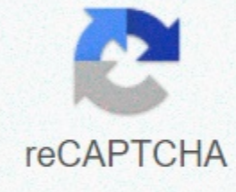




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Q=mc t units

Hello, stupid question, but what are the units for each of these things? $q = kj?$ $m = g$ or $kg?$ $c = J/Kg$ (small -1's after the K and g) $\Delta T =$ Kelvin or degrees? More accurate : has units of joules . The basic unit of mass is the kilogram - 1 gram is 10^{-3} kg and you have to stick to it. Units of would kelvins clear. To make a consistent comparison where the units on both sides should match you would need c to units of - you got the units of Q wrong to begin with. M is in kg. ΔT is in Kelvin. c is in some really long crap that I can't be bothered to look up at the mo' c is the specific heat capacity of the liquid also often you have to convert that formula into ΔH , which in case gives you kJ/mol^{-1} and note: ΔT can be in degrees, the change will be exactly the same Big, thanks guys! But, in demand, it says that the specific heat capacity of water is 4.18 JK⁻¹g⁻¹ In a situation like this, do I use the mass in g instead of in Kg? mass should always be in grams so it'd what $\times 10^3$ for heat capacity, insert the number (Original post by trance addict) mass should always be in grams so that it'd be what $\times 10^3$ for the heat capacity, just stick the number in for the question I posted above, or for everything? sorry only for that question above it'd be mass $\times 10^3$ because you put the amount in KG sorry in this thread just a quick question I have multiple questions and answers from my teacher where no one are converted into Kelvins-these are for comments where neutralization any guess why? (Original post by trance addict) sorry only for that question above it'd be mass $\times 10^3$ because you got the amount in KG gotcha. so actually I use what mass type is specified in the specific heat capacity? (Original post by Malsi101) sorry to stick in this thread just a quick question I have multiple questions and answers from my teacher where no one are converted to Kelvins-these are for comments where neutralization every guess why? because the change would be the same 20 - 30 degrees 273K to 283K still a change from 10 (Original post by BrightGirl) gotcha. so actually I use what mass type is specified in the specific heat capacity? I think you're gets confused $q = mct$ m = mass of liquid (so this would be in grams) t = change in temperature C is a specific constant of the liquid you're calculating energy for, for example for water it'd $4.2 J g^{-1} K^{-1}$, you just put the number in the formula in the exam.. in fact you do that for all 3 amounts, you just need the unit specify for the end energy transferred which will always be in joules (Original post by trance addict) I think you're gets confused $q = mct$ m mass of liquid (so this would be in grams) t = change in temperature C is a specific constant of the liquid you're calculating energy for , , for water it'd be $4.2 J g^{-1} K^{-1}$, you just put the number in the formula in the exam.. in fact you do that for all 3 amounts, you just need the unit for the end energy transferred which will always be in joules (Original post by trance addict) I think you're gets confused $q = mct$ m mass of liquid (so this would be in grams) t = change in temperature C is a specific constant of the liquid you're calculating energy for , , for water it'd be $4.2 J g^{-1} K^{-1}$, you just put the number in the formula in the exam.. in fact you do that for all 3 amounts, you just need the unit specify for the end energy transferred which will always be in joules yes I think I'm too oh ok so they don't expect me to convert anything? thanks for helping (Original post by BrightGirl) yes I think I'm too oh ok so they don't expect me to convert anything? thanks for helping c should just go straight in, t should go right in as well as g might need to be converted and then the energy is given in joules and may need to be converted depending on what they want, and np great, thank you! I'm not 100% sure if this is correct, but apparently you don't need the $q=mct$ comparison... You were meant to use c and rearrange the other songs they gave you in some way and you would get ΔT . So then you would use the $G=H - TS$ equation to work out the temperature... I got a strange answer when I used $q=mct$, but my friend told me they did what I said above and they got 63.9 or something. I don't really know if that's right, I thought I put it there (Original post by BrightGirl) Hello, stupid question, but what are the units for each of these things? $q = kj?$ $m = g$ or $kg?