## Beaded Dragons

In terms of materials, you'll need beads (duh); string (for these patterns, wire won't work); two needles - one on each end of the string - that will fit through the beads with room to spare* and through which your string will fit; and a reasonably flat work surface. If you follow these wing patterns, you'll need 20 beads of one colour and 19 of another, plus 4 slightly smaller beads for the claws for each wing. The total number of beads for the project will vary, depending on the lizard pattern. The one I use requires about 65 beads for the body, including claw beads. All the beads can be the same colour if you like, but different colours make it easier to tell everything apart. Thus it's slightly less confusing when making it. Either way, you'll need at least 2 different colours, so that the dragon can have easily distinguishable eyes. Overall, you'll need about 143 beads. More than that if you plan to add a row of spikes down the back or horns on the head. See Table 1 for a breakdown of the bead count.

The kinds of string, wire and beads out there is immense, but these patterns are applicable to whatever kind you intend to use, be they pony beads, E-beads, seed beads, or those chunky ones from beaded car seat covers. You could use dried peas, chestnuts or tennis balls too, if you really wanted to. (If someone out there makes a tennisball dragon, I will be very impressed and demand a photo.) Basically anything round that you can drill a hole through will work. In terms of string, I'm currently using a clear plastic monofilament thread, of which the biggest advantage is that it's clear, so you don't end up with big ugly globs of thread down the side of the body and wings. It's also very thin, so I can weave through beads upwards of ten times and still get the needles through without a problem. Unfortunately, it stretches a bit, so if you use similar stuff, don't pull it too tight when tightening up the beads or the beads will just curl into a ball. Snug, but not tight.

As to length of thread, that depends on the size of beads that are being used. Better too much than not enough. Around 2 metres ( 6 feet) worth of string for a seed bead wing should be enough. There needs to be around 20 centimetres ( 8 inches) of string trailing when the wing is done to use to attach it.
*IMPORTANT: If at any time it is becoming difficult to get the needle and thread though the holes, switch to a thinner needle, if possible. If it isn't possible, don't try to weave through anymore. Forcing the needle and the string through can sometimes split the beads in half, especially if you're working with seed beads or smaller. Having beads do this in a nearly-finished project is no end of aggravation. I've had it happen to me several times before, and it's virtually impossible to add in a new bead because of all the string from the old one being in the way. Best to make sure it doesn't happen at all. This is why it is important to try and make sure that there is always a bit of 'breathing room' left in the bead holes for the final weave-through. Also, trying to shove a narrow beading needle through a bead that it doesn't want to fit through increases the likelihood that you will bend or break the needle, or slip and impale yourself. Take it from someone who has done both: Neither is very fun.

However, if you find that you goofed, (I've done this too), and added a bead that shouldn't be there, use a pair of pliers, (needlenose or linesman are good ones), to break the bead off. Grab it with the pliers and squeeze gently to crunch it into pieces. Be careful of the shards; those things are really sharp and stabby for being so small.

Pliers are good for pulling slightly stuck needles through beads too. You can get a tighter grip on the needle with pliers than with fingers.

The patterns here assume the use of at least 3 colours: one for the eyes and two on the body and wings. The the black circles are one colour, dark grey circles represent another; the pale grey ones are the third. When it comes to adding claws, the claws can be the same colour as the other beads, or radically different. It's up to you. They're just shown in black here for the sake of simplicity.

I usually make the body first. It's considerably easier than the wings. Regardless of what kind of beads you're working with, if you're using string to made the dragon, weave the string through the body several times to stiffen it, but not so many times that the needles and string won't fit through anymore, because the wings still have to be attached. Adding claws to the feet can be done the same way as adding claws to the wings; see Steps 12 and 14 below.

There are many variations on the basic lizard body. Fig. 0.1 shows the one that I use. Tail length is arbitrary. It can be five, ten, thirty beads long; whatever you feel like. The magnified portions on the right are a foot with claws (top) and a spade-style dragon tailtip.

Table 1. Beads required for one dragon.

| Bead Count |  |
| :---: | :---: |
| Body Part | \#of Beads |
| Eyes | 2 |
| Body Border | $26+$ length of tail |
| Centre Back | 8 |
| Spade-style Tail-tip | 5 |
| Claws | 12 |
| Horns | 6 |
| Spines | 5+ (Varies) |
| Total $64+$ tail and spines |  |
| Wing Part | \# of Beads |
| Tines | 20 each / 40 total |
| Membranes | 19 for each / 38 total |
| Claws | 4 each / 8 total |
| Total 43 each / 86 total |  |
| Grand Total | 150 + tail and spines |



Fig 0.1. Body, foot and tail.


