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Questions

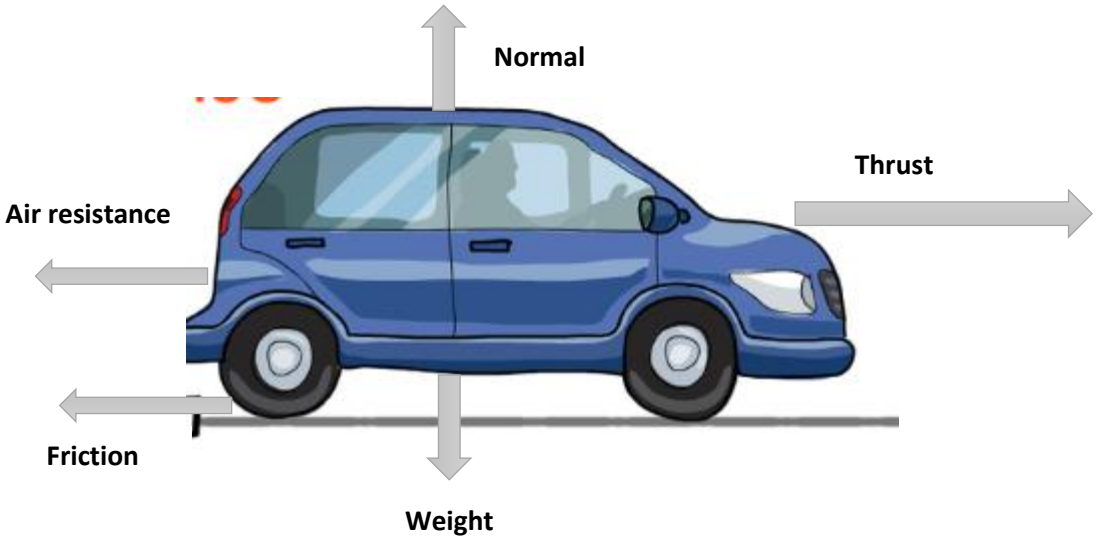
1. **a.** Name three contact forces.
   b. Name three non-contact forces.
2. A magnet can exert a force of attraction or a force of repulsion on another magnet. Write down which of these forces is a push and which is a pull.
3. A car is travelling along a road. List three of the forces acting on it.
4. Explain why people on the other side of the Earth don't fall off.

Q1: a) Friction force / Air resistance force / Upthrust.

b) Gravitational force / Electrostatic force / Magnetic force.

Q2: A magnet can exert a force of **attraction = a pull** or a force of **repulsion on another magnet= a push**.

Q3:



Q4: Gravitational force acts on all objects and is directed towards the centre of the Earth.

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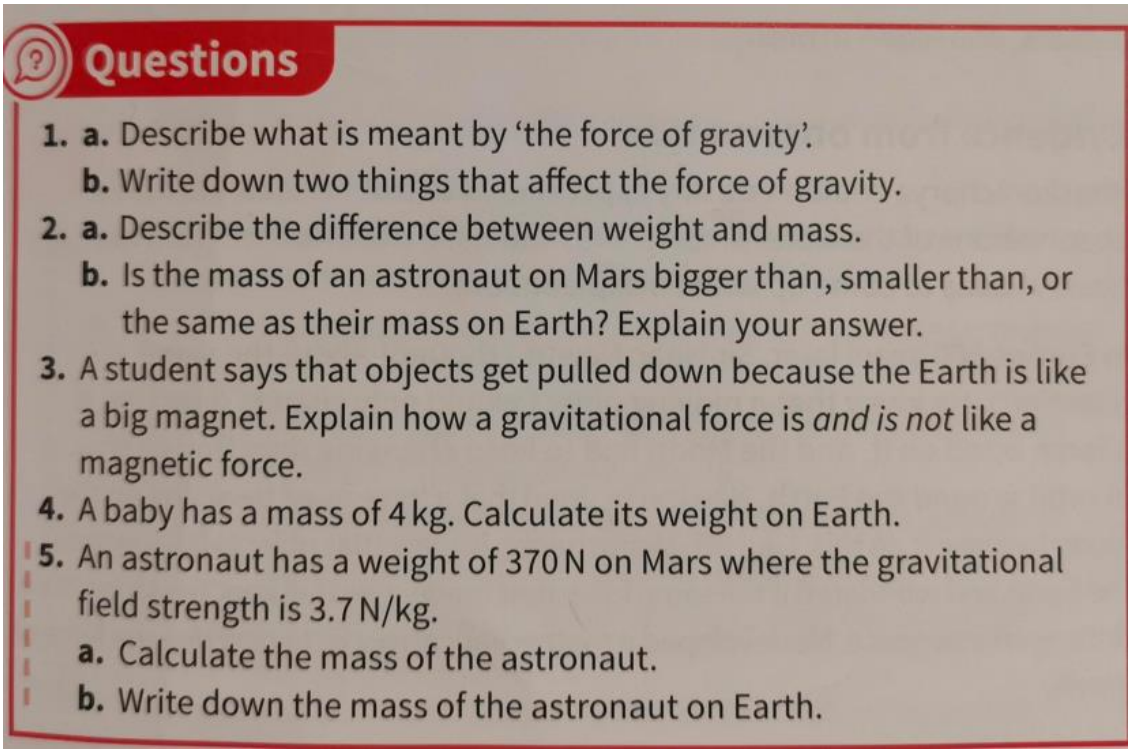

Questions

1. **a.** Describe what is meant by 'the force of gravity'.
   b. Write down two things that affect the force of gravity.
2. **a.** Describe the difference between weight and mass.
   b. Is the mass of an astronaut on Mars bigger than, smaller than, or the same as their mass on Earth? Explain your answer.
3. A student says that objects get pulled down because the Earth is like a big magnet. Explain how a gravitational force is *and is not* like a magnetic force.
4. A baby has a mass of 4 kg. Calculate its weight on Earth.
5. An astronaut has a weight of 370 N on Mars where the gravitational field strength is 3.7 N/kg.
   a. Calculate the mass of the astronaut.
   b. Write down the mass of the astronaut on Earth.

Q1: a) A force of attraction between objects with mass.

b) The mass of the objects, the distance between them.

Q2: a) Weight is a force. It is the force of the Earth on an object.
Mass is the amount of matter in an object.

b) The same; your mass doesn't change, but your weight does.

Q3: The gravitational force and the magnetic force are both non-contact forces / the magnet attracts only magnetic materials but gravity pulls all objects.

Q4: a) Weight = mass X gravitational field strength

= 4 Kg X 10 N /kg

= 40 N

Q5: Weight = mass X gravitational field strength

a) 370 N = mass X 3.7 N/kg

$\frac{370}{3.7}$ = mass

=100 kg

b) 100 kg **c)(Extra)** Weight on Earth = mass X 10 = 100 Kg X 10 N/Kg = 1000 N