



Felting a CHECKED ORB



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CONTENT

| | |
|-----------------------------------|-----------|
| Materials & Tools | 1 |
| Making the Core | 2 |
| Planning the Pattern | 3 |
| <i>Construction Steps</i> | 4 |
| Making the Prefelt | 6 |
| <i>1. The Circular Prefelts</i> | 6 |
| <i>2. Rectangular Prefelt</i> | 8 |
| <i>Creating Prefelt with Yarn</i> | 8 |
| Cutting the Prefelts | 9 |
| Weaving Around the Orb | 10 |
| Pulling the Stripes Tight | 11 |
| Felting the Wrapped Orb | 12 |
| Appendix | 14 |



Felting a CHECKED ORB

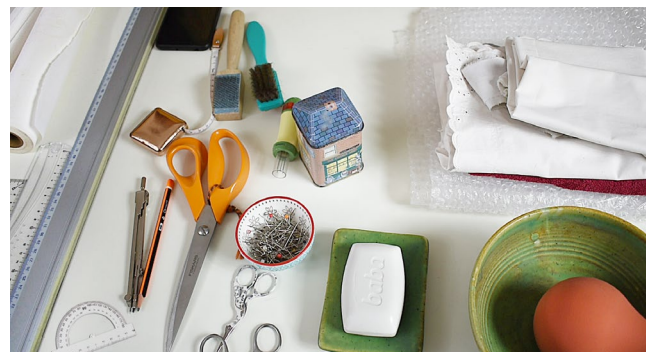
Materials

- The below quantities are for a 45 cm circumference orb. I suggest working with this size to learn the basics, so that it will be easier for you to follow.
- **For the core:** 150 g wool batting, 21-27 mic. for the “core ball” (it can be bits of leftover wool, however for the upper layers use larger pieces).
- **For the prefelt pieces:** 75 g wool top, 19 mic., for the surface of the orb. For ombré effect colour transitions choose four colour shades.
- 75 g wool top, 19 mic. in (a) different colour/s from the previous one/s.
- 50 g wool top, 19 mic. in different colours than the previous choices, 6-10 gr of each colour.
- It is possible to use wool batting as well for the 3rd and 4th layers of the prefelt, in this case, you may half the above quantities. 21 micron Australian Merino wool batting is suggested for the prefelt.



Tools

- A single felting needle (medium sized) or a felting needle holder with several needles
- A thick foam base for needle felting
- Wrapping paper for planning
- Pencil, eraser
- A pair of compasses (a longer one)
- A long ruler (50 cm long)
- Measuring tape
- Calculator
- Soap
- Water bowl
- Bubble wrap (about 60 × 60 cm)
- Linen cloth or cotton fabric (60 × 60 cm)
- Yarn for tying
- Netting
- Rolling pin/wooden pole
- A small metal brush for loosening fibres (optional)
- Pointed, sharp pair of scissors
- Towel
- Thread and Needle
- Tweezer
- Pins
- A protractor – or watch on YouTube how to draw a 30 degree angle:
www.youtube.com/watch?v=az3hnbLkMpM

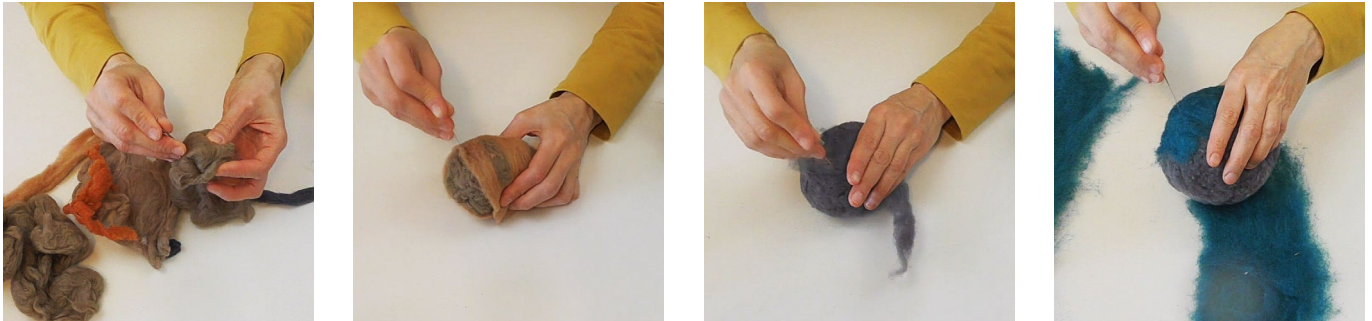




Making the Core

1.