Step 1: Put a bead on a string and situate it roughly in the middle. Not that difficult. (See Fig 1.)

Fig 1. $1^{\text {st }}$ row.


Fig 2. $2^{\text {nd }}$ row.

Step 2: Get four beads of the same colour as bead \#1 and put them on the string, weaving through from opposite sides with both ends of the string. (See Fig 2.)

Fig 3. Third row.


Step 3: Get four beads of the same colour as the first, and three of a different colour. Thread them on the string, alternating colours, and weave through from the other side with the other string. (Fig 3.) If you're using string, at this step the beads tend to curl together in a clump. I solve this by sticking a piece of wire through the third row of beads to keep it reasonably flattened out. The wire inside twist-ties works well for seed beads or E-beads. For pony beads, the whole twist-tie is fine. You can also use a pillow or a slab of polystyrene as a base to pin the thing down to hold it in place.


Step 4: Thread on four beads of the first colour, and six beads of the second colour, alternating as shown in Figure 4, weaving through from both ends. If this row also clumps, get another bit of wire and stick it through.

Fig 4. $4^{\text {th }}$ row.


Step 5: This row gets interesting. Thread the beads on, alternating as shown. Note however, that at one end, there are four beads of the second colour, instead of three, with a bead of the first colour sticking off to the side. It may look a little weird at first, but it all works out. Weave through these the same way as the other rows.


Step 6: Now for the slightly tricky bit. Tightening up all the rows the first time through can be awkward, but it gets much easier as you go. If you have a twist-tie or bit of wire in the fourth row, remove it now; otherwise it'll get in the way. Use one end of the string to tighten the two centre wing tines (the green line in the diagram): Go back up to the fourth row, going through the first three beads, then instead of continuing through the tine bead in the fourth row, go through the bead of the same colour below it in the fifth row. Then go back up to the fourth row, though the next two beads, then dip down through the next tine bead in the fifth row. Go back up to the fourth row, and out through the last three beads.
You may have noticed that doing this pulls the tine beads (dark circles) above the membrane beads (light circles), and gives the wing a not-quite-wing shape. This will be fixed later, so don't worry if it looks odd.

Use the other end of the string (blue) to tighten the membrane beads. Start through the first two beads in the fourth row, and then go through the centre of the three membrane beads below in the fifth row. As can be seen in Fig 6, it's slightly different from doing the tine beads. Come back up to the fourth row, and continue through the next three beads. Repeat the dip into the fifth row, come back up and go through the next three beads, dip again, come back up, and out the last beads in the fourth row.


Fig 7. Tightening between the $3^{\text {rd }}$ and $4^{\text {th }}$ rows.
Step 7: Using one end of the string (green), tighten the tines much the same way as in Step 6, only passing through just the one membrane bead instead of two. Again, if there's wire in the third row, take it out before you go through with the string.

Weaving through with the other end of the string (blue) is done slightly differently here. Go through the first bead (a tine bead) in the third row. Then go through the tine bead below it in the fourth row, but go through so that the string comes out the bead on the outside. Go back through the third row of beads, stopping after reaching the next tine bead. Do the same circular weave-through, and carry on to the next tine bead. Repeat again, and then again for the other outside tine bead.


Step 8: With one end of the string, weave the tines the same way as in Step 7, going around in circles through the beads. We'll deal with the other end of the string in the next step.

Fig 8. Tightening the $2^{\text {nd }}$ and $3^{\text {rd }}$ rows.


Fig 9. The other end of the string.


Fig 10. The top bit.

Step 9: Using the other end of the string, weave through as shown in the diagram. This is pretty much the same as tightening the membrane beads back in Step 6, except you're dealing with fewer beads.

Step 10: One end of the string is easy. Just go from the end of the second row, where it should already be, (if not, we have a problem), and go through the only bead in the first row. That's all you'll do with that end of the string in this step.


Step 10.1: With the other end of the string, you're doing the same sort of circular thing as in Steps 7 and 8. Go through the top bead, and loop through the first bead in the second row. Go back up through and out the top bead, and loop through the second bead in the second row. Repeat with the third and fourth beads in the second row, and end by coming out the top bead, hopefully with the string coming out on the opposite side of the bead from the other end of the string.


Fig 10.1. Crazy looping string time.


Step 11: I call this the zigzag weave, because, for all intents and purposes, that's what it looks like. This is also where we fix up what Step 6 did to the tines. You will use one end of the string for two of the wing tines, and the other end for the other two. The wing should be decently stiff now, so you should be able to hold it in your fingers without it tangling up, if that makes it easier to work on. (That's how I do it, but I've been doing this for years. Someone trying this for the first time may find it easier to leave it flat on a table.)

