| Meden School Curriculum Planning | | | | | | | |
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| **Subject** | D&T | **Year Group** | 9 | **Sequence No.** | Module 5 | **Topic** | Light Vessel |

| Retrieval | Core Knowledge | Student Thinking |
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| What do teachers need **retrieve** from students before they start teaching **new content**? | What **specific ambitious knowledge** do teachers need teach students in this sequence of learning? | What real life examples can be applied to this sequence of learning to **development of our students thinking, encouraging them to see the inequalities around them** and 'do something about them!' |
| <u>The following knowledge and understanding should be retrieved;</u><br><br>From Y8 textiles (and KS2 D&T) students have knowledge of basic textiles tools and equipment including decorative hand stitching, applications of pins, scissors, use of embroidery threads. Once delivery is underway, students will have the opportunity to retrieve this knowledge and apply it in the new context of this project. This knowledge will be needed at the beginning of the module and throughout as they create Vilene patches they've designed and made.<br><br>If students have completed DSc's Y9 D&T module (electronics element) they should understand how an electronic circuit is created (along with the use of LEDs). | <u>The following ambitious knowledge needs to be taught;</u><br><br>○ **What Vilene is, and why we use it to create the vessel.** (Vilene is a brand of interfacing which is used in dress making. It stiffens fabric to allow certain areas of a garment to keep their shape and structure, e.g. collars, button stands, cuffs). The Vilene we use is one of the thickest they make. It can be sewn together easily, painted, stitched on, therefore it's ideal for the project. Don't fold the fabric as creases will remain.<br><br>○ **How to sew an electronic circuit onto Vilene**. Students collect a sewing needle, conductive thread (passes a current through), an LED, needle-nose pliers, Metal popper/ snap fastening (metal so the current passes through), a cell holder and a cell. Teacher demonstrates each numbered step individually using the visualiser, and demonstrates on their own. Students repeat the step. **(Please see diagram below for the detail.)**<br><br>○ **How to create an applique design, the first of which will be used to cover the stitching of the circuit on the right side of the Vilene. (Please see diagram below for the detail.)** The applique must be hand sewn to the Vilene or the electronic components may get stuck in the sewing machine. **<u>Running stitch</u>** - Push the needle up through the fabric from the wrong to right side. Estimate roughly 1cm in | This project is an example of e-textiles. Do you think e-textiles/ interactive textiles/ technical textiles will become more prevalent in the future and why? What examples of e-textiles are there currently, which are similar to this project?<br><br>Are there any ethical questions surrounding the rise of wearable technology? How much wearable technology do you/ your family have? Are there possibilities for data breaches? What could be done about this? |

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| Students have the chance to draw on their previous art skills and skills learnt on the Y7 Graphics module (rendering/ colouring skills) | front following a straight line and push the needle down through the fabric. Repeat these steps to stitch a line.<br>How to successfully 'tie off' their stitching once they've sewn to the end of the line. Reinforce the fact that if this isn't done correctly, their stitching will unravel. Sew the final stitch 3 times (in the exact same place). This will secure the thread so it can't unravel.<br>The applique needs to be hand-sewn to the Vilene on the right side and therefore covering the electronics stitching.<br><br>**Back stitch** – follow steps to thread the needle. Then – push the needle up from the wrong to the right side of the fabric at one end of the fabric all the way until the knot stops the thread. The length of fabric ahead of where the needle is, is FORWARD. Anything in the opposite direction is therefore BACKWARDS, or behind. As this is called back stitch, place the needle down through the fabric roughly 0.5cm backwards. Pull the thread all the way, holding the needle and the thread so it doesn't keep coming undone. From underneath, estimate another 0.5cm in front (forwards), and pull through. Repeat these steps to sew a line of back stitch. Fasten off at the end.<br>Students can carry on using applique technique to create 4 other patches if they choose, however more techniques are available;<br><br>○ **How to create a patch by drawing/ tracing an image directly onto the Vilene** using the steps outlines below (PowerPoint slide). It is intended students will draw on pre-existing Art skills/ skills learned in the Y7 Graphics module in terms of rendering an image.<br><br>○ **How to create free-machine embroidered Vilene patch** using the steps outlines below (PowerPoint slide). Students will need to thread up a sewing machine to do this technique if they choose. The teacher sets up the machine and adjusts settings in order to speed up the process.<br>○ **How to create a blanket stitch to sew the vessel together once 5 patches have been completed.** Use the steps outlines below (PowerPoint slide). Blanket stitch - Thread your needle and knot the tail end. Start by sending your needle up from the back. This should | |

