

# The Legacy Code: The Opportunity Cost

(Year 9 - Ages 14-15)

## Lesson 4 of 9

Name: \_\_\_\_\_ Class: \_\_\_\_\_

**Mission Briefing:** An Alchemist understands that energy cannot be created or destroyed; it must be managed. In economics, every choice has a cost. Your mission is to audit the "Cost of Illness" and calculate the Value of the donation "Upgrade."

### Part 1: The QALY Scale (Metric Analysis)

**Definition:** QALY (Quality Adjusted Life Year) measures the quality of health.

- 1.0 = Perfect Health.
- 0.0 = Death.

**Task:** Plot the following scenarios on the scale below (draw an arrow):

Scenario A (Waiting List): Severe heart failure. Breathless walking to the fridge. Cannot play sport. (Score: 0.4)

[ 0.0 ] ----- [ 0.5 ] ----- [ 1.0 ]

Scenario B (Post-Transplant): Healthy heart. Playing soccer. Taking daily medication. (Score: 0.9)

[ 0.0 ] ----- [ 0.5 ] ----- [ 1.0 ]

**Analysis:** The transplant didn't just keep them alive; it improved their score by +0.5. Why is the "Quality" jump just as important as the "Years" gained?

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### Part 3: The Bandwidth Graph (Visualizing Energy)

**Metaphor:** Your energy is a battery.

**Task:** Colour in the battery bars below to show how energy is spent.

- Red = Fighting Illness / Medical appointments.
- Green = Living (School, Friends, Hobbies).

**Patient Pre-Transplant:** [ RED: 80% | GREEN: 20% ] (Draw and shade)

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**Patient Post-Transplant:** [ RED: 10% | GREEN: 90% ] (Draw and shade)

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**Reflection:** When the "Red" section shrinks, what happens to the person's ability to contribute to the world (The Legacy Code)?

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## Extension: The Universal Translator

Design a symbol that means "Gift of Life" but uses NO words, so it can be understood by any culture or language.



e : [admin@donatebuddies.com.au](mailto:admin@donatebuddies.com.au)  
w: [www.donatebuddies.com.au](http://www.donatebuddies.com.au)