Anyway, using the one end of the string, work your way down the first wing tine in a zigzag pattern. Upon reaching the bottom however, you will add a bead to the end of the wing tine. Do this by putting the bead (same colour as the rest of the wing tine) on the string, and then looping the string back into the bead above it, through the other side of the bead. Loop it at least two times to make sure it's firmly attached, depending on the string you're using. Now zigzag back up the tine.


Step 11.1: When you've reached the top, do the same thing for the second tine: zigzag to the bottom, attach the new bead, loop it, and work your way back up.


Step 11.2: For the second string and the fourth tine, it's a bit different. Keep in mind there are four membrane beads at the bottom here, instead of just three. Zigzag down in the same way, but DO NOT go through the bead sticking off the side (which is the same colour as the other tine beads). Instead, weave through the fourth membrane bead, the one next to the bead sticking off the side. Don't add another tine bead here. It'll look sort of weird if you do. Simply work your way back up to the top.

Fig 11.2. Zigzagging the fourth tine.


Step 11.3: Proceed as before down the third tine. This one does get another bead on the end, same as the first and second tines. You should finish with both ends of the string sticking out opposite sides of the top bead.


Step 12: The claws in this step and the next are optional. But should you choose to add them, use beads slightly smaller than the ones the rest of the wing is made out of. If the wing is made of pony beads, use E-beads for the claws. If the wing is E-beads, use seed beads for claws. If the wing is made of seed beads - like my dragons there are beads smaller, but I forget what they're called. Go to a bead/craft supply store and poke around.

Carrying on, if you are going to add claws, or at least one on the top, you go about it much the same way as adding the wing tine extensions. Both ends of the string are sticking out the top bead, so simply weave them around through the claw bead several times. If you look carefully at Fig 12, however, you will hopefully notice that, when finishing the claw attachment, you start with one end of the string going into the second bead and through the third and fourth, and the other into the third, and then through the second and first, until the ends are sticking out the two sides of the second row. This is mostly to hide some of the string, so it isn't cluttering up the outside edges.


Step 13: It's just the same sort of weave that was used when the wing was first being put together. Just work through the whole thing: in one side, out the other, then down to the next row. Upon reaching the fifth row, do the little dip-weave through the tine beads that were added in Step 11, and finish up with the string ends as shown in the diagram.


Step 14: For this step, you will only use the end of string that is coming out of the tine bead on the end of the first tine. The other end can be ignored here.

For adding claws: Use the same kind of circular weave pattern as for adding the claw on the top. Go through it several times to make sure it's attached good and tight. (Only one weave is shown here.) Then head though the fifth row to the next tine, doing a half-circular/half-zigzag sort of thing to get through the tine bead and add the claw bead. Carry on to the third tine and repeat.
When you reach the end, you will need to get the string coming out in the other direction from the end that is already there. The diagram shows the crazy little loop thing that will get the string to do that. Go up from the third membrane bead into the tine bead, then through the one sticking off to the side and down through the fourth membrane bead.

Congratulations, you have made a wing.
Now this is important: DO NOT TRIM THE STRING ENDS. You will need them to attach the wings to the body.

Step 15: Repeat Steps 1 through 14 to make another wing, unless you want to have a one-winged dragon.
A bit of a note when it comes to making the other wing: In my experience, the wings will form a bit of a curve as you work on them, and it seems to be related to which side is facing up/towards you as you work. Flip everything and make the second wing facing up the other way to have it curve in the opposite direction (if you're picky about that kind of thing).

## Attaching the Wings



Step 16: So you've got two wings and a body to put them on. The two ends of the string should be sticking out of the wing as shown here.

Fig 16. Set-up.


Step 17: Take the end of string that comes out of the top bead and thread it through from the left of the second bead over in the sixth row. Instead of continuing on through the entire row, just go through that one bead, then drop to the next row and pass through the second bead over, but only through that bead. Pull the string until the wing is held reasonably snug to the body. If you're using the slightly stretchy kind of string, don't pull it too tight.

Fig 17. First weave-through with top string.


Step 18: Thread the string back through the edge of the wing, and then loop through the outside bead in the same row as before, only approach it from the right side this time. Then drop to the next line and weave through the first bead, leaving the string trailing out. Then thread it back up through the wing again.

Optional: Repeat Steps 16 and 17 once or twice more, if the needle and thread can fit through several more times. This will help to stiffen the wings.

Fig 18. Weaving from the other side.


Step 19: Once the wing is held reasonably snugly to the body, (pulled tight enough, the wings can stand up on their own), thread the string through the same bead as at the beginning of step two, only this time go through all the rest of the beads in that row, and then work up the body as shown. And yes, the diagram is meant to look like that. There is a reason that the string doesn't go all the way to the top. Leave the leftover string trailing. If it's really long, then it can be trimmed off, but leave about 10 cm (3").

