DEVELOPING NUMBER MATRIX FOR

POWER USAGE

First attempt at coming up with a relative numbers for power usage. These numbers haven't been tested to see how they would work within the app, so we may need to change them to get a bigger impact. Although washing machine is a killer!

Assumptions:

average household electricity use works out at around 8kWh

it is broken down into:
Cold appliances 63%
Wet appliances 10%
Cooking 7%
Lighting 6%
Consumer electronics 4%

As we're mostly looking at consumer electronics that only gives us 4% of daily use to use as a basis to change people's energy use. As such, going to add big ticket items – washing machine and kettle into the mix.

If we remove cold appliances, cooking and lighting from the mix – that's 75% of the daily average , or 6 kWh – leaving 2 kWh as our focus of attention.
We will multiply the 2 kWh by 10 for ease of maths – so anything below 20 is below the average

ITEM	POWER USAGE kWh	ACTUAL RELATIVE (*10 used)	SUGGESTED RELATIVE
Washing machine	3*	30	30
Kettle	0.250 **	2.5 per use	2.5 per use
Television (lcd)	0.2	2	2
Games Console	0.2	2	2
Tablet/hand-held game	0.04	0.4	0.5***
Mobile phone	0.02	0.2	0.25***
Laptop PC	0.07	0.7	1****
Desktop PC	0.2	2	2

Source cse.org.uk
* average use = 1.5 hours so 2kWh * 1.5
** average use 5 mins to boil = 3 wWh /12
*** rounded up to include routers etc
**** averaging out for higher end laptops

EXAMPLES:

1) Hannah has 5 cups of coffee a day (2.5 x 5 = 12.5).
Plays her PS5 for 5 hours a day on the large tv (5 x 2 x 2 = 20)
Uses her phone for about 2 hours (0.25 * 2) = 0.5

TOTAL 33
Average is 20. She is above average.
We could use tips to suggest drinking more water vs coffee. Maybe play a bit more on the phone than the PS5.

2) John has 2 cups of tea per day (3 X 2.5 = 7.5)
He's coding Java for 10 hours a day on his laptop (1 X 10 = 10);
Unwinds by watching tv for an hour (1 x 2 = 2)

TOTAL 19.5
Under average – but we could tip him to maybe go for a walk, 10 hours of Java is not good for anyone!