



## ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

• **Subject : Physics** Answers of Worksheet-9 **Class IX**

• **Date 9.06.2020**

• **Chapter : Heat**

• **Answer the following questions (MCQ) : (1×15)**

• Question 1

Q. How many Joules of energy are required to change 10 gram of ice at  $-2^{\circ}\text{C}$  to water at  $20^{\circ}\text{C}$ ?

answer choices

440 J

880 J

3,840 J

66,000 J

Answer 3840J

• Question 2

Q. How many Joules of energy are required to change 10 gram of water from  $20^{\circ}\text{C}$  to  $90^{\circ}\text{C}$ ?

answer choices

1400 J

2800 J

210,000 J

1,400,000 J

Answer 2800J

• Question 3

Q. How many Joules of energy are required to make 100 grams of ice at  $0^{\circ}\text{C}$  completely melt?

answer choices

200 J

400 J

30,000 J

2,000,000 J

Answer 30,000 J

Question 4

Q. The symbol for specific heat is .....

answer choices

c

Q

m

t

Answer c

- Question 5  
Q. If 200 grams of water is to be heated from 24.0 °C to 100.0 °C to make a cup of tea, what is the mass and what is the change in temperature?

answer choices

m=200g

$\Delta\theta = 66$

m=200g

$\Delta\theta = 124$

m=200

$\Delta\theta = 100$

m=200g

$\Delta\theta = 76$

Answer m=200g

$\Delta\theta = 76$

Question 6

Q. What is the formula to calculate heat energy required to raise the temperature of any substance?

answer choices

$Q = mc\Delta\theta$

$Q = mc$

$Q = \frac{1}{2}mv$

$m = QC$

Answer  $Q = mc\Delta\theta$

- Question 7  
Q. 20 g of water. specific heat of water is  $4.18 \text{ J g}^{-1} \text{ }^\circ\text{C}^{-1}$ . temperature changes from 25 °C to 20 °C, how much heat energy (Q) moves from the water to the surroundings?

answer choices

418 Joules

209 J

83 J

4.18 J

Answer 418 Joules

Question 8

Q. Specific heat of water is  $4.18 \text{ J g}^{-1} \text{ }^\circ\text{C}^{-1}$ . Specific heat of wood is  $1.760 \text{ J g}^{-1} \text{ }^\circ\text{C}^{-1}$  What material needs more heat energy to raise the temperature?

answer choices

Water

Wood

Both are same

Answer water

- Question 9  
Q. Water molecules have the greatest kinetic energy in

answer choices

Ice at 0 °C.

Water at 373 K.

Water at 98 °C

Steam at 150 °C.

Answer Steam at 150 °C.

Question 10

Q. The unit Joules is for \_\_\_\_\_

answer choices

heat energy

temperature

specific heat

Answer heat energy

Question 11

Q. Does everything have Specific Heat?

answer choices

I give up!

no

yes

Answer yes

- Question 12

Q. A high specific heat means...

answer choices

It heats up quickly with energy added

It requires more energy to change temperature

Answer It requires more energy to change temperature

Question 13

Q. What is Specific Heat?

answer choices

The amount of thermal energy required to increase the temperature of 1kg of a material by 1°C.

The amount of radiant energy required to increase the temperature of 1kg of a material by 1°C

The amount of energy required to increase the temperature of 1kg of a material by 1°C.

The amount of friction required to increase the temperature of 1kg of a material by 1°C.

Answer The amount of radiant energy required to increase the temperature of 1kg of a material by 1°C

Question 14

Q. For a skillet, used for cooking, do you want a high or low specific heat

answer choices

High, so that it will need more energy to heat up

Low, so that it will change temperature quickly

Answer Low, so that it will change temperature quickly

Question 15

Q. Compared to metal, water seems to have a \_\_\_\_\_ specific heat.

answer choices

High, it takes a lot of energy to heat up and change temperature

Low, because it does not require a lot of energy to change temperature

Answer High, it takes a lot of energy to heat up and change temperature

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