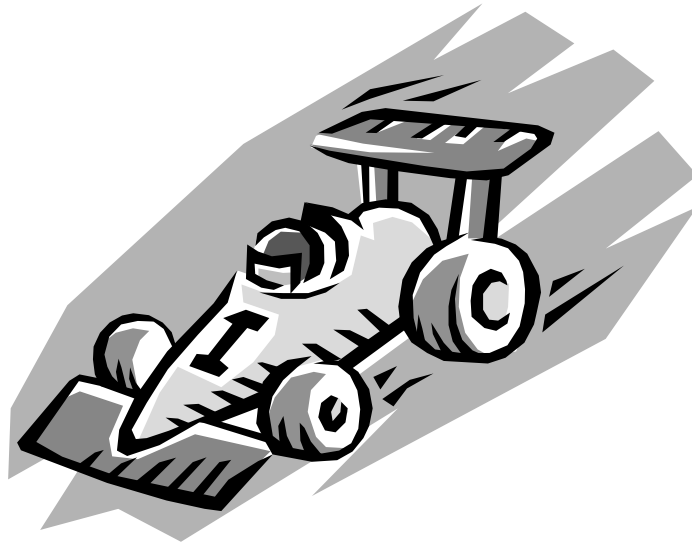


The Great Down the Slope Car Race.

Group Work Booklets



This booklet belongs to
racing team (choose your team name).

Driver

Driver

Driver

Driver

(Please write your FULL names)

Group worksheet 3a: Moving the car.

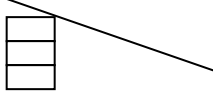
HOW CAN YOU USE GRAVITY TO WIN THE GREAT DOWN THE SLOPE CAR RACE?

You will need:

A slope

Bricks

A toy car



1.

- Set the slope up flat like this.

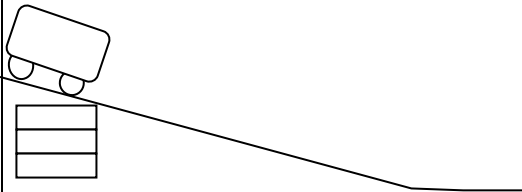


- Put the car at one end of it and let it go. (DO NOT PUSH IT.)

What happens?

2.

- Set the slope up like this.

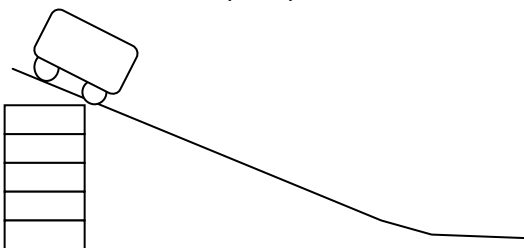


- Put the car at the top let it go. (DO NOT PUSH IT.)

What happens?

3.

- Set the slope up like this.



- Put the car at the top and let it go. (DO NOT PUSH IT.)

What happens?

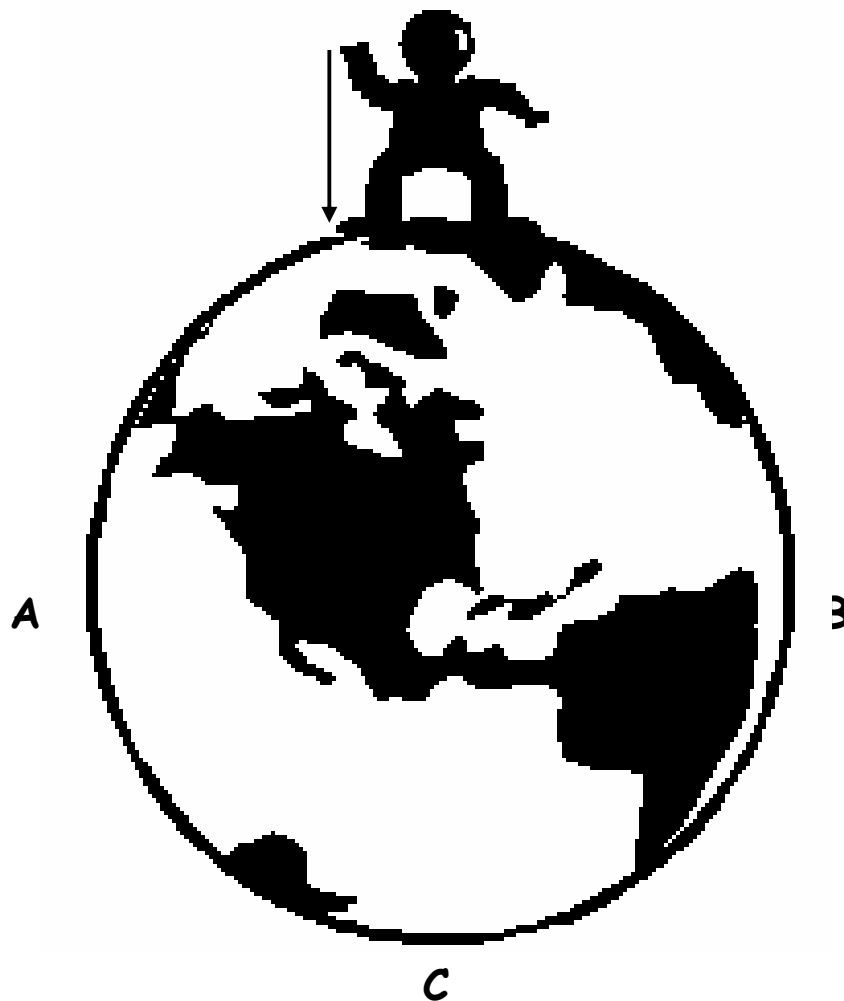
Did the car move FURTHEST on slope 1, 2 or 3?

