

# FRICITION

## Subject

Basic science

## Prepared By

[Instructor Name]

## Grade Level

5

## Overview

This lesson plan covers teaching content for;

1. Friction
2. Advantages of friction
3. Disadvantages of friction

## Objectives

Students should be able to;

1. Describe friction and its causes
2. Explain the advantages and disadvantages of friction.
3. Suggest methods to reduce friction.

## Activity Starter/Instruction

1. Ask student to push a book lying on the table.
2. Then ask the students what happened to book? (Student's response: The book moved on the table. Eventually it slowed down and stopped. )
3. Why do bodies stop? (Students' response: There must be a force acting opposite to the motion of objects)
4. What is that force which stops the movement of objects? (Students' response: When an object moves, it rubs against the surface on which it moves. Rubbing provides an opposing force. This force is called friction.)
5. Ask the students what does cyclist do to stop a bicycle? (Student's response: He applies brakes.)
6. Why does brake stop a moving bicycle? (Students' response: The brake rubs against the rim of the wheel and hence opposes the motion of bicycle.)
7. Draw out the conclusion that the force which opposes the motion of

## Teacher Guide

Day 1/ Lesson 1: 25 Mins

1. Place a wooden block on the table and tell a student to push it to slide over the surface of the table.
2. Ask a student what opposes the motion of the wooden block on the table? (Students' response: The roughness of surfaces.)
3. Then place glass sheet on the table and ask the same student to push the wooden block over the surface of the glass sheet.
4. Ask the students what difference do they notice when the block moves over two different surfaces (students; response: The block comes to rest after covering greater distance on the glass sheet)?
5. Inform them that the surface of table opposes the motion more than the glass sheet.
6. Ask the students why is sliding of the wooden block over the glass sheet easier than over the table? (Students' response: The surface of the glass sheet is smooth whereas the surface of the table is rough).
7. Inform them that the roughness of surfaces causes friction.

## Materials Required

- science journals
- wooden block
- glass sheet
- trolley wheel

## Additional Resources

- [https://www.slideshare.net/kevcummins/sci-friction?from\\_action=save](https://www.slideshare.net/kevcummins/sci-friction?from_action=save)
- <https://www.greatschools.org/library/cms/3>
- <http://www.cpalms.org/Public/PreviewResource>
- <https://www.scribd.com/doc/309951538/friction>
- <https://lessonplanspage.com/scienceforceof>
- <https://aminghori.blogspot.com/2016/03/lesson-plans-on-friction-general-science.html>
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## Additional Notes

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the objects is called friction.

### Guided Practice

#### Day 2/ Lesson 2: 15 Mins

1. Take a glass sheet.
2. Ask the student to rub the palm of her/his hand on it.
3. Now pour a little oil on the sheet.
4. Ask the student to rub the hand again on oily sheet.
5. Then ask what difference do you feel on rubbing the dry glass sheet and the oily sheet? (Students' response: The oily surface has less friction.)
6. Ask them how can we decrease the friction? (Students' response: By applying oil or grease between the surfaces which slide over each other.)

### Guided Practice

#### Day 3/ Lesson 3: 20 Mins

1. Take a trolley school bag with wheels attached to its bottom.
2. Ask a student to drag the bag on a smooth floor over the side without wheels.
3. Then ask him/her to drag it over the wheels.
4. Ask the students, is it easier to move the bag or wheels? (Students' response: yes, the wheels reduce friction.)
5. Inform the students that friction can also be reduced by using wheels attached to the heavy objects to make the movement easier.
6. Ask them to hypothesize what your life would be like if there were no friction. Which actions would be more difficult? Which would be easier?
7. Ask them, is the friction between a child and surface of a 'slide' more or less? How does this make the slide work? How could you reduce the friction between yourself and the slide to make you go faster?

	<p><b>Assessment Activity</b></p> <ol style="list-style-type: none"> <li>1. Make a table on the board and ask the students to copy on their note books.</li> <li>2. Ask them to make a list of objects from their surroundings, offering more friction and less friction.</li> <li>3. Involve the students in solving the questions given at the end of chapter/ unit in textbook.</li> </ol>	<p><b>Assessment Activity</b></p> <p>Ask the students to analyze how friction can be desirable and undesirable in our everyday lives. Use examples to support your statements.</p>
	<p><b>Summary</b></p>	