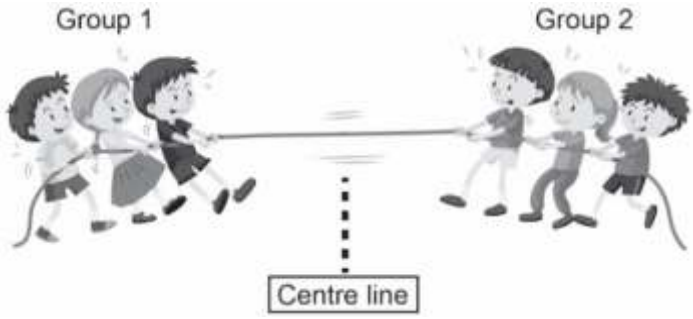
Curriculum Aligned Competency Based Test Items
Science
Class 8 – Chapter 11
Force and Pressure

SAS21S081101

1 What type of force is involved in each of the given conditions?
Put a tick mark (✔) for the response in terms of **push** or **pull**.

Condition	Push	Pull
Hitting a ball with a bat.		
Sucking milk shake with a plastic straw.		
Lifting a school bag from a desk.		

Two groups of students are playing tug-of-war.



SAS21S081102

2 Choose the correct direction of force applied by Group 1 and Group 2.

A. 

B. 

C. 

D. 

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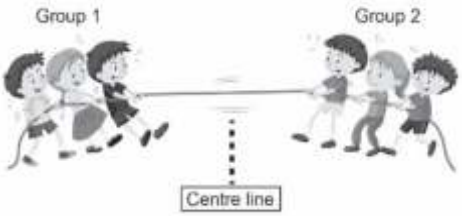
3 Group 1 is pulling with 250 N force and Group 2 is pulling with 300 N force.
What would be the likely position of the two groups after a minute of pulling?

A.

B.

C.

D.



Four students wanted to find out who could kick a football the strongest.
Each student kicked the football.

The table shows the distance the football travelled in air before hitting the ground.

	Student 1	Student 2	Student 3	Student 4
Distance the ball travelled in air before hitting the ground	10 m	12 m	8 m	14 m

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4 Which student kicked the ball with the greatest force?

A. Student 1
B. Student 2
C. Student 3
D. Student 4

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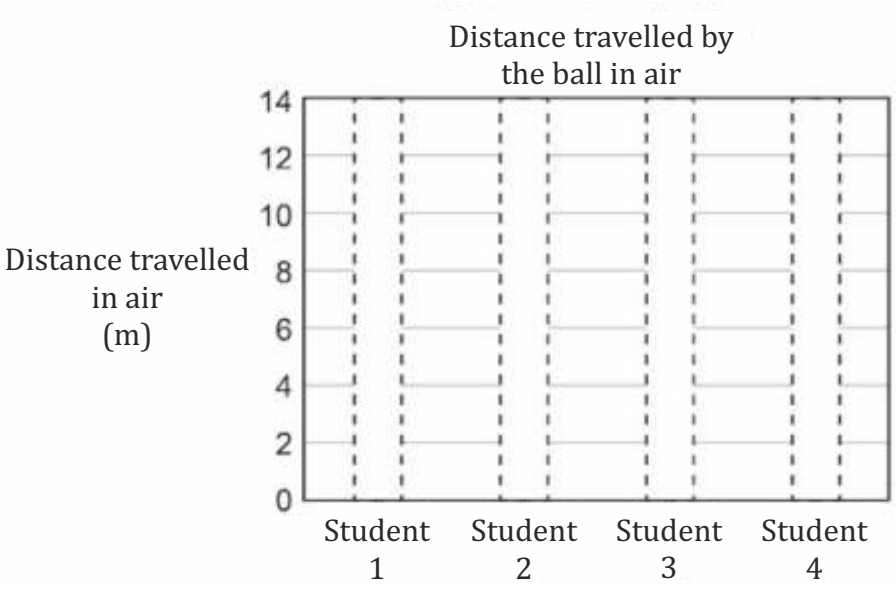
5 Shade the columns in the graph to correctly show the data in the table.



SAS21S081106

6 Which of these factors must remain the same when each student kicks the football?
Circle 'Yes' or 'No' for the correct response.

Factor that must remain the same	Yes or No
Type of ground surface	Yes/No
Direction and speed of the wind	Yes/No
Size of the shoe worn by the student	Yes/No

Mark fills a bottle completely with water.
The bottle has three same sized plugged holes on its wall.
Mark pulls out the plugs and checks the position of the stream of water coming out.

