THE STRIVING

MUSLIM ACADEMY

Islamic and Academic Education

STAGE 5 · SCIENCE · FORCES

Forces

Everything the questions ask about is taught on the page before them, so nobody has to know the science beforehand.

WHAT IS INSIDE

- Gravity
- Forces that slow things down
- Making a small force do more
- Try it yourself
- How each one is worked

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3 topics · something to do at the end

Written for a parent teaching at home. No training assumed, and nothing else to buy.

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Making a small force do more

Read this first. Then answer the questions underneath.



Some machines let a small force have a large effect. There are three simple ones.

A lever is a bar that turns on a fixed point. Push the long end a long way with a small force and the short end moves a little with a large one. A spade and a pair of scissors are levers.

A pulley is a wheel with a rope over it. It changes the direction you pull in, and with more than one wheel it reduces the force needed.

Gears are toothed wheels that turn each other. A small wheel driving a large one turns it slowly with more force.

None of them gives you something for nothing. You use a smaller force over a longer distance.

1. What is a lever?

The passage defines it.

2. Name two levers.

Two are given.

3. What is a pulley?

The passage defines it.

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Quick check



One right answer each, and every answer is somewhere in this pack. Ring the letter.

1. **Gravity What does gravity act between?**
   (A) Anything moving through air (B) A wheel with a rope over it (C) The Earth and the object (D) A bar that turns on a fixed point

2. **Making a small force do more What are gears?**
   (A) Toothed wheels that turn each other (B) A bar that turns on a fixed point (C) Gravity (D) A spade and a pair of scissors

3. **Gravity What force pulls things towards the Earth?**
   (A) Because of the air (B) Gravity (C) A bar that turns on a fixed point (D) The Earth and the object

4. **Making a small force do more What is a lever?**
   (A) A bar that turns on a fixed point (B) The Earth and the object (C) Toothed wheels that turn each other (D) Anything moving through air

5. **Forces that slow things down What does air resistance act on?**
   (A) Anything moving through air (B) Because of the air (C) A bar that turns on a fixed point (D) Gravity

6. **Gravity Why does a feather fall slowly?**
   (A) Because of the air (B) A bar that turns on a fixed point (C) A wheel with a rope over it (D) Anything moving through air

7. **Making a small force do more Name two levers.**
   (A) A wheel with a rope over it (B) Toothed wheels that turn each other (C) Friction (D) A spade and a pair of scissors

8. **Forces that slow things down What acts between two solid surfaces rubbing together?**
   (A) Because of the air (B) Friction (C) A spade and a pair of scissors (D) Gravity

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How each one is worked

The answers to the **work it out** questions are model answers. A child who says something different and can show you where on the page it came from has done the work.



GRAVITY

1. What force pulls things towards the Earth?

1. The passage says the force pulling it is gravity.
2. So the answer is **gravity**.

Answer: **Gravity**

2. What does gravity act between?

1. The passage says gravity acts between the Earth and the object.
2. So that is the answer.

Answer: **The Earth and the object**

3. Why does a feather fall slowly?

1. The passage says a feather falls slowly because of the air, not because it is light.
2. So that is the answer.

Answer: **Because of the air**

4. WORK IT OUT **Two balls, one heavy and one light, are dropped together. What happens?**

1. The passage says a heavy object and a light one fall at the same rate if nothing else gets in the way.
2. Weight does not change how fast something falls.

Answer: **They fall at the same rate if nothing else gets in the way**

FORCES THAT SLOW THINGS DOWN

1. What acts between two solid surfaces rubbing together?

1. The passage says friction acts between two solid surfaces rubbing together.
2. So the answer is **friction**.

Answer: **Friction**

2. What does air resistance act on?

1. The passage says air resistance acts on anything moving through air.
2. So that is the answer.

Answer: **Anything moving through air**

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SAMPLE PAGES

You have read a few pages. The pack is longer.

What you are holding is a short sample, taken from different parts of the pack so that you can see how a week is planned and what a child is actually asked to do, before you decide.

The complete pack, and the rest of the academic materials, are on our website: schemes of work for a parent teaching at home, and practice packs for the skills children get stuck on.

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Islamic and Academic Education

Members of the homeschool community do not buy these. If you have joined the community, the pack for the term you are working on is given to you at no cost.

Our Islamic Education classes are free. These packs are part of what pays the teachers who teach them.