

Acids bases and ph

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Understanding pH: The Scale of Acidity and Basicity**

What is the pH between acid and base?

The pH scale measures the acidity or alkalinity of a substance. It ranges from 0 to 14, with 7 being neutral. Values below 7 indicate acidity, while values above 7 indicate basicity.

What are 3 acids and their pH?

- Hydrochloric acid (HCl): pH 0-2
- Sulfuric acid (H₂SO₄): pH 1-2
- Acetic acid (CH₃COOH): pH 2-3

Why is pH 0 to 14?

The pH scale expresses the concentration of hydrogen ions (H⁺) in a solution. A pH of 0 represents the highest concentration of H⁺ ions (most acidic), while a pH of 14 represents the lowest concentration (most basic).

Characteristics of acids and bases pH:

- **Acids:** pH < 7, react with metals to produce hydrogen gas, turn blue litmus paper red.
- **Bases:** pH > 7, react with acids to produce salts, turn red litmus paper blue.

How do you tell if a pH is acidic or basic?

Compare the pH to 7:

- pH < 7: Acidic
- pH = 7: Neutral
- pH > 7: Basic

Is pH 7 an acid or base?

Neutral

What pH is vinegar?

2-3

Is coffee an acid or base?

Acid (pH 5)

Is milk an acid or base?

Slightly acidic (pH 6.5-6.7)

Can pH be negative?

No, pH cannot be negative. It ranges from 0 to 14.

Is pH 16 possible?

No, pH cannot exceed 14.

Why is pH 7 neutral?

At pH 7, the concentration of H⁺ ions equals that of hydroxide ions (OH⁻), resulting in a neutral solution.

Is water a base or acid?

Neutral (pH 7)

Is baking soda a base?

Yes

How to identify acid or base?

- Use a pH meter
- Observe the color change of litmus paper
- Consider the reactivity with metals

Why is the pH range 0 to 14?

Because the highest concentration of H^+ ions that can exist in water is 1 mole per liter, corresponding to a pH of 0. The lowest concentration is 10^{-14} moles per liter, corresponding to a pH of 14.

What is the lowest pH possible?

0

Does alkaline mean base?

Yes, alkaline is synonymous with basic.

Is lemon juice an acid or base?

Acid (pH 2-3)

Is vinegar an acid?

Yes

What pH is the strongest base?

14

What pH is milk?

6.5-6.7

Is coffee acidic?

Yes (pH 5)

What is the pH of toothpaste?

9-11

What pH is Coca-Cola?

2.5

Is banana acidic?

No (pH 4.5-5.2)

What is the pH of blood?

7.35-7.45

What is the pH of acid and base?

Acids: < 7 , Bases: > 7

Is pH 8.5 acidic or basic?

Basic

What has a pH of 2 acid or base?

Acid

What is the pH of a strong acid or base?

Close to 0 (strong acid) or 14 (strong base)

How to understand pH?

- Lower pH means higher acidity
- Higher pH means higher basicity
- Neutral pH is 7
- Extreme pH values can be harmful

Is pH 5 a strong or weak acid?

Weak acid

How to identify acid and base?

- Use litmus paper
- Observe reactions with metals
- Measure pH

Is 5.5 pH bad?

Depends on the context. For example, a pH of 5.5 in soil is suitable for most plants.

What pH burns skin?

Very acidic or basic pH (e.g., pH < 3 or pH > 12)

Can we drink 11.5 pH water?

Not recommended for regular consumption, as it can be mildly alkaline.

What pH is vinegar?

2-3

Is coffee an acid or base?

Acid

Whose pH is zero?

Battery acid

Can pH be negative?

No

Is bleach an acid or base?

Base

What is the weakest acid pH?

14 (pure water)

What is the plot of Fallen by Lauren Kate? Fallen is the story of seventeen year old Lucinda (or Luce as she is known). She falls in love with the good-looking and highly intelligent Daniel at their reform school but soon discovers that he is a fallen angel, cursed, destined neither to ascend to Heaven nor descend to Hell.

Is the Fallen book series spicy? Parents need to know that this book is about as innocent as Twilight, focusing heavily on romance (though fallen angel romance) without much more than kissing and passionate dreams.

Who does Luce end up with Fallen? In the finale, Luce's wish was to always stay with Daniel, so she sacrificed everything as the Throne requested, lost all her memories, and was born again as an ordinary human, as it was the only solution to the end of the curse.

How do the Fallen books end? Daniel spends a few final romantic moments with Luce before putting her on a plane that will carry her to safety. He promises to get back to her as soon as he can. Gabbe and Arriane, fallen angels on Daniel's side, also say goodbye and provide supplies for Luce's trip.

