

SPRINGS

TO ANSWER ALL THE QUESTIONS YOU WILL NEED TO DOWNLOAD THE 'ENERGY STORAGE' APP, FROM THE INTERACTIVE MOBILE APP SECTION OF [www.technologystudent.com](http://www.technologystudent.com)

LINK  
[http://www.technologystudent.com/mobapps/energy\\_storage1.pdf](http://www.technologystudent.com/mobapps/energy_storage1.pdf)

Once you have downloaded the App, you can use it to navigate the website. You may need to follow the links on each page of the App, to research / complete answers to all the questions.

ARE YOU READY?  
USE THE MOBILE App!!



1

DESCRIBE A PRACTICAL APPLICATION OF A SPIRAL TORSION SPRING.

Include a diagram in the next box, to support your description

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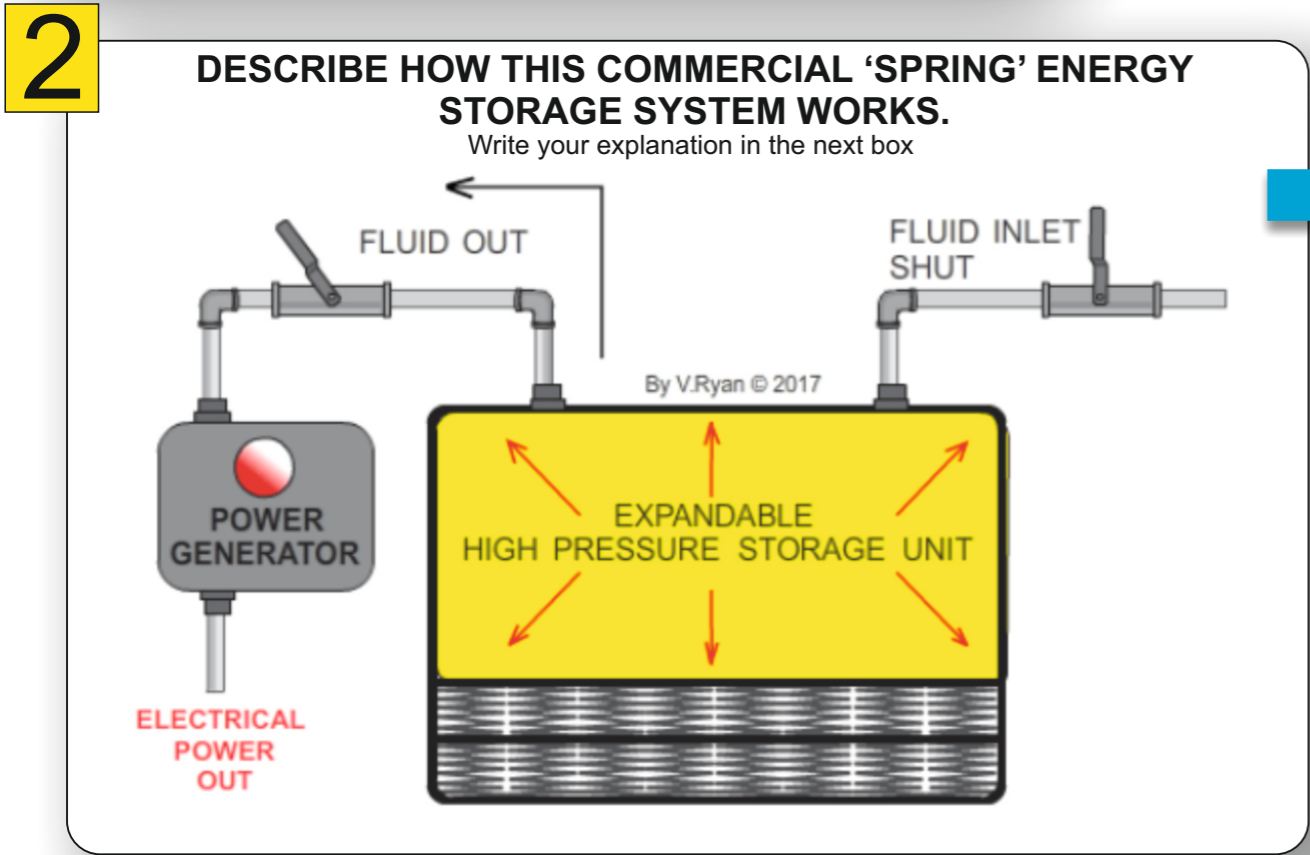
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YOUR SKETCH  
SPIRAL TORSION SPRING



