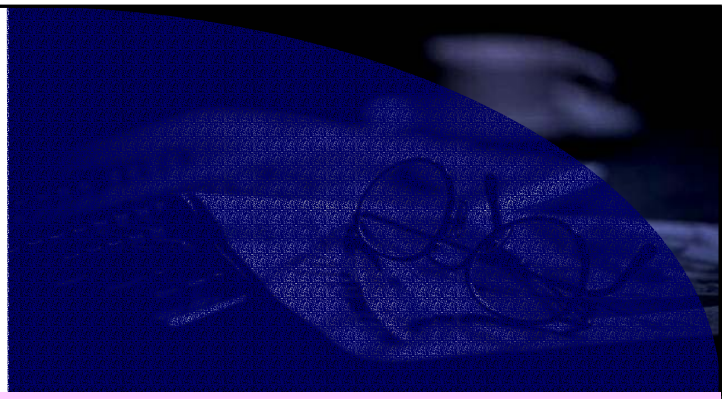
assessment for learning

year 7...mark scheme



Science Interactive LTD. PO BOX 50764 LONDON NW6 9AT web: www: science-interactive.co.uk

7K Forces and their effects...mark scheme

Assessment for learning...year 7 (level 3-6)

Question 1:

(a) A D E 3

letters may be written in any order
if more than three letters are given deduct one mark for each incorrect letter; minimum mark zero

(b) (i) gravity **or** weight 1

(ii) air resistance **or** drag 1

*accept 'friction' **or** 'wind resistance'*
*do **not** accept 'wind' **or** 'upthrust'*

(c) the bright flash of light was seen first 1

if more than one box is ticked award no mark

light travels faster than sound 1

accept 'the sound takes longer to reach you'
***or** 'light travels faster'*
*do **not** accept 'the sound takes time to reach you'*
***or** 'light travels fast'*

[7]

Question 2:

(a) **one mark is for moving a magnet so that one end of magnet A is close to one end of magnet B** 1

a second mark is for concluding, from the attraction or repulsion, which pole of magnet B is next to the known pole of magnet A 1

the third mark is for deducing or showing which pole is at the other end of B 1

either

- bring one end of B next to the S pole of A
- if it attracts it is the N pole or unlike poles attract
- so the other end is the S pole **or** will be repelled by the S pole of A

accept a similar line of argument in which the end of B is brought next to the north pole of A

or

- bring one end of B next to the S pole of A
- if it repels it is the S pole or like poles repel
- so the other end is the N pole **or** will be attracted by the S pole of A

accept a similar line of argument in which the end of B is brought next to the north pole of A

or

- put the magnets side by side
- if they repel or skid along each other, the N poles are next to each other
- and the S poles are next to each other

accept a similar line of argument in which the two magnets attract

*accept for **two** marks 'hang A on a thread: North is where the N pole of A points. Hang B on a thread; the end pointing North is the N pole. The other end is the S pole'*

(b) any **one** from 1

- away from the wall
- to the left
- backwards

(c) slow it down **or** reduce it **or** make it less 1

accept 'it will stop it'

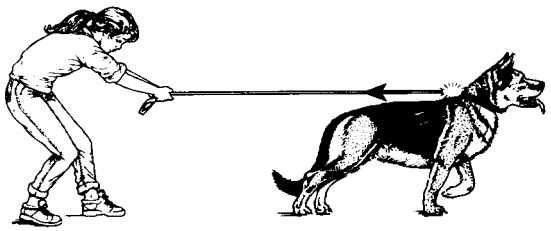
[5]

Question 3:

(a) B 1

(b) D 1

(c) (i) 1



one mark for the arrow pointing to the left the arrow may be anywhere on the diagram

accept 'D' on the diagram

accept arrows pointing diagonally downwards and to the left

*do **not** accept arrows pointing vertically downwards*

(ii) **answers should refer to a force pulling or the effect of pulling**

any **one** from 1

- because Megan is pulling it
- because there is a force on it
- because the force is unbalanced
- force D is still acting

accept 'because it was stretched' **or** *'because the dog isn't pulling it any more'*

*accept answers referring to gravity, weight or falling **only** if the arrow in (c) (i) points diagonally or vertically downwards*

*do **not** accept 'it is not attached to the dog any more'*

[4]

Question 4:

(a) (i) any **one** from 1

- when the weight increases, the number of masses increases

accept 'they increase together' ***or*** *'they decrease together'*

- the number of masses goes down if the weight goes down
- the number of masses increases with weight

(ii) 12 1

(b) (i) she would need fewer masses 1

accept 'it would slide more easily'
*do **not** accept 'less friction'*

(ii) put oil or water on the glass 1

accept a named lubricant for oil
accept 'lubricate the surfaces'
accept 'polish the block of wood'
*accept 'put the block of wood on rollers **or** ball bearings' **or** on any objects used as rollers*
*do **not** accept 'tilt the glass'*

[4]

Question 5:

(a) (i) an arrow pointing towards the right 1

(ii) label line touching or leading towards the ball and socket hinge 1

accept P without a line if written alongside the pivot not more than 1 cm from it

(b) 

1

***both** poles, N and S, of the magnet must be labelled for the mark*

(c) any **one** from 1

- grease
- oil
- lubricant

[4]