The “core” is prepared from some leftover wool. Shape a ball with the help of the felting needle(s).



When the ball is large enough, cover it with several layers of wool batting (21-27 micron), and attach them with the felting needle. Important: Since the shrinkage of the orb after rolling will be rather minimal, the core should always be as solid as possible, while working on it. The dry core should reach 90% of the hardness compared to the hardness of the finished, checked orb!

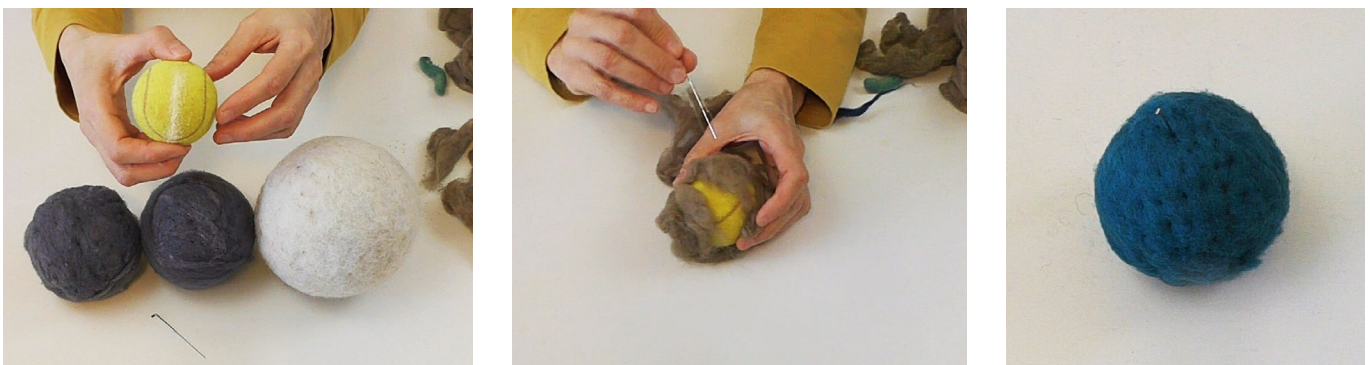
When you have done a good job, you won't need to wet it and felt it, but you can simply continue working on the core's surface. In case the core you created is too soft, wet it lightly and roll it gently, then cover it again with another layer of dry wool, which you attach with the felting needle. This process only applicable for the surface of the core, there is no need to wet the core all the way through as the inside is pretty hard anyway, isn't it?

2.

Variations: We can place a tennis ball or any other round object into the core, and wrap it into wool as described previously.

Idea: when the orb you are going to create is not too large and there is a chance for a small bell's sound to come through from the inside, you can add it to the core at the beginning.

Cut a 4 cm slit into a tennis ball with a blade-cutter, put a small bell inside and heal the cut with water resistant two-component glue. Drying time: approximately one day.





Planning the Pattern

We design the pattern for the checked decoration. The pattern will be obtained from interweaving our prefelts. In this tutorial video we create a symmetrical cut pattern, where the vertical stripes are evenly spaced and identical wide. This can be achieved turning two identical star shapes facing each other and then crossing their “arms” with additional prefelt stripes using the weaving technique. So we’ll make a pattern of a “star” that we’ll cut out twice, and their “arms” will be our warps. We’ll make several different coloured stripes that will become the weft in our weaving.

1.

You’ll find the construction steps in the pdf in printable format, at the end of this document. Once you go through the construction steps, you will understand the logic of the process and will be able to adjust to any sized orb you wish, or to different number of units than mine. However, working with the measurements I provided, will make your job much easier for the first time.

2.

In case you work with an orb of your sizing, just follow the construction process and substitute measures with your own figures.

3.

Maybe you are not interested in the logic of the construction and prefer to skip this part, then please make a core with a circumference of 45 cm and print the 1:1 construction appendix #3 without margins (setting print settings “actual size”) from the end of this PDF.

