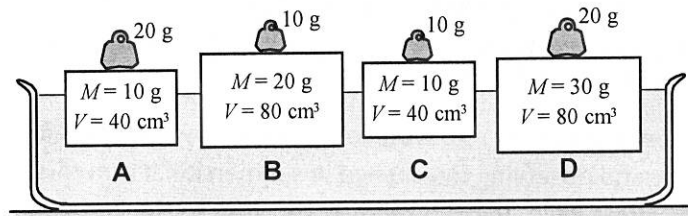


Post Activity Problems:

1. Wood blocks that have different masses and different volumes are floating in water. On top of these blocks are additional masses as shown.

All floating  
 $F_b = F_g$

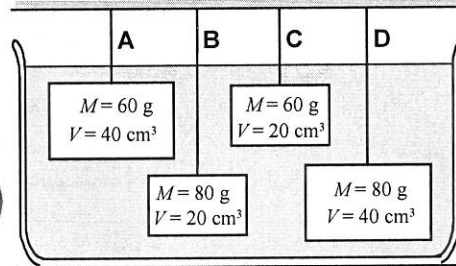


Rank the buoyant force exerted by the water on the wood blocks.

D	A = B	C	OR			
1	2	3	4	All the same	All zero	Cannot determine
Greatest			Least			

2. Four blocks are suspended from strings in water. Cubes A and C are at the same depth, as are B and D.

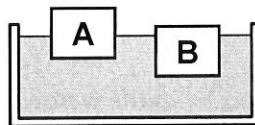
$F_T + F_b = F_g$   
 $F_T = F_g - F_b$   
 $= mg - \rho V g = g(m - \rho V)$



Rank the tensions in the strings.

B	C = D	A	OR			
1	2	3	4	All the same	All zero	Cannot determine
Greatest			Least			

3. Two cubes with identical dimensions are floating in water at different levels.



- (i) Is the buoyant force on block A (a) greater than, (b) less than, or (c) equal to the buoyant force on block B?

Explain.

- (ii) Is the weight of block A (a) greater than, (b) less than, or (c) equal to the weight of block B?

Explain.

- (iii) Is the pressure exerted on the bottom surface of block A (a) greater than, (b) less than, or (c) equal to the pressure on the bottom surface of block B?

Explain.

- (iv) Is the density of block A (a) greater than, (b) less than, or (c) equal to the density of block B?

Explain.