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7 What does Mark's activity show?

A. Liquids exert pressure.
B. Liquids contract on cooling.
C. Liquids cannot be compressed.
D. Liquids have no definite shape.

SAS21S081108

8 Which of these is an example of a contact force?

A. A guava falling from the tree.
B. A magnet attracting a hanging iron nail.
C. A plastic comb attracting small pieces of hair.
D. A boat moving on water by the action of wind on its sail.

SAS21S081109

9 Which of these is true for force?
Circle 'Yes' or 'No' for the correct response.

Is this Correct?	Yes or No
A force can change the state of motion of an object.	Yes/No
A force can change the shape of an object.	Yes/No
A force can act between two solid objects only.	Yes/No

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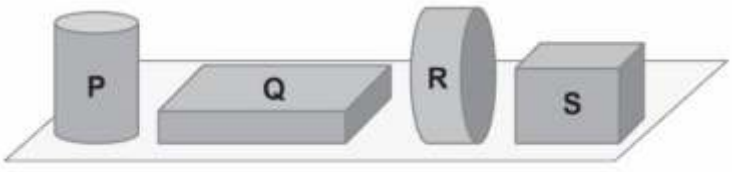
10



P, Q, R and S are four solid objects having the same mass.
Which object is exerting the least pressure on the table?

A. P
B. Q
C. R
D. S

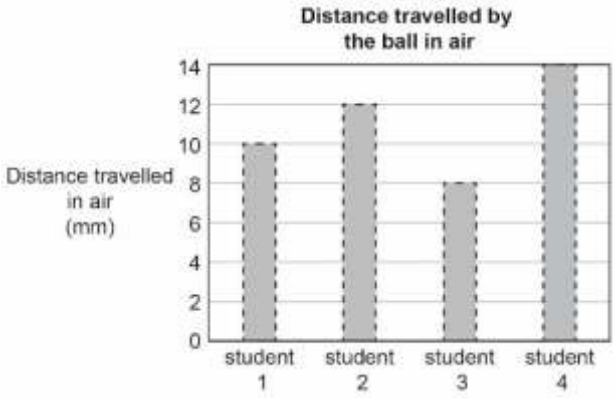
Answers

Item Number	Question 1
Question Code	SAS21S081101
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Force - A Push or a Pull
Competency	Explaining Phenomena Scientifically
Item Type	Complex Multiple Choice Question
Full Credit (Full Score)	Push Pull Pull
No Credit (No Score)	Any other response or missing response

Item Number	Question 2
Question Code	SAS21S081102
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Exploring Forces
Competency	Explaining Phenomena Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. Image
No Credit (No Score)	Any other response or missing response

Item Number	Question 3
Question Code	SAS21S081103
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Exploring Forces
Competency	Interpreting Data & Evidence Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. Image
No Credit (No Score)	Any other response or missing response

Item Number	Question 4
Question Code	SAS21S081104
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Exploring Forces
Competency	Interpreting Data & Evidence Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. Student 4
No Credit (No Score)	Any other response or missing response

Item Number	Question 5
Question Code	SAS21S081105
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Exploring forces
Competency	Interpreting Data & Evidence Scientifically
Item Type	Constructed Response
Full Credit (Full Score)	Shades the columns as shown below. 
No Credit (No Score)	Any other response or missing response

Item Number	Question 6
Question Code	SAS21S081106
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Contact Forces
Competency	Evaluating & Designing Scientific Enquiry
Item Type	Complex Multiple Choice Question
Full Credit (Full Score)	No Yes No
No Credit (No Score)	Any other response or missing response

Item Number	Question 7
Question Code	SAS21S081107
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Pressure Exerted by Liquids
Competency	Interpreting Data & Evidence Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. Liquids exert pressure
No Credit (No Score)	Any other response or missing response

Item Number	Question 8
Question Code	SAS21S081108
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Contact Forces
Competency	Explaining Phenomena Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. A boat moving on water by the action of wind on its sail.
No Credit (No Score)	Any other response or missing response

Item Number	Question 9
Question Code	SAS21S081109
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Force Acting on Objects
Competency	Explaining Phenomena Scientifically
Item Type	Complex Multiple Choice Question
Full Credit (Full Score)	Yes Yes No
No Credit (No Score)	Any other response or missing response

Item Number	Question 10
Question Code	SAS21S081110
Grade & Unit Name	Grade 8 | Force and Pressure
Concept | Sub-concept	Physical Sciences | Pressure
Competency	Interpreting Data & Evidence Scientifically
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. Q
No Credit (No Score)	Any other response or missing response