Fig 19. Ending off one end of the string.


Step 20: The bottom of the thread is woven through in the same manner as the upper thread. Now that the wing is firmly attached, you'll have to flex the body and fold the wing a bit to get at the beads. Difficult, but not impossible. Work through the two outside edge beads, starting from the right side, and leaving the string trailing after exiting the first bead of the sixth row.

Fig 20. Weaving through the lower thread.


Step 21: Thread the string through the wing again.

Fig 21. Back through the wing.


Step 22. Time to take the string through the inner beads. Done the same way as the top thread, but going the other way up from the bottom. Bring the trailing thread through the wing edge again.

Optional: Same as for the upper thread, if the size of the bead holes and thickness of the thread permits it, repeat Steps 20 to 22 once or twice more.

Fig 22. Second time through.


Step 23: Approach this step the same way as Step 22, but carry on through the entire row, and then down through the body to the tail. As in Step 19, don't go right to the end, but stop one bead before the tail tip. There is method to the madness, I promise.


Step 24: Repeat Steps 1 through 8 with the other wing. If you need the diagrams flipped for that, just paste the pictures into any image-editing program and flip them. The only difference, (besides which side the wing is on), is that when you get to the final weaving of string - Steps 19 and 23 - go all the way to the last bead. Both sets of string ends
 should be poking out on the same side of the body. Figure 24 shows where the string should be coming out on the head and on a 'normal' tail and one with a spade-tip.

Fig 24. Where the string ends should be.


Step 25: Here is where I explain the reasoning behind the partial weave. Take the two ends of the string, and tie them in a knot. What kind of knot is up to you, but make sure it's a good strong one. Don't pull it tight yet though. Keeping it loose, take the end of string that came out of the second-last row, (green in the diagram), and thread it through the final bead. Now pull the knot tight, trying to keep the knot inside the bead. This way the knot is hidden. To make absolutely sure that it doesn't come undone, put a little drop of glue or clear nail polish inside the bead hole.
Fig 25. The tie-off.


Fig 26. Tie-off again.


Fig 27. A row of dorsal spikes.
Step 27: If there is enough string (at least $30 \mathrm{~cm} / 1^{\prime}$ ) left from attaching the wings, you can use that for adding spikes. You'll only need to use one end of it, unless you want to weave through the spikes twice from opposite sides. This diagram is broken down into individual rows below. The wings are not visible in the diagram so you can see what is going on and to keep it uncluttered.


Step 28: On single beads (the tail) loop the spike bead on in the same manner as the wing claws were done. Put spikes on as many or as few tail beads as desired.

Fig 28. Single bead spike.


Step 29: Adding a spike to two beads is a bit like the dipping weave from way back in Steps 6 and 9. Thread the string through the first bead of the pair, add the spike, then thread through the second. Don't pull the string too tight or the spike can get pulled between the two body beads.

Fig 29. Two bead spike.


Step 30: A row of three beads is very similar to a single bead. Go through the first two, loop a spike on the same way as for a single bead, and thread out through the last bead.

Fig 30. Three bead spike


Step 31: In the same way as adding spikes to a row of three is like adding them to single beads, a row of four is treated the same way as a row of two. Go through the first two beads, 'dip' to add the spike, then go out through the last two. When it comes to spikes between the wings, either skip that part entirely if you find it too awkward, or bend the wings out of the way to get the spikes in place.

Fig 31. Four-bead spike.


Fig 32. Adding horns.


Step 32: Horns are done like the feet are, only with just a single bead as the horn tip instead of three beads as toes. Attached like spikes between two or four beads, thread the string through one eye, add a horn, thread the string through the centre bead, add the second horn, then thread out through the second eye. If you're weaving through the spikes again with the other half of the string, the tie-off can be done like back in Steps 25 and 26. If you've just used one end of string, loop it through some of the string along the edges of the body and tie it off. Put a dab of glue or clear nail polish on the knot to keep it from coming untied. Once the glue is dried, trim the string ends.

Fig 32.1: Front view of horns.
The wings may or may not stand up on their own. If they don't and you want them to, put a few drops of superglue along the beads where the wing joins the body and hold it in the position you want until it dries Depending on the string used, sometimes the claws (if you added any) will curl over the toes. This can also be solved with superglue. Just make sure not to glue your fingers to the dragon.

Now, if you've managed to make sense of my gibberish, you should have a completed dragon in front of you.

These are some of the dragons I've made so far. The green one to the right was the first one I made with this style of wings, and the green and orange one at the bottom is the most recent.

Please don't ask for patterns for the feathered wings; I've only made the one dragon with that kind and the design still needs a lot of refining.

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