **squash** = to

Next diagrams show what happens when a weight is hung on the end of a spring. The spring gets longer.



The diagram on the left shows what we mean by **extension** of the spring. The diagram on the right shows the same information in **symbols**.

4. Complete the table showing the symbol for each length:

<i>length</i>	<i>symbol</i>
<i>original length</i>	
<i>final length</i>	
<i>extension</i>	

5. It is important to understand what we mean by the extension of the spring. Read each statement below. Put a tick if the statement is correct; put a cross if it is incorrect.

- a) *The extension is the increase in length of the spring.*
- b) *Final length = original length + extension.*
- c) *To calculate the extension, subtract the final length from the original length.*
- d) *The extension is calculated by subtracting the initial length from the final length.*
- e) *Extension = final length – initial length*
- f) $x = L - l$
- g) *The increase in length of the spring is equal to the extension.*