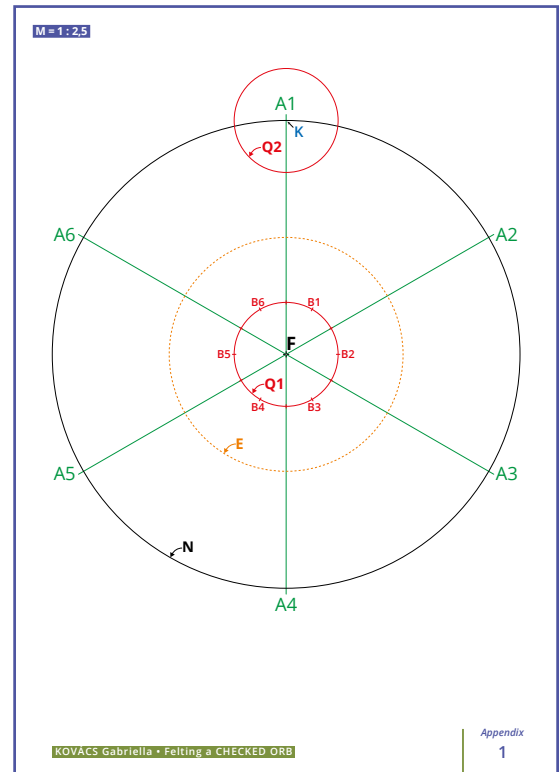


Construction Steps

The circumference of the orb in this instruction is 45 cm. We now construct a star shape, whose arms will later be the vertical stripes, i.e. the warps for the weaving.

1. Mark the centre point. **[F]**
2. Draw a circle whose radius is half the circumference of the orb. (22,5 cm). **[N]**
3. Draw a circle whose radius is a quarter of the circumference of the orb. (11,25 cm). **[E]**
This will be the Equator of the orb.
4. Draw a circle that determines the size of the central spot at the bottom of the orb. **[Q1]**
Here $r = 5$ cm
5. Draw a line from **F** to the **N** circle. The result is an intersection point on **N**, name it **K**, which marks one of the points of the star (**F-K** is the axis of the arm of the star).
6. Draw a circle with $r=5$ cm **[Q2]** with the centre **K**. This will be the centre of the opposite star, in other words, the spot at the top of the orb. The size of this spot can be smaller is you wish, but not larger.
7. Divide the full circle 360 degrees by 12, which gives 12×30 degrees. Starting from the **F-K** line, with **F** as the centre, divide the **Q1** circle into 30 degrees segments. Use a protractor or your compass. On the circle **Q1** you now have twelve 30 degrees marking points. Connect every SECOND marking points with **F**, and extend these lines to circle **N**.
Now you got points **A1 through A6**, which are marking the axes of the star's different arms (green lines). The remaining, second marking points on **Q1** are given the names **B1 through B6**.

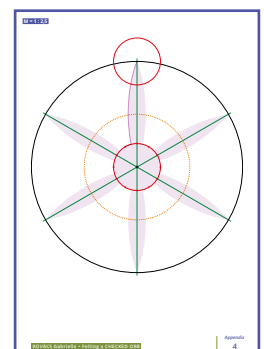
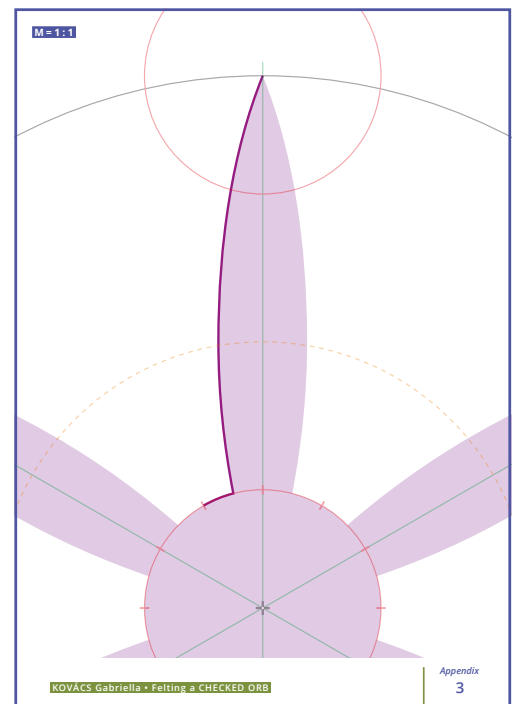
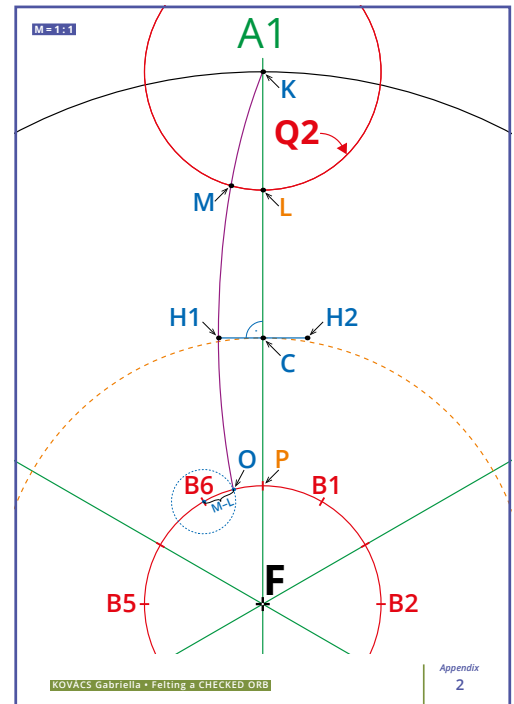
The point of intersection **F-K** axis and circle **Q1** is **[P]**.





