Supporting Information

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Table S1. Database vital statistics

Number of entries	≈4,500
Number of distinct references	≈1,000
Number of organisms	≈200
Unique visitors per day	≈150
Searches performed in BioNumbers per month	≈4,000

Table S2. Top keywords leading to BioNumbers entries from search engines based on Google analytics

Average size of a yeast gene
Protein diameter
Zebrafish GC content
Average protein size
E. coli generation time
mRNA length
Volume of water molecule
ldh kcat
Database kcat
E. coli doubling time
Guinea pig chromosome number
18 s subunit
Average mRNA length
Bionumbers *S. cerevisiae*
CHO cell diameter
Generation time *E. coli*
OD_{600} bacteria
Optical density bacteria
Osmolarity of sea water
Algae genome size
ATP produced per g dry cell WT chlorella algae
Cell dry weight
Chloroplast length
E. coli OD_{600}

Table S3. Most frequent search terms, estimation based on BioNumbers search log

Doubling time
Genome
Translation rate
Ribosome
Largest/longest gene
Cell cycle
Transcription
Replication rate *E. coli*
Glucose
Average weight of ribosome
Protein size
Nucleus
EGFP
Dissociation rate
Binding rate
Size (bacteria *E. coli*)
Dissociation
Binding
RNA polymerase
RNA polymerase copies per cell
Ribosome size
mRNA
GC content
Total RNA (budding yeast)
Acetyl CoA
Glucose
Protein synthesis rate
Mitochondria
Generation time (bacteria *Staphylococcus aureus*)

Table S4. Most frequently viewed BioNumbers properties

Rate of translation by ribosome (bacteria *E. coli*)
Cell dry weight (bacteria *E. coli*)
Minimal generation time (bacteria *E. coli*)
MW of ribosome (bacteria *E. coli*)
Median cell volume of a haploid budding yeast in glucose medium (S288c background) (budding yeast)
Absolute abundance of p53 in cell (human *Homo sapiens*)
Doubling time of cancerous cell lines (human *H. sapiens*)
Number of ribosomes/cell (bacteria *E. coli*)
Average diameter of average protein (bacteria *E. coli*)
Volume of ribosome (bacteria *E. coli*)
Diameter of ribosome (bacteria *E. coli*)
Rate of elongation reaction: Ribosome + RNAn > Ribosome·RNAn + 1 (bacteria *E. coli*)
Number of ribosomes in midlog phase growth (bacteria *Sphingomonas* sp. strain RB2256)
Concentration of glucose (amoeba *Dictyostelium discoideum*)
Number of protein types to make ribosome (bacteria *E. coli*)
Maximum ATP yield from full oxidation of one molecule of glucose (generic)
Number of rRNA types to make ribosome (bacteria *E. coli*)
Carbon dioxide solubility in water at 25 ° C (generic)
Average length of mRNA (bacteria *E. coli*)
Rule of thumb for cell volume (bacteria *E. coli*)
Average size of protein bacteria (*E. coli*)
Population doubling time, percent budded cells, and mean cell volume for different batch culture media (budding yeast *Saccharomyces cerevisiae*)
Envelope volume (bacteria *E. coli*)
Cell wet weight (bacteria *E. coli*)
Minimal generation time (bacteria *Vibrio natriegens*)
Total dissolved inorganic carbon concentration in ocean water (Biosphere)
Cell dry weight (bacteria *E. coli*)
Cell concentration for culture with OD_{600} of 0.1 (bacteria *E. coli*)
Concentration of G 6P (bacteria *E. coli*)
Average size of mRNA (bacteria *E. coli*)

Table S5. Delivering materials to build a cell

Property	Value	Reference
Doubling time under ideal conditions	≈1,000 s	BNID 100260; 17–20 min
Transporter turnover rate	≈100 $s^{\wedge -1}$ (where $\wedge$ means to the power of)	BNID 102931, 101737, 101738, 101739
Surface area of the membrane	6 $\mu m^2 = 6 \times 10^6$ nm^2	BNID 103339
Transporter area in membrane	≈14 nm^2	$\pi/4 \times 6$ nm $\times$ 3 nm; BNID 102929
Carbon atoms in cell	≈10^{10}	BNID 103010
Required glucose molecules imported into the cell	≈2×10^9	≈Carbon atoms/6
Transporters fraction in membrane	~0.04 − 4%	(Number of transporters required) × (fraction of membrane area taken by each transporter) = (2×10^9 (molecules)/1,000 (s)/100 (molecules/transporter/s)) × (14(nm^2)/6×10^6(nm^2))

Table S6. Global mass of Rubisco

Property	Value	Reference
Global net carbon fixation per year (net primary productivity)	≈100 Gt = 10^{17} g carbon/year	BNID 102933
Gross to net primary productivity	2	Because of respiration, BNID 103802
Seconds in a year	3×10^7	$= 60 \times 60 \times 24 \times 365$
Rubsico maximal carbon fixation rate	2–10 carbon per s	BNID 103708
Molecular weight Rubisco	7×10^4 g/mole Rubisco monomer	
Rubsico effective rate of carbon fixation averaged over conditions	≈1 carbon per s	Rough estimation based on daily and yearly cycles
Molecular weight carbon	12 g/mole	
Human global population	$\approx 7 \times 10^9$	As of 2009
Mass of functional Rubisco globally	(10^{17} g carbon/year) × 2 × (7×10^4 g/mole Rubisco monomer) /(3×10^7 s/year)/(1 carbon molecules/s)/(12 g/mole carbon)	
	4×10^{13} g = 4×10^{10} kg	≈5 kg/person on Earth