What happens in Fallen? Lucinda Price is sent to a reformed school, Sword and Cross, after being blamed for the death of a boy she did not kill. While there she meets Daniel Grigori who she is immediately drawn to, but he hides a secret. Can Daniel Grigori have something to do with the shadows she has seen since she was little?

Is Fallen in Love part of the Fallen series? Fallen In Love is a novel written by Lauren Kate and was published on January 24, 2012. This book is a young adult fiction novel based on the characters from that author's most notable series, Fallen.

What age rating is Fallen by Lauren Kate?

Does the fallen series have romance? It has a few romance plots, none of which I thought was particularly interesting, but as far as fantasy romances go, they were... okay. Maybe 3-4% of the total length of the series concerns a romance plot.

Why is Fallen rated R? With themes and a love triangle reminiscent of many other page-to-screen YA films (cough, Twilight, cough), Fallen has some violence, language, and romance. The violence is both supernatural (angels fight one another while flying, fires engulf people) and realistic (a young character's throat is cut).

Hoe zeldzaam is de groene specht? Na de grote bonte specht is de groene specht de meest voorkomende specht van Nederland. Na een flinke inzinking in de jaren zeventig leven er inmiddels weer zo'n 6000 broedparen in Nederland en heeft de groene specht zelfs nieuwe gebieden gekoloniseerd.

Waar is Groenhove? Groenhove is een onontdekte groene parel in Torhout. Middenin dat groen vind je het Diocesaan Dienstenhuis, een voormalig vakantieoord voor West-Vlaamse kloosterorden uit de jaren 50.

Waar zit de groene specht? Leefgebied. Groene spechten broeden vooral in het kleinschalige cultuurlandschap met oude bomen en in de duinen, maar steeds vaker in polders in recreatiebossen, stadsparken en sportparken. In grote bosgebieden broedt hij vaak alleen langs de randen of rond kale stukken.

Waar slaapt de groene specht? Slapen waar je leeft Ze slapen vaak waar ze overdag ook zijn. Dat is op een tak verscholen tussen de bladeren, of zoals spechten, hangend aan een boomstam. Watervogels slapen meestal op het water, waar ze veilig zijn voor landroofdieren.

Wat is de zeldzaamste specht? Een spechtensoort in opmars in Nederland is de middelste bonte specht. Maar het is nog steeds de zeldzaamste in vergelijking tot de grote en kleine bonte specht. Hij is vooral in Oost- en Zuid-Nederland te zien.

Wat betekent het als je een groene specht ziet? De specht toont je dat je perfect in staat bent om je leven vorm te geven en nieuwe wegen te bewandelen, het enige wat je nodig hebt, is vertrouwen. Hij is een meester in het je te tonen hoe je een goeie basis legt in je leven. Het is nu tijd om wakker te worden, om te luisteren naar het bericht wat je gebracht wordt."

Hoe oud wordt de groene specht? Met de sneeuw kan hij niet goed foerageren en een grote afstand vliegen voor voedsel doet hij niet. En hoe oud worden ze in Nederland? De gemiddelde leeftijd ligt op 1,2 jaar. Maar een paar uitschieters

hebben een leeftijd van ruim 8 jaar bereikt.

Is de groene specht een trekvogel? De groene specht (*Picus viridis*) is een vogel uit de familie van de spechten (*Picidae*). Het is een talrijke en wijdverbreide standvogel in het grootste deel van Europa en in het uiterste westen van Azië.

Welke vogel heeft een lachend geluid? Dat is geen probleem voor onze groene specht! Deze opvallende vogel heeft een unieke roep die klinkt als een luide lach. Met dit kenmerkend gehinnik bakent het mannetje zijn territorium af. Hoor je dus tijdens je wandeling gelach uit de bomen komen, kijk dan maar eens goed of je zijn knalrode kruin kan waarnemen.

What is the flow rate over a circular weir? The flow rate over a weir can be calculated using the following equation: $Q_w = 2.3 B^2 g H^{3/2}$ where (Q_w) is the theoretical discharge over the weir [L^3/T], (B) is the effective weir length [L], (H) is the head over the weir crest [L] and (g) is the acceleration due to gravity [L/T^2].

How do you calculate flow over a weir?

What is a weir design for flow measurement? V notch weirs really are just that – a thin plate weir with a 'V' notch cut into it. The weir is placed to obstruct open channel flow and allow water to flow over the notch. This enables us to accurately measure the flow, by measuring the head upstream of the V notch.