Felting a CHECKED ORB

8. Divide the circumference by 12 – this is $45/12=3,75$. The result is the widest part of the star arms, which will lie on the Equator line. [E].
9. The intersection of line F-K and circle E is named point C.
10. Construct a 90 degree angle line to the line F-K, crossing point C.
11. Divide 3.75 cm (the widest part of the star points) by 2, which gives 1.87 cm. Set this distance on your compass and measure it from point C to the right and to the left on the line you have drawn in the previous step. Thereby you get the points H1 and H2. The distance H1-H2 is the widest part of a star (3.75 cm in this case) on the Equator.
12. Starting from H1 draw freehand a curved line to point K. – To compensate inaccuracies of freehand drawing, do as follows:
13. On circle Q2 you now have two intersection points: one on the F-K line, the other on the curved line you draw in the previous step. Let us name these intersection points L and M respectively.
14. Set the distance L-M with your compass and make a mark from point B6 on circle Q1. The marking points in Q1 between B6 and P is [O].
15. Connect the marking points K, M, H1, O, B1 in a nice curve and you get half the contour of a star point. Copy this contour line onto all the other axes, (as shown in the video), in order to complete the whole star.





Making the Prefelt

We will make two circular shapes (for the two stars) and one rectangular shaped prefelt (for the vertical stripes) for the checked orb. All three prefelts should be 10% larger than the circumference of the core.

We'll lay 4 medium-thick layers of wool. Lay on bubble wrap, bubbles facing downwards. We work in reverse order, what is laid out first will be the surface of the felt.

Idea: You can save time by felting all three prefelts at the same time. To do this, rub each prefelt till "pinch test" to check if the fibres have connected, then roll them together.



1. The Circular Prefelts

We make the prefelts at least 10% larger than the circumference of the core (here at least 50 cm in diameter). Think of a round area which is to be divided into four concentric circles. Fill the circles with wool (red to yellow) first laid in radial direction, proceeding from the centre to the outside circles. When we reach the outside row, we'll change the direction how pulls are put down, with their dense, thicker sides to the edge.



Laying out a beautiful ombré effect colour transition: One end of the pulls we make, where we hold, is always more even and dense, the other end is more fan-like, wispy. Place the staples so that their denser ends are pointing the centre and the thinner wispy ends stretch outwards. Place all similarly, shingling the pulls on each other. This way the wispy ends are touching the cotton cloth and will nicely create the decorative surface. In the last row you reverse the direction of the pulls, the more even and denser ends should be outside, defining the edge.





Felting a CHECKED ORB

For the second layer use the same colours, but laying out direction should be circular.

From here, there are two possibilities: you either continue using wool top with two more layers, laid as before: one radial and one circular direction. Or you switch to using wool batting laid in two perpendicular directions.



Place a netting over the wool, soap and wet it with some warm water. Start rubbing very gently, in the same direction as the fibres in the last layer (first with the netting, later without it). Do the "pinch test" to test the surface: when you cannot pick up the upper fibres, you may felt further rolling the piece up. Roll up the piece together with the bubble wrap on a roller (a roller pin) and lock down each end with a tie. Roll 40 times in all four directions.



