

Walkthrough for Harry Potter Chains Logic Puzzle

The first thing to notice is that there are overlaps between the chains, so that the chains interact (repeats are marked in grey below):

7 Task Setters - Hagrid, Quirrell, Dumbledore, Sprout, Flitwick, McGonagall, Snape
6 Ghosts - Friar(H), Grey Lady(R), Nick(G), Baron(S), Myrtle, Binns
5 Heads of House - Sprout(H), Flitwick(R), McGonagall(G), Snape(S), Slughorn(S)
4 Founders - Hufflepuff, Ravenclaw, Gryffindor, Slytherin
3 Heads - Dumbledore, Snape, Umbridge
2 Parselmouths - Slytherin, Basilisk
1 Basilisk

The initial clue is about the 7 Task Setters. Note that the 5 Heads of Houses also need to be a chain (although they have Slughorn to provide an extra link) and that Dumbledore and Snape have to link as Heads.

"3 corners are Task Setters and Quirrell is in column 5". This is quite constraining as the 7 Task Setters can only just stay connected while including 3 corners. The first column can have 2 or 3 in, the second 2 or 1 and the remainder one each. The possible positions for Task Setters are in the table below.

				Myrtle

Key: Orange square is Task Setter, Grey square might be Task Setter, Blue square is Ghost

There is only one possible square in column 5 so

Quirrell is E1

"Hagrid is in the top row and in the same column as Dumbledore". There can only be one Task Setter in columns 3, 4 and 5 so Hagrid must be in A1 or B1.

Suppose Hagrid were in B1 then the pattern would have to be:

	Hagrid?			Quirrell
	Dumbledore?			
				Myrtle

But the remaining Task Setters are all also Heads of House. In particular, the 2 left-hand corners would have to be Heads of Houses and would be cut off, since Slughorn cannot link them both, so

Hagrid is A1

"Dumbledore is next to 3 Heads of Houses". Dumbledore must be in the first column. If he were in the bottom corner then he could only be adjacent to 2 Heads of Houses (one of them Slughorn), and the same would be true if he were in A2, so

Dumbledore is A3 and Slughorn is B3

Hagrid				Quirrell
<i>Dumbledore</i>	<u>Slughorn</u>			
				Myrtle

Key: Underline is Head of House, Italics is Head Teacher.

"*Snape is adjacent to 2 Heads of Houses*". Snape must be either adjacent to Dumbledore or linked via Umbridge (as Heads) so must be in one of the first 3 columns. In A4 he would be next to 1 Head of House, in C2 or C3 he would be next to 3 and if he were in C1 then he could not link to Dumbledore as a Head so

Snape is B2

"*Each Head of House is adjacent to their founder*". This means that B4 must be a Founder (since A4 is a Head of House), though it is not yet clear which. Slytherin must be in C2 or C3 since he must be adjacent to both Snape and Slughorn (and the Founder chain cannot reach to A2).

Hagrid				Quirrell
?	<u>Snape</u>			
<i>Dumbledore</i>	<u>Slughorn</u>			
				Myrtle

Key: Yellow square is Founder

Consider A2:

- It could not be a Task Setter or Head of House since these are all in the coloured squares.
- It could not be a Founder because the Founder chain cannot reach to there.
- It could not be the Basilisk because that must be adjacent to Slytherin.
- If it were a Ghost then in order to link to the other ghosts B1 would have to be a ghost, as would one of C1/C2. C1/C2/C3 must contain Umbridge and Slytherin (which Snape must be adjacent to) and a Task Setter, so there would be no room for a ghost

By elimination:

Umbridge is A2

"*Flitwick is in the bottom row*" means that

Flitwick is A4 and Ravenclaw is B4

"*Each house ghost is adjacent to their Founder*". The Grey Lady must be adjacent to Ravenclaw. Suppose she were in C3, then C4 would have to be a Founder for Ravenclaw to link to the others, but there would be no Head of House for that Founder to link to so

Grey Lady is C4

Hagrid				Quirrell
Umbridge	<u>Snape</u>			
<i>Dumbledore</i>	<u>Slughorn</u>			
<u>Flitwick</u>	Ravenclaw	Grey Lady		Myrtle

"Each killer is adjacent to their victim". The Basilisk must be adjacent to Myrtle and Slytherin so in D3 or D4. The Baron must be adjacent to the Grey Lady and Slytherin, again in D3 or D4 (he cannot be in C3 because that would block in Ravenclaw). Since either the Baron or the Basilisk is in D4

Slytherin is C3

Hagrid	?			Quirrell
Umbridge	<u>Snape</u>			
Dumbledore	Slughorn	Slytherin		
Flitwick	Ravenclaw	Grey Lady		Myrtle

Consider B1:

- It could not be a Task Setter or Head of House since these are all in the coloured squares.
- It could not be a Founder because then C1/C2 would be the relevant Head of House and Ghost and the Founder would be blocked.
- It could not be the Basilisk because that must be adjacent to Myrtle.

So B1 must be a Ghost

If the Basilisk were in D3 then the ghost chain could not reach B1 so

Basilisk is D4 and Baron is D3

If B1 is a house ghost then C1/C2 would need to hold its Founder, but C1/C2 also have to hold a Task Setter, which would break the link between Ghosts so

Binns is B1

Hagrid	Binns			Quirrell
Umbridge	<u>Snape</u>			
Dumbledore	Slughorn	Slytherin	Baron	
Flitwick	Ravenclaw	Grey Lady	Basilisk	Myrtle

If Binns were to link to a Ghost in C1 then C2 would have to be a Task Setter, D2 would have to be a Ghost, D1 would have to be a Task Setter and there would be no Founder for C2 to link to.

So C2 must be a Ghost and the structure is as below.

Hagrid	Binns			Quirrell
Umbridge	<u>Snape</u>			
Dumbledore	Slughorn	Slytherin	Baron	
Flitwick	Ravenclaw	Grey Lady	Basilisk	Myrtle

"Nick is not adjacent to the Basilisk" so

Friar is E3, Hufflepuff is E2, Sprout is D1

and

McGonagall is C1, Gryffindor is D2, Nick is C2

Which gives the solution:

Hagrid	Binns	<u>McGonagall</u>	<u>Sprout</u>	Quirrell
<i>Umbridge</i>	<u>Snape</u>	Nick	Gryffindor	Hufflepuff
<i>Dumbledore</i>	<u>Slughorn</u>	Slytherin	Baron	Friar
<u>Flitwick</u>	Ravenclaw	Grey Lady	Basilisk	Myrtle

Note that, although it is tempting to think that one can put in Slytherin at an earlier stage, there is an alternative solution up until the clue that killers are adjacent to their victims:

Hagrid	Basilisk			Quirrell
<i>Umbridge</i>	<u>Snape</u>	Slytherin		
<i>Dumbledore</i>	<u>Slughorn</u>		Baron	Binns
<u>Flitwick</u>	Ravenclaw	Grey Lady		Myrtle