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Numbers and the Heights of their Happiness.

"Don't they teach recreational mathematics anymore?" the Tenth Doctor laments after having to explain that "Any number that reduces to one when you take the sum of the squares of its digits and continue iterating until it yields one is a happy number. Any number that doesn't isn't." Fear not, Doctor! This talk explores the heights of happy numbers - the number of iterations needed to reach one. We will give a criteria under which the smallest happy number of height $h+1$ necessarily maps to the smallest happy number of height h. (Received September 22, 2015)