Now repeat for the second piece of circular prefelt as well (using a green-blue colour palette).



Felting a CHECKED ORB

2. Rectangular Prefelt

We make the prefelts 10% larger than the circumference of the core. Lay out wool in a rectangle shape. The width is the circumference of the orb + 10%, the height is half the circumference of the orb + 10%. (Here minimum 50×50 cm)

Lay out different colours horizontally, one colour in a row – these will make the stripes for the checked design. The stripes can be narrower or wider, depending on the heights of the squares you'd like to achieve in the decorative checked layer. The second layer is made of similar shades and laid out in perpendicular direction to the first layer (i.e. this time vertically). Now there are two possibilities: you can either continue working with wool tops, laid first horizontally then vertically; or you can use two thin and even layers of wool batting laid perpendicularly. Wet through a netting, rub until pinch test is passed, and roll as before.



Creating Prefelt with Yarn

A Variation of Prefelt

If you want to create prefelts with yarns, first you need to construct the exact pattern.

Creation: Put the pattern underneath the bubble wrap, and place the wet cotton sheet on it. Place the wet yarns on the sheet, following the pattern. All further steps as described previously.





Cutting the Prefelts

Pin the star pattern on the circular prefelts – one at a time – and cut out the star shape from each.



Cut the stripes of the rectangular prefelt. These will soon serve as the cross grain “wefts”. You can experiment a little with their width, i.e. you can cut them all the same or with different widths. All you have to consider is that the total added width of the stripes should correspond to the height that can be woven into the stars’ arms. (You can also calculate this distance, taking the Q1–Q2 distance measured on the F–K axis. Here it’s 12.5 cm).



The leftover prefelt can be used for other felting projects. You could also stitch together a star from several pieces, for another checked ball. One circular prefelt can be even enough for three star shapes.

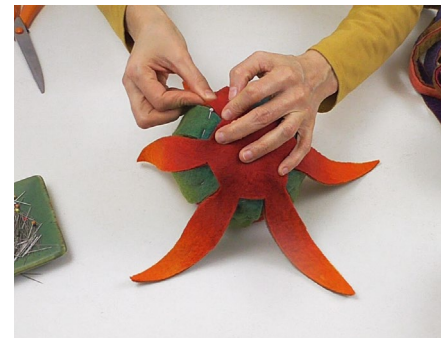




Weaving Around the Orb

First check that the surface of the core is sufficiently fluffy. Also, the backside of the prefelts can be brushed up with a small wire brush if you felted it too strong. The roughening of the surfaces ensures that the components will felt together securely.

Place a star on the core and distribute its arms evenly all around. Secure with pins. Now place the second star exactly opposite the first one – so that the arms of the stars now alternate each other all around the orb. Secure at the centre, but leave the arms unpinned. The points of the stars' arms reach the central spot of their opposite stars; resulting in a striped ball.



Now decide which star's arms you would like to be exposed and which to be covered by the first vertical row you'll weave. There are two possibilities, and as a result you'll either see a sun-shape, or a circle on the top.

If you'd like to see a sun shape, run the first stripe under the arms of the star. If you'd like to see a circle, run the first stripe above its hands as you alternate up & down.

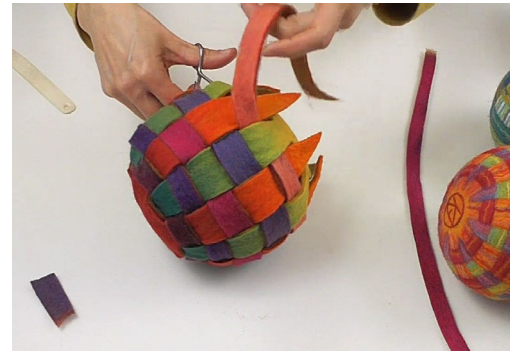
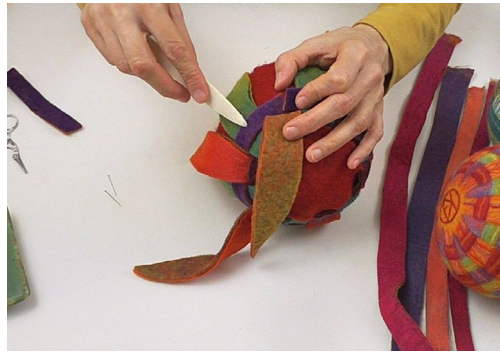




Felting a CHECKED ORB

Now, weave in the stripes one after the other using the traditional weaving technique. The end of the stripes should always meet and be hidden under an arm (warp), not be exposed. These points for the different strips should be located under different arms to gain a more stabile structure.