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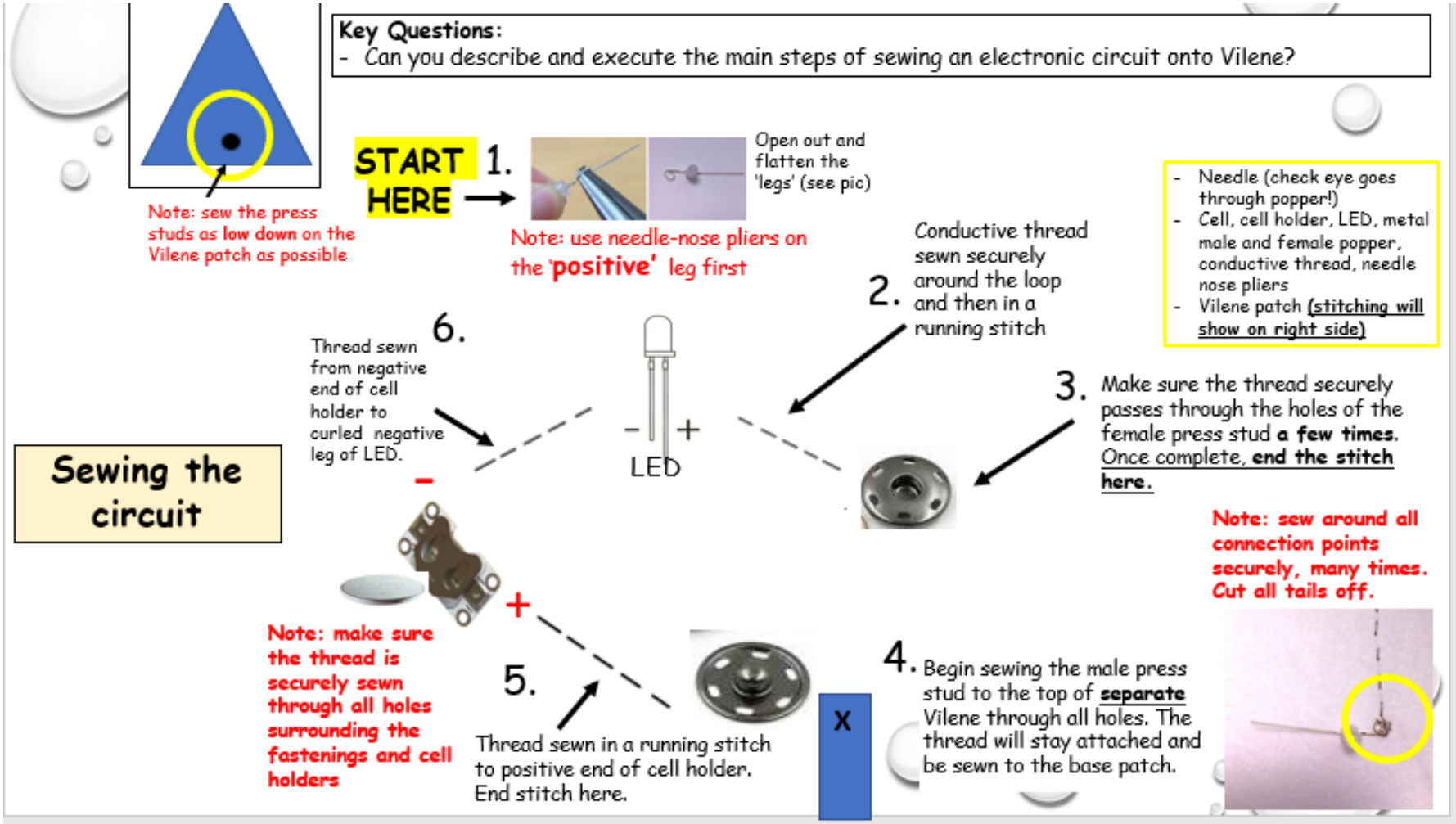
| | be done about 1/4" in from the edge, or at whatever length you want your stitches to be. To get the stitch anchored, poke your needle up from the back again, so that the needle comes out the top at the same spot where you started, creating a loop around the edge. Send your needle under the loop stitch you just made. To do this, poke the needle under the stitch going sideways at the edge of the felt. This gets your thread anchored, but it is not a true first stitch. To start your first true blanket stitch, poke your needle down from the top (#2 in photo D). This should be about 1/4" over from where the thread first came up, and about 1/4" up from the edge. To complete your first stitch, bring your needle up from the back, and through the loop of thread (#3 in photo D). This should create a straight line down from #2 in the photo. Before pulling this stitch tight, be sure that your needle is in fact through the loop of thread as shown in photo D. Now continue each stitch like this and you are on your way! Now you know how to do blanket stitch when sewing one layer. To end the stitch, thread the needle underneath or around the last stitch 3 times. This creates a knot. You can now cut the thread, and begin sewing a different patch to join the two you've done.<br><br>**NOTE** – Running stitch can be used instead of blanket stitch.<br>The 4 patches that will touch the table should be sewn together first, then finally the patch that sits on the top of these will be sewn to the rest along the top edges.<br><br>The project is now complete.<br>❖ **The practical outcome is an assessment opportunity.**<br>❖ **The End of Module Test will be an assessment opportunity.** | |


