

Harry Potter and the Conversion of Units — Part 1

Harry, Hermione and Ron are having some issues with units whilst making potions, designing wands and various other tasks set for Hogwarts' homework.

Can you help them convert the amounts below to the amounts required?

Task 1 — units of length		
Item	Units given	Units required
Elder (for a wand)	0.42 metres	cm
Anti-Cheating Quill	14.8 centimetres	mm
Spellotape	0.041 kilometres	m
Broomstick	2830 millimetres	m
Spell-Checking Quill	0.0000125 kilometres	cm

Task 2 — units of mass		
Item	Units given	Units required
Philosopher's Stone	2300 grams	kg
Ton-Tongue Toffees	82100 milligrams	g
Godric Gryffindor's Sword	0.0067 tonnes	kg
Floo Powder	0.047 grams	mg
Slytherin's Locket	0.362 kilograms	g

Task 3 — units of capacity		
Item	Units given	Units required
Headless Hat	1.54 litres	ml
Goblet of Fire	720 millilitres	cl
Mokeskin Pouch	83 centilitres	ml
Portable Swamp	12865 centilitres	l
Cauldron	15872 millilitres	l

Harry, Hermione and Ron have some challenge Hogwarts homework.

Can you give them a hand with these?

Challenge Questions		
Item	Units given	Units required
The volume of a Vanishing Cabinet	2,500,000cm ³	m ³
The volume of Moody's Magical Trunk	13,500cm ³	l
The area of the circle in Marvolo Gaunt's Ring	323mm ²	cm ²
The area of a Flying Carpet	0.0000156km ²	m ²
The volume of a Quidditch Ball	4670mm ³	cm ³
The volume of a Remembrall	6490mm ³	ml
The volume of Tom Riddle's Diary	0.000593m ³	cm ³
The volume of a Gobstone	1.68cm ³	mm ³

Harry will return in another
mathematical adventure...