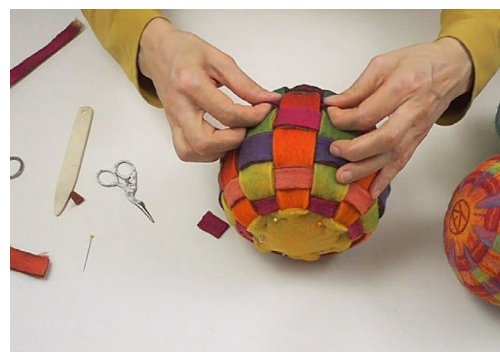
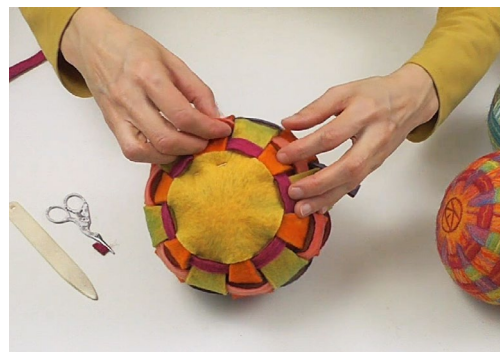
Pin in and pull pins out again, row by row, as you progress, paying attention not to leave any unwanted pins in the piece. A pair of tweezers or a small flat wooden knife can come handy.



Pulling the Stripes Tight

When all the stripes are woven in, pull all the warps and wefts methodically starting from one side to the other, and pull them tight. This is a long process, but it is worth working through it for nice results.

If necessary, fix unsteady parts using a felting needle, or with a few stitches with a needle and thread. (You will pull out the thread later).





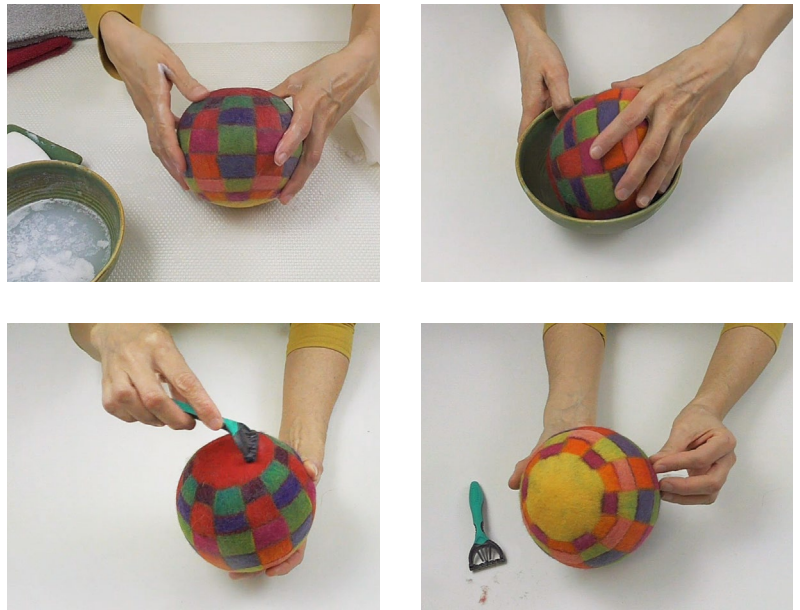
Felting the Wrapped Orb

Continue working on a drawer-pad or on a bamboo-mat. Place netting over the orb and wet with warm water and soap. Rub the wet area gently and do not go any further until prefelt stripes join well together. To prevent the stripes from displacement, keep the netting tight over the surface.



The compression you apply should gradually build up, you can now rub the orb stronger. Also start using warmer water from now. Remove the netting and start rolling the orb without the netting. (For the fulling stage you will need about 20 minutes of rolling.) When the orb's decorative part is properly felted and you see some fibres of the lower layers coming through the prefelt right to the surface, you may be assured that your orb has become strong and is finished.

Rinse several times with clean, cold water. When all the soap is washed out, adjust the shape and leave to dry. It is advisable to move it occasionally while drying to avoid any side forming a flat area.



