

## TYPES OF FORCES - 1

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

**LINK**

([http://www.technologystudent.com/mobapps/forces-moments-movement-equilibrium-levers\\_UPDATE1.pdf](http://www.technologystudent.com/mobapps/forces-moments-movement-equilibrium-levers_UPDATE1.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 D&T READY?  
USE THE MOBILE App!!**

**1** WHAT IS A STATIC LOAD?

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**2** WHAT IS A DYNAMIC LOAD?  
(Include a sketch and description)

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**3** SKETCH A LABELLED DIAGRAM, THAT REPRESENTS INTERNAL RESISTANCE.  
(Include a sketch and notes)

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**4** NAME AND DESCRIBE THE FORCE REPRESENTED BY THIS DIAGRAM

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**5** THIS SKETCH REPRESENTS 'COMPRESSION'. WHAT IS COMPRESSION?

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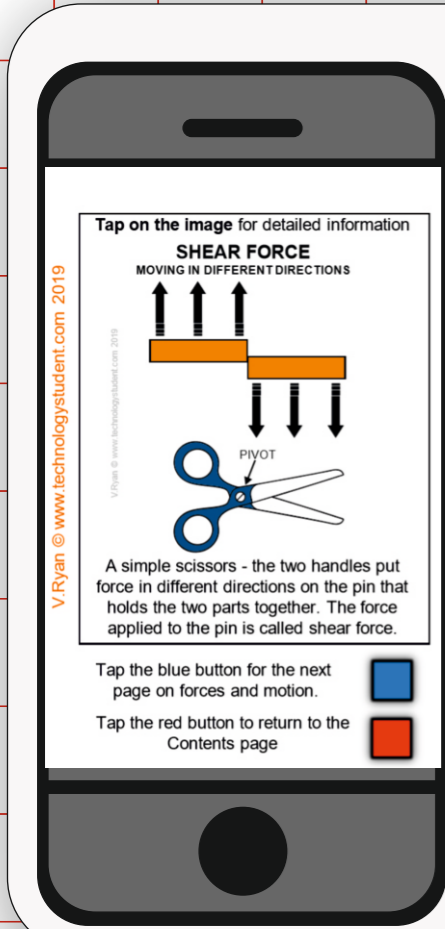
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## TYPES OF FORCES - 2

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**ARE YOU D&T READY?  
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**1**

SHEAR FORCE IS DESCRIBED ON THE PHONE OPPOSITE. NAME AND EXPLAIN, ANOTHER PIECE OF EQUIPMENT, THAT DISPLAYS THIS FORCE, WHEN USED.

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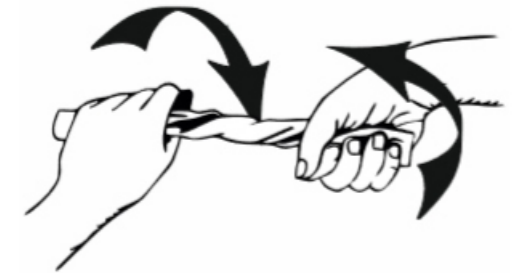
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**2**

NAME AND DESCRIBE THE FORCE SHOWN IN THIS SKETCH




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**3**

SKETCH AND EXPLAIN TWO MORE EXAMPLES OF THE FORCE YOU NAMED IN Q2




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**4**

THE WEIGHT IS PLACED ON TOP OF THE BOOK. NAME THE FORCE BEING EXPERIENCED BY BOOK.




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**5**

THE CAR IS MOVING ALONG A ROAD. WHAT FORCE IS IT EXPERIENCING?

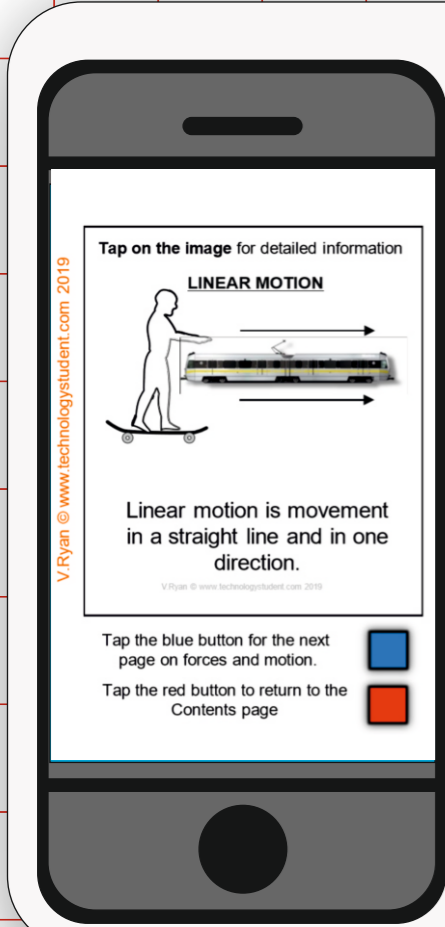



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## TYPES OF MOTION

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**ARE YOU D&T READY?  
USE THE MOBILE App!!**

