

Sample papers
A4 paper 10-15 pages
Font: 12-pt. Times New Roman;
1.15 line spacing

3 cm.

Title in bold centered;
capitalize all of the major words;
no word limit

Studying the Frictional Force Directions via Bristles

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Abstract

We present simple apparatus designed to help Thai high school students visualize the directions of frictional forces. Bristles of toothbrushes, paintbrushes and scrubbing brushes are used to demonstrate the frictional forces acting in a variety of situations. These demonstrations, when followed by discussion of free-body diagrams, were found to be effective in teaching frictional force directions.

250 – 300 words

3 cm.

Keywords: frictional forces, bristles, teaching physics

3 cm.

3-5 keywords relevant to the content for database search

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2-line spacing
between headings
and body text

3 cm.

Introduction

All body text 12-
pt. Times New
Roman

2

Page
number
starts
from 2;
12-pt.
Times
New
Roman

In what directions do the frictional forces of the ground act on the front wheel and on the rear wheel of a forward moving bicycle? The correct answer to this question is that the frictional force of the ground acting on the front wheel points backwards, but the frictional force on the rear wheel points forward. In our study, many Thai high school students answered that the frictional force of the ground acting on both front and rear wheels points backwards. These students understood that the frictional force generally opposes the motion of a moving object.....

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Study Purposes

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Method

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Results

← 3.5 cm. →

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← 3 cm. →

Conclusion and Discussion

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Final Recommendations

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In-text citation and references

Must follow the American Psychological Association Style 7th Edition

Figures and Tables

Must follow the American Psychological Association Style 7th Edition

Helps:

APA 7th style guide - English version:

https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/apa_tables_and_figures.html

APA 7th style guide - Thai version:

http://www.jba.tbs.tu.ac.th/files/APA_Style.pdf