YOUR EXPLANATION / DESCRIPTION

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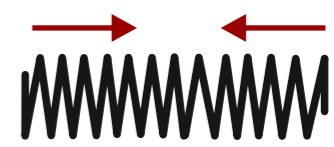
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3

NAME THE THREE SPRINGS

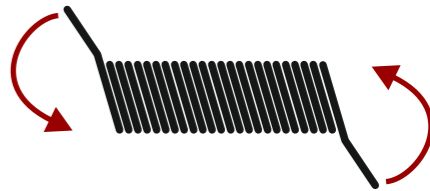
Name: \_\_\_\_\_



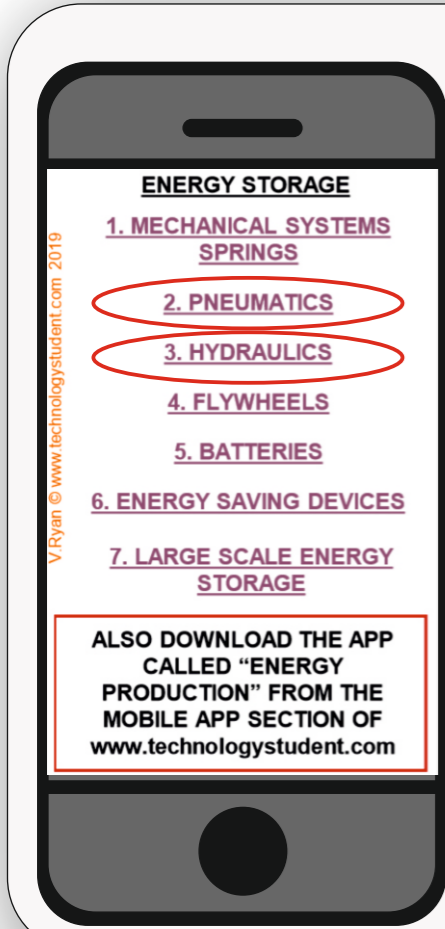
Name: \_\_\_\_\_



Name: \_\_\_\_\_



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## PNEUMATICS and HYDRAULICS

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**1** WHAT IS A PNEUMATIC SYSTEM?

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WHY IS A PNEUMATIC SYSTEM REGARDED AS AN ENERGY STORAGE SYSTEM?

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**2** HOW DOES AN HYDRAULIC SYSTEM DIFFER FROM A PNEUMATIC SYSTEM?

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**3** COMPLETE THE DIAGRAM OF PNEUMATIC CYLINDER.

Write your explanation in the next box

**4** LIST TWO PRACTICAL EXAMPLES OF A PNEUMATIC SYSTEM AND TWO HYDRAULIC SYSTEMS.

PNEUMATIC SYSTEMS

A. \_\_\_\_\_

B. \_\_\_\_\_

HYDRAULIC SYSTEMS

A. \_\_\_\_\_

B. \_\_\_\_\_

**5** DRAW A LABELLED DIAGRAM / SKETCH OF ONE OF THE SYSTEMS YOU NAMED IN QUESTION 4.

System Name: \_\_\_\_\_

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## FLYWHEELS

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**ENERGY STORAGE**

1. MECHANICAL SYSTEMS SPRINGS
2. PNEUMATICS
3. HYDRAULICS
4. FLYWHEELS
5. BATTERIES
6. ENERGY SAVING DEVICES
7. LARGE SCALE ENERGY STORAGE

ALSO DOWNLOAD THE APP CALLED "ENERGY PRODUCTION" FROM THE MOBILE APP SECTION OF [www.technologystudent.com](http://www.technologystudent.com)