Tip for rinsing: I usually spin out the finished piece in an old type spin-dryer together with a towel. Then I wash again with clean water and spin-dry again. You may use the spin-drying programme of your washing machine too. However, this is only applicable if your orb is strong (Do not wash or rinse it in the washing machine, only use the spin-dry programme!)

Repeat the process twice and you will be rid of the soap. However, you should only do this, if your orb is really firm. After spinning it will get out of shape but you can re-adjust to its nice orb shape – then let it dry. You can also de-fuzz it, if you like!



***Thank you for felting with me.
Have fun felting your own checked orb!***

Gabriella KOVÁCS

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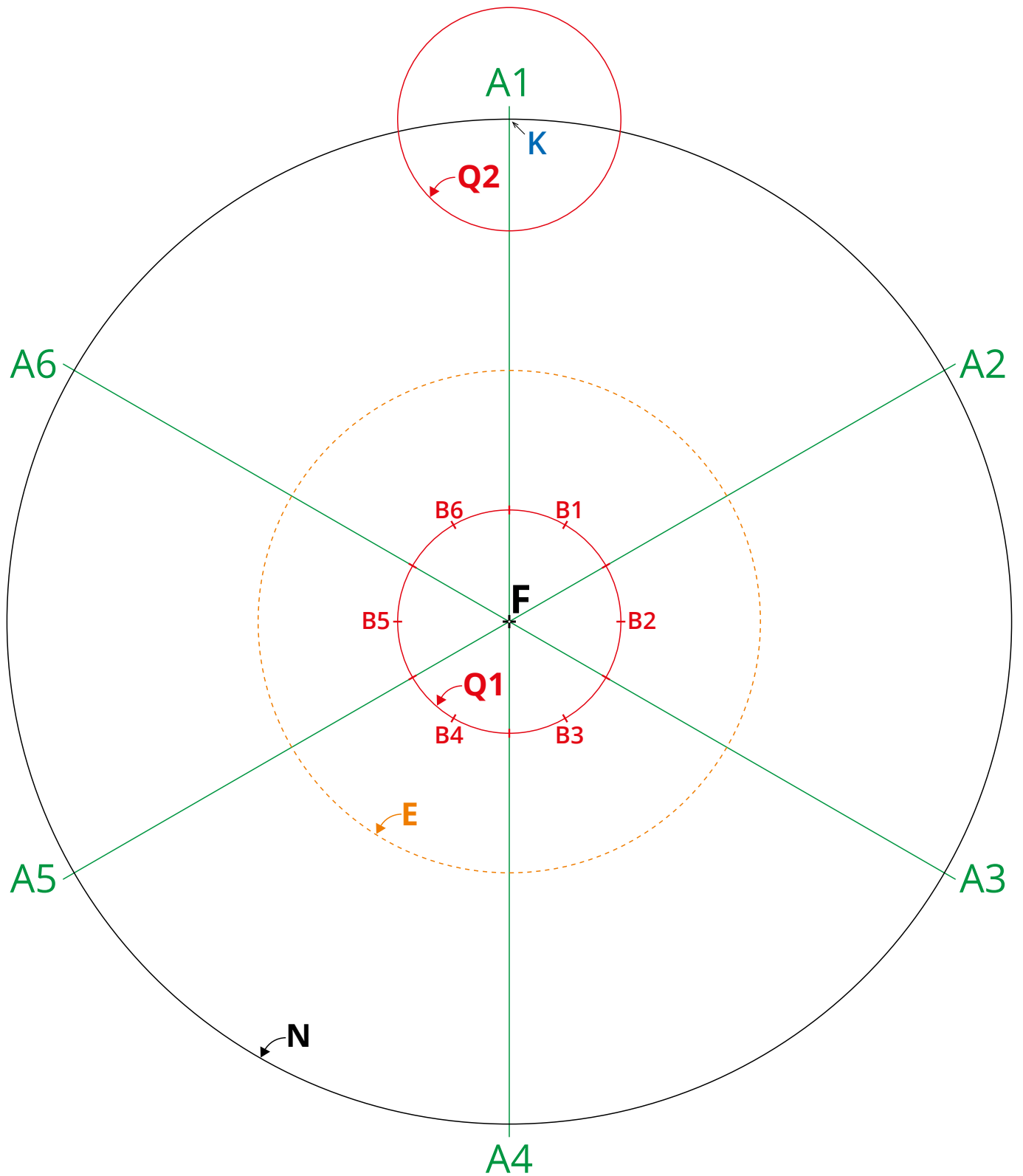
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Instagram:

