

The Engineering Fundamentals range is designed to enable students to gain an understanding of the fundamentals of engineering by the process of learning via hands-on experimentation.

The modular hands-on tray based system is supplied in conjunction with a multifunctional Base Unit enabling the student to conduct their own experiments in subjects such as Statics, Dynamics, Mechanisms and Kinematics.

Each kit is supplied with a highly visual user friendly operational guide, enabling the student to understand the theory of the subject by the application of practical experimentation.

**AN INNOVATIVE HANDS ON MODULAR SYSTEM DESIGNED TO ENABLE INVESTIGATION AND THE UNDERSTANDING OF ENGINEERING PRINCIPLES**

**Description**

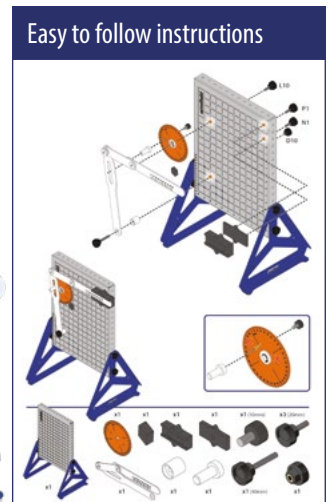
The EF-3.2 Simple Mechanisms experiment kit enables students to visualise and understand the different types of mechanical systems and the conversion of linear motion to rotary motion and vice versa.



Slotted link quick return mechanism



Whitworth quick return mechanism



Easy to follow instructions



1 tray supplied with EF-3.2

Experiments shown below, Crank & Slider, Four Bar Linkage, Scotch Yoke Mechanism



High quality materials



## Features / benefits

### Features

- ▶ Neatly presented in an easily identifiable and durable storage tray
- ▶ Trays have clear lids making it easy to see their contents
- ▶ Pictorial tray contents list to identify missing components easily
- ▶ Accompanied by a detailed manual with various practical exercises
- ▶ Clear and concise assembly instructions for each experiment
- ▶ Multiple experiments per kit
- ▶ Toolless assembly

### Benefits

- ▶ Hands-on understanding from lessons
- ▶ Improve the student's dexterity by self-assembly with the instructions provided

## Requirements

## Scale

EF-BU

Experiment tray scale



EF-BU scale



EF-WS scale



- ▶ EF-BU on which to build the experiment from the tray components
- ▶ Level and stable work surface to mount the EF-BU upon. The optional EF-WS is ideal for this if no suitable desk or bench is available.

## Experimental content

- ▶ Crank & slider
- ▶ Four bar linkage
- ▶ Oscillating cylinder
- ▶ Scotch yoke
- ▶ Slotted link quick return mechanism
- ▶ Whitworth quick return mechanism



## Overall dimensions

### Tray

Length	0.430m
Width	0.312m
Height	0.080m

### Packed and crated shipping specifications

Volume	0.02m <sup>3</sup>
Gross weight	5Kg

## Essential accessories / equipment

- ▶ EF-BU Base Unit

## Related products

- ▶ EF-BU Base Unit

### Statics Experiments

- ▶ EF-1.1 Forces
- ▶ EF-1.2 Moments
- ▶ EF-1.3a Beams
- ▶ EF-1.3b Trusses
- ▶ EF-1.4 Springs
- ▶ EF-1.5 Torsion

### Dynamics Experiments

- ▶ EF-2.1 Friction
- ▶ EF-2.2 Simple Harmonic Motion
- ▶ EF-2.3 Rotational Friction
- ▶ EF-2.4 Potential and Kinetic Energy
- ▶ EF-2.5 Centrifugal and Centripetal Force

### Mechanisms Experiments

- ▶ EF-3.1 Cam, Crank and Toggle
- ▶ EF-3.2 Simple Mechanisms
- ▶ EF-3.3 Additional Mechanisms
- ▶ EF-3.4 Bar Linkages

### Kinematics

- ▶ EF-4.1 Pulleys
- ▶ EF-4.2 Gears
- ▶ EF-4.3 Drive Systems

### Strength of Materials

- ▶ EF-5.1 Tensile Tester

### Options

- ▶ EF-WS Workstation

## Ordering specification

- ▶ Acrylic fluorescent lava orange protractor wheel
- ▶ Whitworth drive stub
- ▶ Acrylic crank & slider links
- ▶ White acrylic slotted links
- ▶ White acrylic whitworth links
- ▶ White acrylic scotch yoke & indicator
- ▶ Mechanisms link indicator
- ▶ Stub handle
- ▶ Oscillating cylinder washer
- ▶ Acrylic indicator slide block
- ▶ Slotted link pivot spacer
- ▶ 2 x four bar link plates
- ▶ Acrylic magnetic indicator

## Ordering codes

- ▶ EF-3.2 - Simple Mechanisms
- ▶ EF-BU - Base Unit
- ▶ EF-WS - Workstation (optional)

Armfield standard warranty applies with this product

## Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



armfield.co.uk

## Aftercare

Installation  
Commissioning  
Training  
Service and maintenance  
Support: [armfieldassist.com](http://armfieldassist.com)