



(ENG) Sticky Rice

Introduction

Step 1 - Motivational Stage

Step 2 - Investigational Stage

Step 3 - Consolidation Stage

Introduction



#Online activity #In-class activity #Inquiry-based learning
#Experiential learning #Simulation #Art Work

Pupils experiment friction with a connection to everyday life: a chopstick sticks in a bottle full of rice

Learning Objectives



understand and experiment the basic description of Friction

ACTIVITY DETAILS

Activity Details

Connection of the activity with Art —

Documentary Art from Nasa, science fiction art from Pinterest.



Link to local, national School Curriculum —

Forces/ Description of forces



Equipment required —

- Small bottle
- 2-3 decilitres of rice
- A chopstick
- Internet connection



Duration of activity —

45 minutes



Sources

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Step 1 - Motivational Stage



Reflect on the following question



"How can the pupils experience friction in an easy and surprising experiment?"

Step 2 - Investigational Stage



STUDENTS' TASKS

1

Task 1

Pupils should fill a bottle halfway with rice.

2

Task 2

Then they push a chopstick into the bottle, and fill it up with rice.

3

Task 3

They should tap the bottle a few times to settle the rice.

When the pupils try to grab the chopstick, it sticks and the whole bottle is lifted up.

The pupils find out that the friction of the rice gets the chopstick stuck, and you can lift the whole bottle just holding the end of the chopstick.

Friction is the force that opposes the movement of one substance against another.

4

Task 4

When the pupils try pulling the stick out evenly or with a sudden pull, they can witness how the force and counterforce work.

5

Task 5

Next task is for faster pupils.

The friction is an important part of the spaceship design, since even the slightest air resistance can heat the ship enormously when entering or leaving a celestial body with an atmosphere.

The pupils can see that in a very concrete way in a Nasa documentary art

[LINK 1](#)

They can compare the Nasa spaceship design with spaceship fantasy design and predict where the different shape ships would survive if they took into consideration the friction of air resistance.

[LINK 2](#)

Relevant Pinterest images

[LINK 3](#)

Step 3 - Consolidation Stage



The pupils are encouraged to describe five situations in everyday life where they can experience friction.

This can also be organized as a competition: everyone takes turns telling one idea, and they get a point for each new insight. Those who collect five points are applauded.

End of the activity

EXIT