

Your 11+ Mini Worksheet from RSL Educational

*"How can I encourage more people to open my emails?" I asked myself one day. "And to sign up for my **online tutorials** and for **interactive marking** through 11 Plus Lifeline, and to spend their hard-earned cash on all the other [wonderful things that I offer](#)?"*

"Well," I thought, pensively stroking my handsome features as I gazed out over the grounds of my bat-riddled mansion, across the lake and the jagged woods and the deer park that sloped to the horizon under a pall of morning dew, all of it funded from the piggybanks of terrified and exploited exam candidates (OK, OK - to tell the truth, I was in the shower): "I need to give them something that makes them click on everything I send. They need something for free, something tempting, and it had better be really useful." But then, because although I may appear generous, really I'm just sneaky: "But it needs to be short, or they won't still want to pay for my stuff."

I now send many of my marketing emails with mini worksheets like this one, completely free, containing questions from past papers or from my resources - with example answers and carefully developed explanations, just like in 11 Plus Lifeline and my books.

Of course, you want more - don't you? After all, these worksheets are tantalisingly short!

In that case, please consider trying one of my [lessons](#), buying one of my [books](#), and giving [11 Plus Lifeline](#) a spin for a month or two!

Oh – and if you came across this worksheet on the black market, you can sign up to receive more of them for free [on this page](#).

Robert

p.s. My answers in these worksheets are original: you won't find them in my previously published resources!

Turn the page for the question(s). The answers follow below.

Maths - Wuzzles

The answers come after the questions: just scroll down! After completing this mini worksheet, why not have a look at my lessons and resources at rsleducational.co.uk?

The task is taken from a Latymer Upper School past paper.

In Rainbow Land there are lots of wuzzles. Wuzzles are all green, pink or blue and have either big ears or small ears. They like to live together in houses.

(a) In one wuzzle household, all the following statements are true:

- There are more green wuzzles than any other colour.
- There are equal numbers of big-eared greens and small-eared greens.
- There are three wuzzles with big ears.
- There are twice as many big-eared greens as big-eared pinks.
- There are three times as many pink wuzzles as blue wuzzles.

How many of each kind of wuzzle (big-eared green, small-eared green, big-eared pink, ...) are there in this household?

[2 marks]

(b) In another wuzzle household, all of these statements are true:

- There are the same number of pink wuzzles as green wuzzles.
- There are twice as many big-eared green wuzzles as small-eared green wuzzles.
- There are the same number of big-eared green wuzzles as big-eared blue wuzzles.
- All but one of the wuzzles have big ears.

How many of each kind of wuzzle are there in this household?

[2 marks]

Answers

In Rainbow Land there are lots of wuzzles. Wuzzles are all green, pink or blue and have either big ears or small ears. They like to live together in houses.

(a) In one wuzzle household, all the following statements are true:

- There are more green wuzzles than any other colour.
- There are equal numbers of big-eared greens and small-eared greens.
- There are three wuzzles with big ears.
- There are twice as many big-eared greens as big-eared pinks.
- There are three times as many pink wuzzles as blue wuzzles.

How many of each kind of wuzzle (big-eared green, small-eared green, big-eared pink, ...) are there in this household?

	G	P	B	
BE	2	1	0	3
SE	2	2	1	5
	4	3	1	8

Big-eared green: 2
 Small-eared green: 2
 Big-eared pink: 1
 Small-eared pink: 2
 Big-eared blue: 0
 Small-eared blue: 1

There are lots of possible ways in which to organise this information. However, I'm fairly certain that my method is the simplest and most time-efficient!

The first thing to spot is that wuzzles have **only two characteristics** (according to the question, anyway): **colour** and **ear-size**.

This means that you can put the information into a simple table. I've put **colour along the top** (the **columns**) and **ear-size up the side** (the **rows**).

Each square in the table matches a colour to an ear-size. For instance, the top-left square aligns with BE (big ears) and G (green), so it gives the number of big-eared green wuzzles.

