FSCE Science - Friday Freebie by Success Index

Please note the necessity to have strong English and maths skills to access these questions.

Space has been left after each question set to allow you to try and make your own questions in the same style.

SECTION 1: Science - 10 Questions (*Suggested time: 12–15 minutes)*

Instructions:

Read each investigation carefully.

Use the information and tables to answer the questions.

Choose one answer (A, B, C or D) for each question.

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Investigation 1: How temperature affects dissolving

Felix investigates how water temperature affects the time taken for a sugar cube to dissolve. She uses 200 ml of water and one sugar cube each time, and stirs at the same speed. She records the average time taken.

Water temperature (°C)	10	20	40	60
Time to dissolve (seconds)	120	90	50	30

1) How much shorter is the dissolving time at 40 °C than at 10 °C?

A 50 seconds

B 70 seconds

C 80 seconds

D 170 seconds

2) Between which pair of temperatures is the decrease in dissolving time greatest?

A 10 °C and 20 °C

B 20 °C and 40 °C

C 40 °C and 60 °C

D The decrease is the same each time

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Investigation 2: Which surface creates the most friction?

Noah pulls the same toy car across four different surfaces using a force meter. He releases the car from the same starting point and measures the force needed to keep it moving at a steady speed.

Surface	Wood	Carpet	Sandpaper	Tile
Force (N)	1.2	2.8	3.5	0.8

3) Which surface creates the greatest friction?

A Wood
B Carpet
C Sandpaper
D Tile

4) How much greater is the force on carpet than on tile?

A 1.0 N
B 1.6 N
C 2.0 N
D 3.6 N

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Investigation 3: Plant growth and light

Coco places identical bean plants in different amounts of light. Each plant receives the same amount of water and is kept at the same temperature. After two weeks, she measures their average height.

Hours of light each day	2	4	6	8
Average height (cm)	5	8	12	13

5) Between which two light levels did the plants show the greatest increase in height?

A 2 and 4 hours
B 4 and 6 hours
C 6 and 8 hours
D The increase was equal

6) What is the best conclusion from these results?

A More light always makes plants grow taller at the same rate
B Plant height decreased as light increased
C Growth increased, but the increase became smaller at higher light levels
D Light had no effect on plant growth

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Investigation 4: Cooling water

Oliver pours hot water into identical cups and measures its temperature every five minutes. The cups are placed in the same room.

Time (minutes)	0	5	10	15
Water temperature (°C)	80	65	54	46

7) By how many degrees did the water temperature fall in the first 10 minutes?

A 11 °C
B 20 °C
C 26 °C
D 34 °C

8) During which five-minute period did the water cool the most?

A 0–5 minutes
B 5–10 minutes
C 10–15 minutes
D It cooled by the same amount each time

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Investigation 5: Testing absorbency

Sylvie pours 20 ml of water onto equal-sized pieces of four materials. After one minute, she measures how much water each material has absorbed.

Material	Cotton	Paper towel	Plastic	Wool
Water absorbed (ml)	12	16	0	14

9) Which material absorbed the greatest amount of water?

A Cotton
B Paper towel
C Plastic
D Wool

10) How much more water did wool absorb than cotton?

A 2 ml
B 4 ml
C 12 ml
D 14 ml

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