SCENARIO
• You are out of your room 5 hours/day, 5 days/week.
• You turn off your two LED lights (desk + standing) when you leave your room. *Way to go!*

THE QUESTION
How many times could you charge a standard iPhone with the energy you saved in the above scenario?

GIVENS
• 60W equivalent LED = **12 Watts per hour**
• 60W equivalent CFL = **14 Watts per hour**
• 60W incandescent = **60 Watts per hour**
• An iPhone battery requires **5.45 Watts** for a full charge
2 bulbs x 12W = **24W savings per hour**

24W x 5 hours = **120W savings per day**

120W x 5 days = **600W savings per week**

600W / 5.45 W per iPhone charge

= **110 charges saved per week!!**

1 charge =

128 charges if your light bulbs are CFLs

551 charges if your light bulbs are incandescent 😊

Sources

http://eartheasy.com/live_led_bulbs_comparison.html
SCENARIO
You put your laptop to sleep for 2 hours/day, 7 days/week when you would otherwise have kept it on (i.e. during meals). Good work!

THE QUESTION
How many times could you charge a standard iPhone with the energy you saved in the above scenario?

GIVENS
Apple MacBook Pro 13-inch “Retina” screen laptop
= 1 Watt per hour when asleep
= 1 Watt per hour when off and plugged in
= 53 Watt per hour when on and plugged in
2 hours × (53 – 1) W = \textbf{104W savings per day}

104W × 7 days = \textbf{728W savings per week}

\[ \frac{728W}{5.45W \text{ per iPhone charge}} = \textbf{134 charges saved per week!!} \]

Sources
https://secure.www.upenn.edu/computing/resources/category/hardware/article/computer-power-usage
SCENARIO
• You do one, full load of laundry per week.
• You wash in cold (bright colors setting) water instead of hot water. Such a role model!

THE QUESTION
How many times could you charge a standard iPhone with the energy you saved in the above scenario?

GIVENS
• Front-loading laundry machine = 20 gallons water per load
• 1 gallon water = 129 Watts to heat
20 gallons x 129W = \textbf{2580W savings per minute}

\[
\frac{2580W}{5.45 W \text{ per iPhone charge}} = 473 \text{ charges saved per week!!}
\]

Sources
http://www.consumerenergycenter.org/home/appliances/washers.html
SCENARIO
You take an **11-minute hot shower** instead of a 12-minute hot shower every day of the week. **What a star.**

THE QUESTION
How many times could you charge a standard iPhone with the energy you saved in the above scenario?

GIVENS
- 1 shower = **1.5 gallons of water per minute** (with Harvard’s low-flow showerheads)
- 1 gallon water = **129 Watts** to heat
1.5 gallons x 129W = \textbf{193.5W savings per minute}
193.5W x 7 days = \textbf{1354.5W savings per week}

\[1354.5W / 5.45\text{ W per iPhone charge} = 249\text{ charges saved per week}!!\]

Sources
http://www.skidmore.edu/~jthomas/lifestyleproject/energyfacts.html