**1** LINEAR MOTION IS EXPLAINED ON THE PHONE OPPOSITE. DESCRIBE ANOTHER PRACTICAL APPLICATION, THAT DISPLAYS THIS FORCE.

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**2** WHAT IS ROTARY MOTION? INCLUDE THE BICYCLE IN YOUR EXPLANATION.




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**3** WITH THE AID OF A SKETCH(S), DESCRIBE THE MEANING OF 'OSCILLATING MOTION'.

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**4** EXPLAIN / DESCRIBE A RECIPROCATING MOTION. (Do not include a sketch)

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**5** IN THE SPACE BELOW, SKETCH A PRACTICAL EXAMPLE OF A RECIPROCATING MOTION

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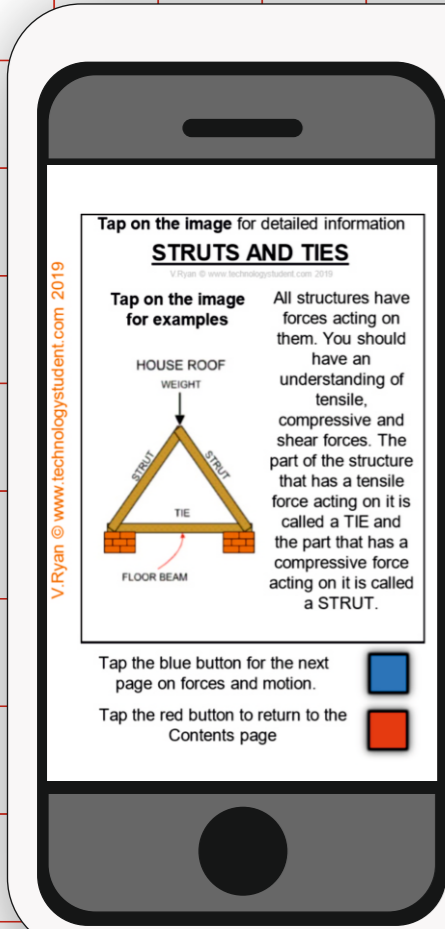
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## STRUTS AND TIES

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**ARE YOU D&T READY?  
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**1** WHAT IS THE DIFFERENCE BETWEEN A 'STRUT' AND A 'TIE'?

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**2** WHICH PARTS OF THE DESK, ARE STRUTS AND TIES? WHICH ARE IN COMPRESSION OR TENSION

A: TIE  
TENSION  
 B: \_\_\_\_\_  
 C: \_\_\_\_\_  
 D: \_\_\_\_\_

**3** A CAR MOVES ACROSS THE BRIDGE. WHICH PARTS ARE IN COMPRESSION AND WHICH IN TENSION?

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**4** THE BRIDGE SHOWN OPPOSITE IS AN EXAMPLE OF TRIANGULATION. WHY IS TRIANGULATION 'GOOD' FOR THE DESIGN OF THE BRIDGE?

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**5** NAME THE FORCES ACTING AT 'A' AND 'B', OF THE HANGING BASKET.

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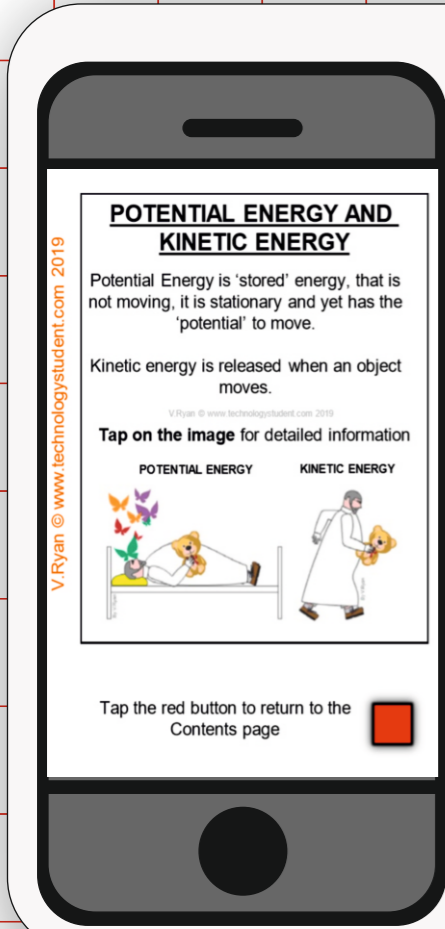
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## POTENTIAL AND KINETIC ENERGY

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**ARE YOU D&T READY?  
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**1** WHAT IS THE DIFFERENCE BETWEEN POTENTIAL AND KINETIC ENERGY?

