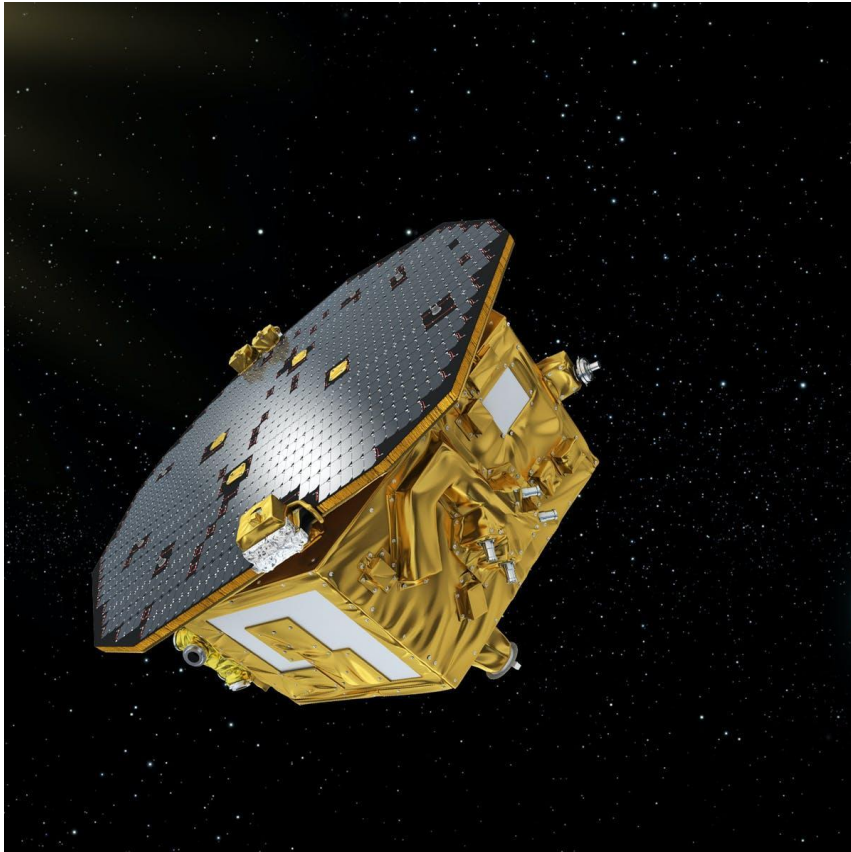


## Knit Kit 5: Earth's LISA



*Image Credit: ESA - C.Carreau*

iPods listen to music, space pods listen to the universe.

### **The Story**

Dr. Brynley Pearlstone

Science isn't always easy or straight-forward. LISA is a science experiment that has been just an idea for a very long time.

LISA is a detector for gravitational waves that will be in space, made of 3 pods connected by laser beams. It's changed a lot since it was first thought of - NASA didn't want to be part of the project any more, the ideal length between pods has changed, and the amount of money that it can cost has gone up and down. But the team behind LISA have been very clever, and stuck with the idea. They kept a clear picture of why it's important for science, and kept trying to make it the best they could. The story reminds me that as long as you hold on to the most important ideals, and keep trying, you will do your best for those around you.

### **The Science**

We have huge "ears" on Earth to listen for ripples in time and space, called gravitational waves. They can hear only certain things whizzing around up there. Scientists around Europe wanted to build an ear that can hear the biggest things in the universe going around each other - colliding galaxies! To hear bigger things making ripples, you need to have an

even bigger bit of kit. They came up with LISA, an ear that uses laser beams to measure the distance between 3 pods. Because it's in space, the ear can be as big as it needs to be. In fact, the three pods are so far apart, you could fit all of the Earth in between them!

LISA will launch into space sometime in the 2030s.