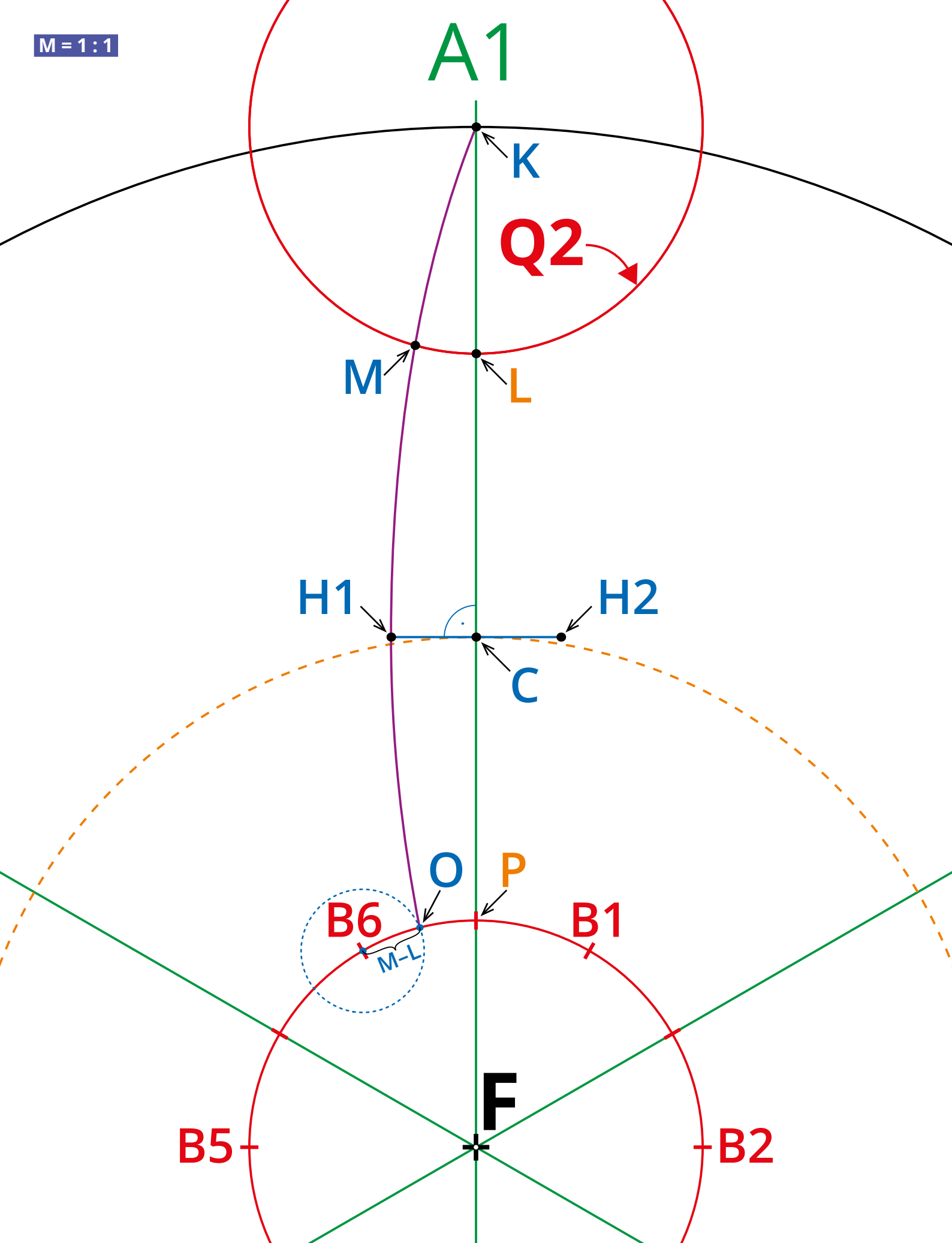
instagram.com/_kovacsgabriella_

P.S: When you post on the internet, please post only your finished pieces and keep phase shots for your private viewing.

Thank you!



M = 1:1



M = 1:1