Use the word gravity to explain why.

Group work sheet 3b) GRAVITY ON EARTH

Here is a picture of a huge man standing on the top of the planet Earth and dropping a stone. The arrow shows the direction that the stone fell.

In your group discuss the direction of the pull of gravity at points A, B and C and draw a similar huge figure dropping a stone at each point. Draw arrows next to the figures to showing the direction that their stones fall.

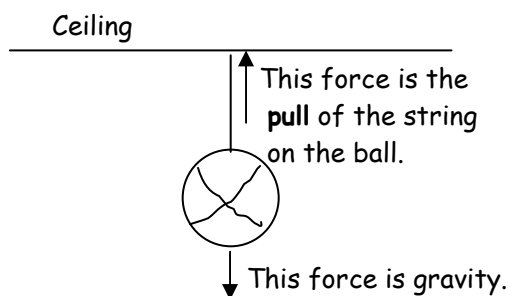


Think about and discuss this question. If everything falls down, why don't people fall off the side or bottom of the Earth?

Group worksheet 3c) OPPOSING MOVEMENT CAUSED BY GRAVITY

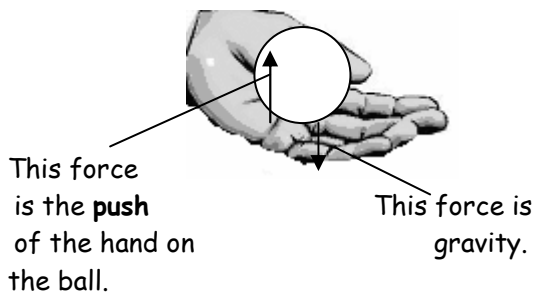
- One of the arrows shows **GRAVITY** which is trying to pull the ball downwards.
- The other arrow shows another force.
- For each picture explain why the ball is not falling.

1. This ball is tied to some string hanging from the ceiling. **The ball is not falling.**



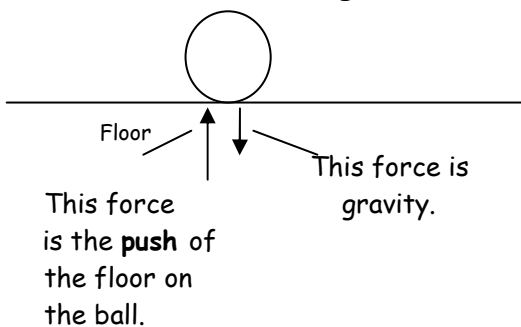
Why isn't the ball falling?

2. The ball is not falling.



Why isn't the ball falling?

3. The ball is not falling.



Why isn't the ball falling?

Group worksheet 5: Slowing the car down 1

A fair test: Investigating how FRICTION changes distance travelled by a car.



YOUR PREDICTIONS

The surface made of will let the car move **FURTHEST** because

.....

.....

.....

The surface made of will make the car move the **SHORTEST DISTANCE** because

.....

.....

.....

THINKING ABOUT THE RESULTS OF THE TEST.

What happened in the test?

.....

.....

.....

.....

Why do you think this happened?

.....

.....

.....

.....

(Use the word **FRICTION** in your answer)

Group worksheet 6a: Slowing down a falling object.

Your group dropped a PLASTICINE ball and COTTON WOOL ball. The balls were the same size.

What happened?

.....

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.....

Your group dropped a ROLLED UP COTTON WOOL BALL and a FLUFFED UP COTTON WOOL BALL.

What happened?

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What made one object fall more slowly than the other?

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.....

.....

Group worksheet 6b: The Parachute Test



- What happened when the parachutes were dropped?
- Why did this happen?
- In the pictures above, what are the 2 forces shown by the arrows for each parachute?