How to calculate the height of a weir? The height is measured from the bottom of the weir opening to the top of the water level ponded behind the weir (not the water level right as it leaves the weir).

What is the average weir overflow rate? Weir loading, also known as weir overflow rate, is the number of gallons of water passing over a foot of weir per day. The standard weir overflow rate is 10,000 to 14,000 gpd/ft and should be less than 20,000 gpd/ft.

How accurate is a weir flow measurement? Under laboratory conditions, a properly installed Weir can typically achieve accuracies of +/-2 to 5%; under most field conditions accuracies within 5 to 15% may be expected.

What is the Francis equation for flow over weir? Conclusions: For a suppressed rectangular, sharp-crested weir, Equation (12) (the Francis Equation), $Q = 3.33BH^{3/2}$, may be used if $H/P < 0.33$ & $H/B < 0.33$.

What is the formula for the weir method? The Weir formula is a formula used in indirect calorimetry, relating metabolic rate to oxygen consumption and carbon dioxide production. According to original source, it says: Metabolic rate (kcal per day) = $1.440 (3.9 \text{ VO}_2 + 1.1 \text{ VCO}_2)$

What is the difference between a weir flow and an orifice flow? The difference between a large orifice and weir is that liquid flows through the orifice while it flows over the weir. The flow of liquid coming out of orifice is called jet while that comes through the weir is called 'nappe, sheet or vein'.

What are the criteria for weir design? This weir is normally constructed in concrete with an upstream face sloping at 1:2 (vertical : horizontal), and a downstream face at 1:5. The weir needs to have a sharply defined crest for accuracy of flow measurement, so this is normally formed by a steel insert in the concrete.

What is the best weir design? The V-notch or triangular weir is among the most popular thanks to its precision in low flow open channel measurement and profile for measuring CFS discharges less than 1, though it's applicable to flows up to 10 CFS. Rectangular weirs are a common alternative to triangular weirs, and they come in two different forms.

What is the weir flow theory? Theory. The depth of water above the base of a weir is related to the flow rate through it; therefore, the weir can be used as a flow measuring device. The relationships of flow over weirs can be obtained by applying the energy equation from a point well upstream of the weir to a point just above the weir crest.

How do you size a weir? The basic consideration in sizing a particular style of weir or flume is whether the device can handle the range of flows; whether the minimum / maximum expected flow rates fall within the useful range of flows that a device can measure.

What is typical weir height? It is a normal practice to design the weir length to achieve a crest height (i.e., height of liquid over the weir) of 6 to 12 mm. A reasonable design requires a weir loading of $18 \text{ m}^3/(\text{h.m})(4)$, with a minimum weir load of 2 and maximum of $60 \text{ m}^3/(\text{h.m})(5)$.

What is the equation for the flow over sharp-crested weir? Conclusions: For a suppressed rectangular, sharp-crested weir, equation (4), $Q = 3.33BH^{3/2}$, may be used if $H/P \leq 0.33$ & $H/B \leq 0.33$. For $H/P > 0.33$ or $H/B > 0.33$, the Kindsvater-Carter equation [equation (4)] should be used.

How to calculate overflow rate?

What is the weir loading rate for circular clarifier? The expected range of weir overflow rate for a primary clarifier is 10,000 to 20,000 gpd/ft. Surface loading rate is the number of gallons of wastewater passing over 1 square foot of tank per day. Plant designs generally use a surface loading rate of 300 to 1200 gpd/ft².

What is the most efficient weir? The most efficient shape for a weir is to match the curve that the water would take off of a sharp crest. This part of the flow is called the weir's nappe, and the shape that matches it is called an ogee. With ogee-crested weirs, we can get discharge coefficients as high as around 4, but that's pretty much the limit.

What is the flow over the side weir? The flow over a side weir is a typical case of spatially varied flow with decreasing discharge. The discharge over the side weir is affected by the main channel velocity. Like normal weirs, side weirs may be of different shapes (i.e., rectangular, triangular, trapezoidal etc.).

What is the weir loading rate of circular sedimentation tank? Weir loading rate (weir overflow rate) is the amount of water leaving the settling tank per linear foot of weir. The result of this calculation can be compared with manufacturer design. Normally, weir overflow rates ranging from 10,000 - 20,000 gpd/ft are used in the design of a settling tank.

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What is the flow over a crested weir? The water flowing over a broad-crested weir slows down due to friction as it follows the surface of the structure continuously. The water flows over the crest, and gravity takes over, causing the flow to turn super-critical. The flow accelerates and gets thinner and the water flows like a waterfall.

[fallen lauren kate, de groene specht groenhove, flow rate over a circular weir chemical plant design](#)

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