1

### BRIEFLY - WHAT IS A FLYWHEEL?

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2

### EXPLAIN THE REASON FOR THE FLYWHEEL BEING INCLUDED IN THE VICTORIAN STEAM ENGINE

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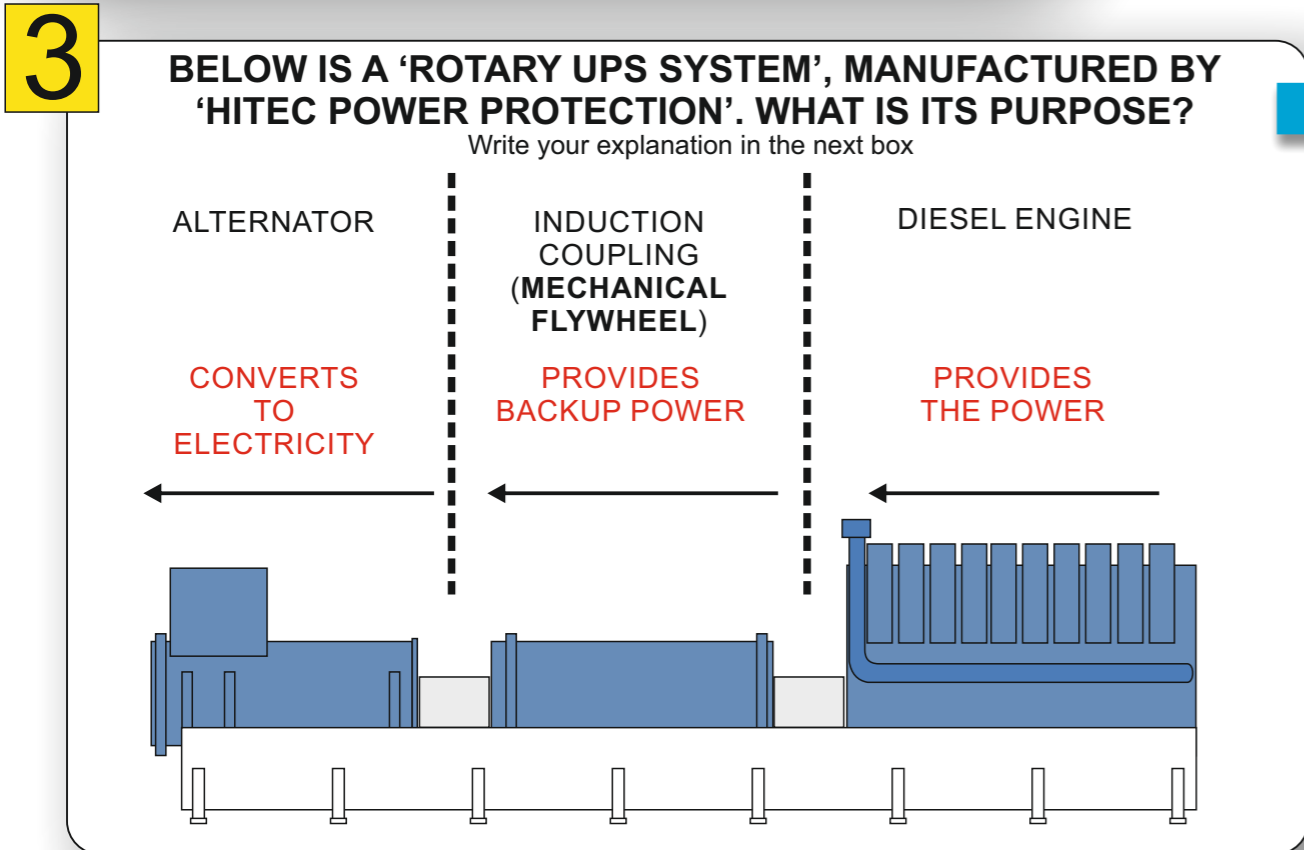
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**ENERGY STORAGE**

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### BATTERIES AND ENERGY SAVING DEVICES

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### WHAT ARE THE BENEFITS OF USING RECHARGEABLE BATTERIES?

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2

### A RANGE OF BUTTON CELLS ARE SHOWN BELOW. NAME THREE DEVICES THAT USE THIS TYPE OF BATTERY.



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3


### FIVE SIZES OF BATTERIES ARE SHOWN BELOW. THE 'D' TYPE BATTERY HAS BEEN LABELLED. LABEL THE OTHER FOUR.


ALKALINE BATTERIES


D











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4

### WHY IS THE DISPOSAL OF BATTERIES PROBLEMATIC / DIFFICULT?

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5

### WIND-UP DEVICES SUCH AS WIND-UP RADIOS AND TORCHES ARE NOW AVAILABLE. DESCRIBE HOW THEY PRODUCE AND STORE THEIR ELECTRICITY.

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