

# PHYSICAL SCIENCES P.1

## MEMO-2024



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1 times by adding different masses to increase the hanging mass each time.  
the effects of air friction.



data obtained were used to draw the sketch graph below.



length. The spring then falls to the ground.  
Trolley A moves to the left, while trolley B moves to the right and then up a frictionless inclined plane, rising to a maximum vertical height of 1,5 m, as shown in the diagram below.



- 6.1 Write down the principle of conservation of mechanical energy in words. (2)
- 6.2 Calculate the speed of trolley B at the bottom of the inclined plane. (4)
- 6.3 For the hypothesis that the spring takes no time to return to its natural length.

(1 a new page.)

1 applied at an angle of  $30^\circ$  to the horizontal  
ly at rest, as shown in the diagram below.

on of 10 N acts on the crate as it moves from rest at point A ab  
point B. The distance between point A and point B is 1,5  
at point B is  $2 \text{ m s}^{-1}$ .



is work done by a force.

of free-body diagram showing ALL the forces acting on the crate.

IF PRINCIPLES ONLY, calculate the magnitude of force F.

# Memo Nov Physical Science P1 2014

**James Essig, Steve McCarter**



## **Memo Nov Physical Science P1 2014:**

**The Case for Pandora** James Essig, Steve McCarter, 2016-12-19 This book is about building craft for space travel a space travel that is not in the distant future but in the immediate future There is no question that we have the technology to build and power large craft capable of traversing the galaxy and for now this book will focus on achieving the goal of intragalactic travel We will describe various methods of power generation and propulsion delineate the materials and technology for construction discuss the building of the spacecraft from the outside in and show what is required to sustain life on the craft for extended periods of time While we will go into some detail on each of these pointing out advantages and disadvantages to components and methods this is not nor is it intended to be a highly technical book to be used by specialists Rather it is intended to inform the general readership about what is possible and perhaps what is not in building and operating spacecraft for long distance and long duration travel with current and available means **International Tables for**

**Crystallography** Moises I. Aroyo, 2021-07-06 This sixth edition of what was previously known as the Brief Teaching Edition of Volume A provides an introduction to the basic crystallographic data for space groups found in Volume A for symmetry relations between space groups in Volume A1 and for subperiodic groups in Volume E of International Tables for Crystallography to magnetic space groups and to the symmetry database that forms part of International Tables Online at <https://it.iucr.org> It is designed for graduate students and young researchers who are new to the field of crystallographic symmetry and includes many illustrative examples to help readers to understand and use these different kinds of information Selected tables of symmetry data from the full volumes in the series are also included making this a handy aid for classroom teaching References are also provided to further specialized sources for those who need to go deeper into the subject and to textbooks for those who need more background information

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