The numbers outside, round the edges, give the total number in each row (BE and SE) or column (G, P and B) - and the bottom-right number gives the overall total number of wuzzles. The total of the rows and the total of the columns should match.

OK: We have an empty table, and the question gives us several pieces of information. The next question is **where to start!**

We want to start by putting a number in the table. Ideally it will be **a number that we know to be correct**. If not, it might have to be a number that is **likely** to be correct, so that we can try it out and see whether it works.

Fortunately, we are told this:

- There are three wuzzles with big ears.

This information does not go *in* the table, because we don't yet know **what colour these wuzzles are**. But our clever table construction means that we can still use it. It's **the total for the BE (big ears) row**, so 3 goes outside the table on the same level as "BE".

- Once you've finished using one of the bullet-points, put a tick next to it, so that you know to focus on the others.

We're left with these bullet-points:

- There are more green wuzzles than any other colour.
- There are equal numbers of big-eared greens and small-eared greens.
- There are twice as many big-eared greens as big-eared pinks.
- There are three times as many pink wuzzles as blue wuzzles.

We want something that allows us to use what we know: that the total number of big-eared wuzzles is 3.

- **There are twice as many big-eared greens as big-eared pinks.**

Aha! The total of greens and pinks with big ears can't be more than 3, so the only way to have one whole number twice as large as another is if one of them is 2 and the other 1.

Therefore, we can add 2, 1 and 0 in the first row of the table. (The last number must be 0, because the row total is 3, and 2+1 already makes that.)

- There are more green wuzzles than any other colour.
- **There are equal numbers of big-eared greens and small-eared greens.**
- There are three times as many pink wuzzles as blue wuzzles.

Great! We can add 2 at the start of the second row.

- **There are more green wuzzles than any other colour.**
- **There are three times as many pink wuzzles as blue wuzzles.**

We can use these facts together.

We already know that there are 4 green wuzzles, so there can only be up to 3 of any other colour (the first remaining bullet point).

If there are "three times as many pink wuzzles as blue wuzzles", there must be 3 pink wuzzles and 1 blue one. Making up these totals in the P and B columns, we need to add 2 and 1 in the last two spaces.

Put it like that, and it sounds complicated. It isn't - not when you're used to the method. The complicated thing is explaining it all in writing!

One last thing: the question asks you to list how many there are of each kind of wuzzle. Maybe the table will be enough for a marker, but maybe not. Don't rely on it! Come back at the end of the exam, when you hopefully have a spare minute or two, and write the answers out in full.

And try to write more neatly than me! My lame excuse is that I was writing on a computer screen ...

(b) In another wuzzle household, all of these statements are true:

- There are the same number of pink wuzzles as green wuzzles.
- There are twice as many big-eared green wuzzles as small-eared green wuzzles.
- There are the same number of big-eared green wuzzles as big-eared blue wuzzles.
- All but one of the wuzzles have big ears.

How many of each kind of wuzzle are there in this household?

	G	P	B	
BE	2	3	2	7
SE	1	0	0	1
	3	3	2	8

Big-eared green: 2
 Small-eared green: 1
 Big-eared pink: 3
 Small-eared pink: 0
 Big-eared blue: 2
 Small-eared blue: 0

This looks tricky at first glance, because the bullet points don't seem to give you a number to write in the table and get started. However, look at these two together:

- There are twice as many big-eared green wuzzles as small-eared green wuzzles.
- All but one of the wuzzles have big ears.

The second bullet point tells us that there's only 1 small-eared wuzzle ... and it must be green, because twice 0 (the first bullet point) wouldn't make sense here! So we must have 2 and 1 in the G column.

And, to make it even better, we now know what colour the only small-eared wuzzle is, so we can add two 0s in the bottom row.

What do we have left?

- There are the same number of pink wuzzles as green wuzzles.
- There are the same number of big-eared green wuzzles as big-eared blue wuzzles.

These are pretty easy to fill in, now that we know all about the green wuzzles.

And you're done!

END