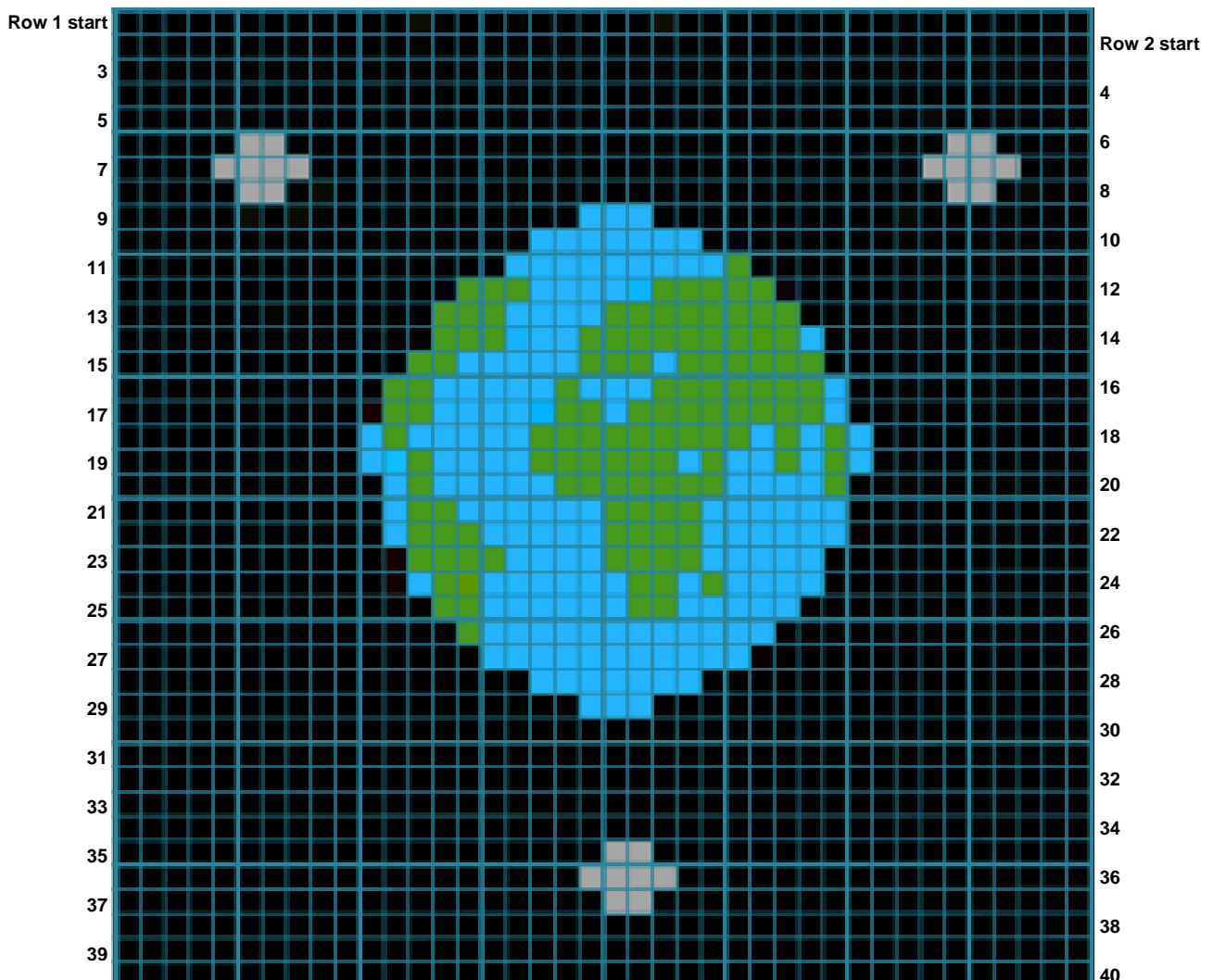
This is an intermediate knit. You will need:

- 4 colours of wool - we used black, blue, green and grey.
- A pair of knitting needles

If you can use double-knit (DK) wool and 4mm needles, your knitting will work out around 15-18cm on each side, but use what you have or what you can get hold of.

Colours don't have to match the image, you can use whatever you or your family have lying around. In this knit, we used around 25g of black, and 10g each of blue, green and grey. We knitted on 4mm knitting needles.

Skills used include: Cast On, Knit, Purl, Change Colour (fair isle), and Cast Off. Go to our website [www.knittheuniverse.co.uk](http://www.knittheuniverse.co.uk) for links to handy YouTube videos to learn these skills. Remember: After casting on, knit odd-numbered rows, changing colours as you go, and purl even numbered rows, changing colours as you go.



## Knitting Pattern

k – Knit      p– Purl                      B – Black      G – Grey      b – Blue      g- Green

Brackets indicate stitches inside the brackets are repeated.

For example, p2B means purl 2 stitches in black, and (k1g, k1b) twice means knit 1 stitch in green, 1 stitch in black, and do this twice.

Cast on 40 stitches in black (or an alternate colour).

Row 1-5: Knit odd rows, purl even rows

Row 6: p4B, p2G, p27B, p2G, p5B

Row 7: k4B, k4G, k25B, k4G, k3B

Row 8: p4B, p2G, p27B, p2G, p5B

Row 9: k19B, k3b, k18B

Row 10: p16B, p7b, p17B

Row 11: k16B, k9b, k1g, k14B

Row 12: p13B, p5g, p5b, p3g, p14B

Row 13: k13B, k3g, k4b, k8g, k12B

Row 14: p11B, p1b, p9g, p3b, p3g, p13B

Row 15: k12B, k2g, k5b, k3g, k1b, k6g, k11B

Row 16: p10B, p1b, p7g, p3b, p1g, p5b, p2g, p11B

Row 17: k11B, k2g, k5b, k2g, k1b, k8g, k1b, k10B

Row 18: p9B, (p1b, p1g) twice, p1b, p9g, p5b, p1g, p1b, p10B

Row 19: k10B, k2b, k1g, k4b, k6g, k1b, k1g, k2b, (k1g, k1b) twice, k9B

Row 20: p10B, p1g, p4b, p7g, p5b, p1g, p1b, p11B

Row 21: k11B, k1b, k2g, k6b, k4g, k6b, k10B

Row 22: p10B, p6b, p4g, p5b, p3g, p1b, p11B

Row 23: k12B, k4g, k4b, k4g, k5b, k11B

Row 24: p11B, p4b, p1g, p1b, p2g, p6b, p2g, p1b, p12B

Row 25: k13B, k2g, k6b, k2g, k5b, k12B

Row 26: p13B, p12b, p1g, p14B

Row 27: k15B, k11b, k14B

Row 28: p16B, p7b, p17B

Row 29: k19B, k3b, k18B

Row 30-34: Using black, purl even rows, knit odd rows

Row 35: k20B, k2G, k18B

Row 36: p17B, p4G, p19B

Row 37: k20B, k2G, k18B

Row 38-40: Using black, purl even rows, knit odd rows

Cast off.