$ $c = J/Kg$ (small -1's after the K and g) $\Delta T =$ Kelvin or degrees? Q is in Joules or KiloJoules, depending on the units you use for C m should be in kilograms (unless your C is per gram) C is in either JKg⁻¹ or KJkg⁻¹ for T it is irrelevant if both have the same step size. So it depends on the given units for C really what you should use for the others. although one would expect c to be per gram... so m would be gram. The GOLDEN RULE is to be in compliance with the units you use. (Original post by BrightGirl) gotcha. so actually I use what mass type is specified in the specific heat capacity? Yes. Or whatever is specified in the specific heat capacity. What you really need, with the specific heat capacity, is the units for what value you get. Then make sure you work with that value, so that you reduce units to the device you want your final word in. (Original post of Champagne Supernova) m is in kg. ΔT is in Kelvin. c is in some really long crap that I can't be bothered to look up at the mo' gg fgt $Q=mc\Delta t$ is the equation for specific heat. Specific is the amount of heat per mass unit needed to increase the temperature of the substance by 1 degree Celsius. Different substances have different specific heat, because they need different amounts of energy to change the temperature by 1 degree Celsius. Q represents the added heat, c is the specific heat of the substance, m is the mass of the sample, and ΔT (delta t) is the change in temperature. This equation does not work if the substance changes states at that temperature because then energy is gained or lost by the change of state. An example of a state change is water that goes from solid to liquid form. Postby Laura Rabichow 1J » Mon 13 March 2017 21:52 In general you can sort it out based on the units of the given C. You usually want q to be in kJ or J. As Jessica said, in your example problem the C was given in kJ°C, so you would only multiply by the temperature. If your C were given in kJ/(°C·mol), you would use $q = nC\Delta T$. If your C is given in kJ/(°C·g), use $q = mC\Delta T$. Also remember to convert moles of dust into grams or vice versa if it does not match the C given! It depends on which units have the variables and to which units you need to convert to, if at all. For example, Q is usually reported in Joules or kilojoules, ΔT should be reported in Kelvins, m is usually reported in grams (sometimes moles), and I prefer C to be reported in J/g°K. That way the units on both sides of the equation are: Joules = grams* (Joules/g°K) * KEn you end up getting: Joules = JoulesIn summation, it doesn't matter which units you use, as long as they are all the same on both sides of the equation and cancel each other out. Otherwise, you'll make a mistake and get the answer incorrectly. Interestingly, I was wondering the same self Still have questions? Get your answers by asking now. C + D, when water has evaporated, the reaction? ,answerCount:0,lang:en-US},{qid:201213190252AAleBKf,title:If 100 cm of gas at STP is released at this distance from Earth, what volume would it occupy?,answerCount:0,lang:en-US}],ntk:{{title:GOP congressman-elect calls pandemic 'phony',linkUri: post/bob-good-congressman-elect-pandemic-phony-trump-rally-041251561.html,thumbnail:{altText:Bob Good, who is scheduled to represent Virginia's 5th Congressional District, praised a crowd of maskless Trump supporters during a rally in Washington, D.C., on Saturday. pro reflects on being in abusive abusive Burke. (Getty Images),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Daring thieves take consoles from moving delivery trucks,linkUri: thumbnail:{altText:A man carrying a PS5 gaming console. (Reuters),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Writer sparks backlash for calling Jill Biden 'kiddo',linkUri: thumbnail:{altText:Jill Biden. (Getty Images),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Cartoonist's widow addresses 'Charlie Brown' controversy,linkUri: thumbnail:{altText:A sequence from 'Charlie Brown Thanksgiving' sparked controversy. (Charles Schulz),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:'Squad' member presses Biden: Cancel student debt,linkUri: thumbnail:{altText:Reps. Ayanna Pressley and Alexandria Ocasio-Cortez. (AP),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Trump appoints flurry of allies as term winds down,linkUri: thumbnail:{altText:President Trump. (AP),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Fox TV host, entire family test positive for COVID-19,linkUri: thumbnail:{altText:TV host Nancy Grace and her entire family have tested positive for COVID-19. (Getty Images),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0},{title:Top health expert on Abandon 'conspiracy theories',linkUri: thumbnail:{altText:Dr. Francis Collins. (NBC News),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0}],abuEditorial:{shoppingAd:[]}}&t; (News),resolutions:{sm: B/Zmk9c3RyaW07aD04MDI3PTE3MDthcHBpZD15dGFjaHlvg-/ lg: B/Zmk9c3RyaW07aD0zODg7dz03MjA7YXBwaWQ9eXRhY2h5b24-/ },reactionCount:0}],abuEditorial:{shoppingAd:[]}}&t;