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**2** DESCRIBE AN EXAMPLE OF POTENTIAL AND KINETIC ENERGY, NOT THE ONE SHOWN ON THE PHONE OPPOSITE.

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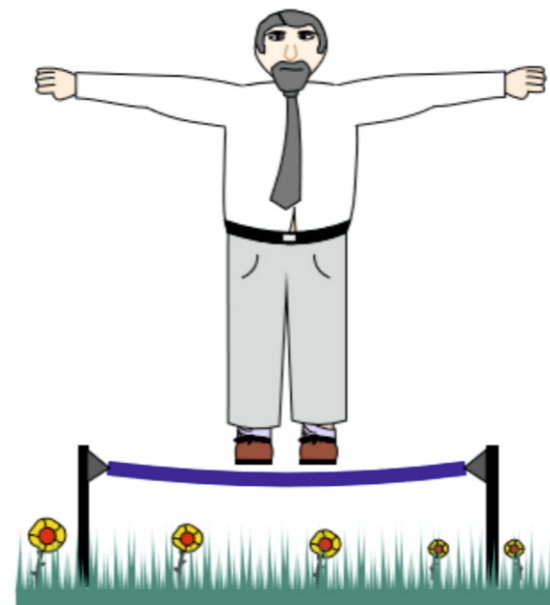
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**3** USING THE EXAMPLE YOU DESCRIBED IN Q2, PRODUCE A LABELLED SKETCH, THAT ACCOMPANIES YOUR NOTES / DESCRIPTION.

**4** STUDY THE IMAGE BELOW AND THEN MOVE ON TO Q5.



**5** WITH REFERENCE TO THE IMAGE IN Q4, IS IT AN EXAMPLE OF POTENTIAL OR KINETIC ENERGY? (Explain your answer)

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# LEVERS

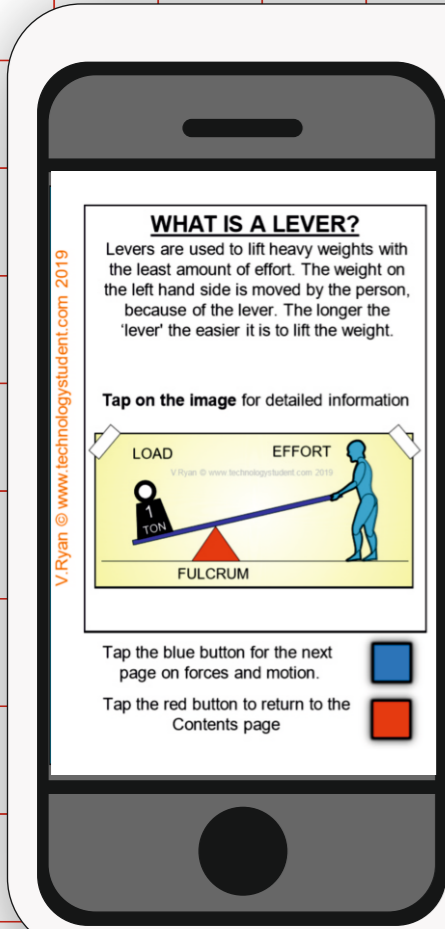
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**ARE YOU D&T READY?  
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**1** WHAT IS MEANT BY 'LOAD'?  
WHAT IS MEANT BY 'EFFORT'?

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**2** A BRAKE ON A BICYCLE IS A GOOD EXAMPLE OF A LEVER.  
EXPLAIN WHY THIS IS.

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**3** DRAW SCHEMATIC DIAGRAMS REPRESENTING CLASS TWO AND THREE LEVERS.  
(A class one lever has been drawn for you)

**CLASS ONE**

**4** SKETCH A PRACTICAL APPLICATION OF A CLASS ONE LEVER.

**5** SKETCH A PRACTICAL APPLICATION OF A CLASS THREE LEVER.

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