Team Number:	210
Project Name:	**VibeWater**
Team Member Names:	**Asadbek, Neel, K, Jacob**
Version:	**1**

A. List ALL major components (active devices, integrated circuits, etc.) except for p

All Major Components	**Component Name**
	Opamp
	5V regulator
	PIC Discovery Nano

B. Assign each major component above to ONE power rail below. Try to minimize th

+12V Power Rail	**Component Name**

+5V Power Rail	**Component Name**
	PIC Discovery Nano
	Opamp
c2. Regulator or Source Choice	+5V Regulator

-5V Power Rail	**Component Name**

c3. Regulator or Source Choice	-5V Regulator
+3.3V Power Rail	**Component Name**
c4. Regulator or Source Choice	+3.3V low-dropout regulator
C. For each power rail above, select a specific voltage regulator using the same pro	
D. Select a specific external power source (wall supply or battery) for your system,	
External Power Source 1	**Component Name**
Power Source 1 Selection	Plug-in Wall Supply
Power Rails Connected to External Power Source 1	+5V Regulator
External Power Source 2	**Component Name**
Power Source 2 Selection	Battery
Power Rails Connected to External Power Source 2	+5V Regulator
E. Calculate Battery Life (if applicable). For each battery, also check the worst-case	
Component Name	
Notes	

Power Budget

ower sources, voltage regulators, resistors, capacitors, or passive eleme	
Part Number	**SupplyVoltageRange**
MCP6004	+1.8 to 6V
LM7805	+5V - 35V
PIC18F577Q43	1.8-5.1v

e number of different power rails in the design.	
Part Number	**SupplyVoltageRange**

Part Number	**SupplyVoltageRange**
PIC18F577Q43	1.8-5.1v
MCP6004	(range)
LM7805	(range)

Part Number	**SupplyVoltageRange**

(full part number) (range)

Part Number	SupplyVoltageRange
KA78RM33RTF	+5V - 20V

cess as for major component selection. Confirm that the Total Remaining

and confirm that it can supply all of the regulators for all of the power rails

Part Number	SupplyVoltageRange
VI12-12-E-P5 9V 2A AC DC Pow	110VAC
LM7805	(range)

T

Part Number	SupplyVoltageRange
(full part number)	+9V
LM7805	(range)

T

e lifetime of the battery by indicating the capacity in mAh.

Part Number	SupplyVoltageRange

ents		
#	osoluteMaximumCurrent (mA	TotalCurrent(mA)
1	30	30
1	1000	1000
1	500	200
#	osoluteMaximumCurrent (mA	TotalCurrent(mA)
		0
		0
		0
	Subtotal	0
	Safety Margin	25%
	Total Current Required on +12V Rail	0
	Total Remaining Current Available on +12V Rail	0
#	osoluteMaximumCurrent (mA	TotalCurrent(mA)
1	500	500
1	30	30
		0
		0
		0
	Subtotal	530
	Safety Margin	25%
	Total Current Required on +5V Rail	662.5
1	1000	1000
	Total Remaining Current Available on +5V Rail	337.5
#	osoluteMaximumCurrent (mA	TotalCurrent(mA)
		0
		0

		0
	Subtotal	0
	Safety Margin	25%
	Total Current Required on -5V Rail	0
1	500	500
	Total Remaining Current Available on -5V Rail	500

#	ɔsoluteMaximumCurrent (mA	TotalCurrent(mA)
		0
		0
		0
	Subtotal	0
	Safety Margin	25%
	Total Current Required on +3.3V Rail	0
1	500	500
	Total Remaining Current Available on 3.3V Rail	500

ɣ Current Available on each rail above is not negative.

s simultaneously. If you need multiple power sources, list each separately below and

Output Voltage	ɔsoluteMaximumCurrent (mA	TotalCurrent(mA)
+9V	5000	5000
1	1000	1000
ɔtal Remaining Current Available on External Power Source 1		4000

Output Voltage	ɔsoluteMaximumCurrent (mA	TotalCurrent(mA)
-9V	500	500
1	1082.5	1082.5
ɔtal Remaining Current Available on External Power Source 2		-582.5

	Capacity(mAh)	equiredByRegulators
		1082.5
	Battery Life	0

Unit
mA
mA
mA

Unit
mA
mA
mA
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Unit
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d indicate which

Unit
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Unit
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s
hours