Key Questions:
- Can you describe and execute the main steps of sewing an electronic circuit onto Vilene?
Note: sew the press studs as low down on the Vilene patch as possible
START HERE
1.
Open out and flatten the 'legs' (see pic)
Note: use needle-nose pliers on the 'positive' leg first
- Needle (check eye goes through popper!)
- Cell, cell holder, LED, metal male and female popper, conductive thread, needle nose pliers
- Vilene patch (stitching will show on right side)
Sewing the circuit
2. Conductive thread sewn securely around the loop and then in a running stitch
3. Make sure the thread securely passes through the holes of the female press stud a few times. Once complete, end the stitch here.
Note: sew around all connection points securely, many times. Cut all tails off.
6. Thread sewn from negative end of cell holder to curled negative leg of LED.
LED
Note: make sure the thread is securely sewn through all holes surrounding the fastenings and cell holders
5. Thread sewn in a running stitch to positive end of cell holder. End stitch here.
4. Begin sewing the male press stud to the top of separate Vilene through all holes. The thread will stay attached and be sewn to the base patch.
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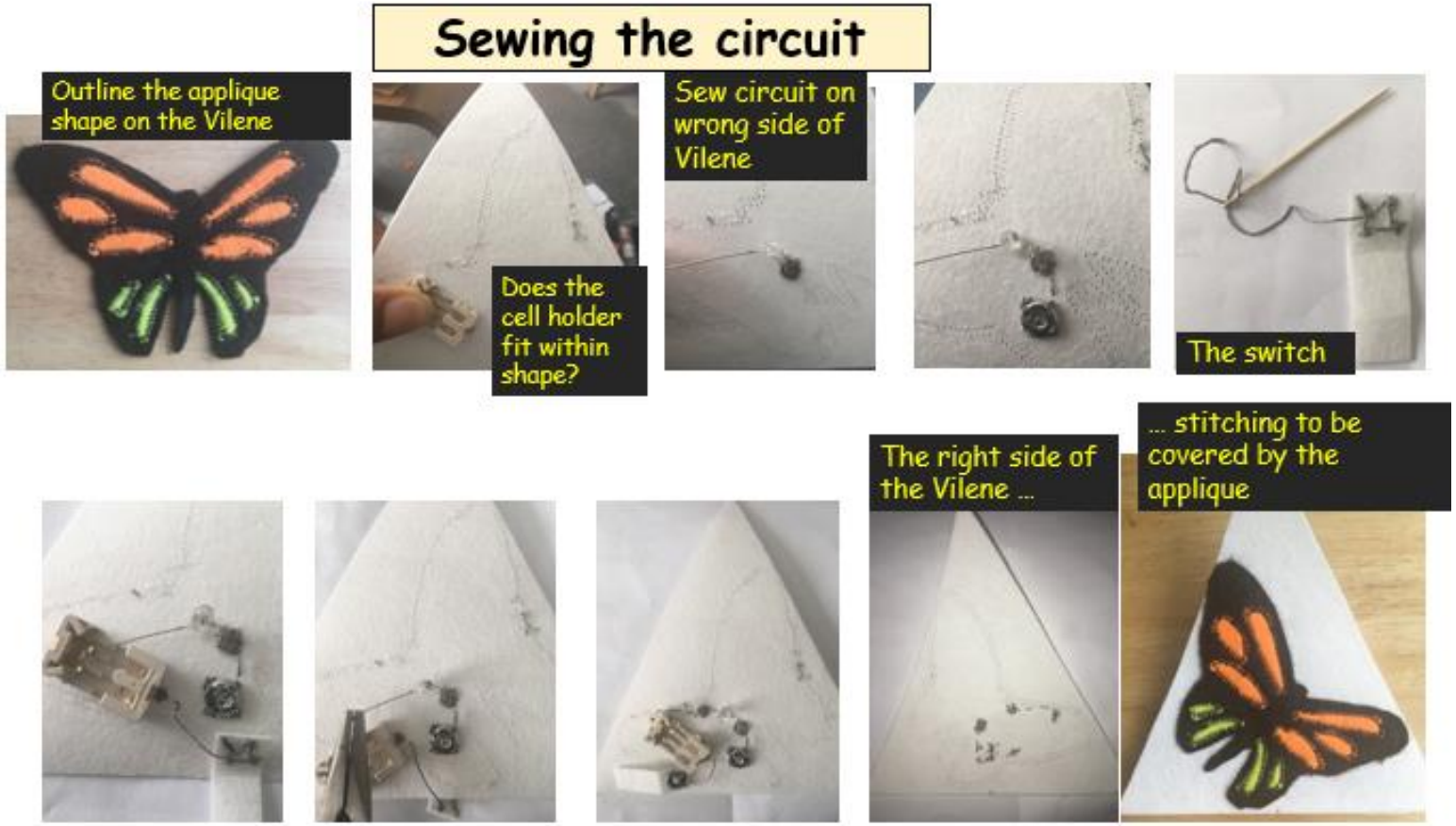
**Key Questions:**
- Can you describe and execute the main steps of sewing an electronic circuit onto Vilene?



**Key Questions:**
- How does applique work? Can you follow the steps to create an applique design?

# Appliqué Technique

These are the main principles…

1

Draw/ print your paper template. Remember the learning on positive and negative spaces. Cut out the POSITIVE space.

2

Pin it onto scrap fabric.

DO NOW:

- Follow previous steps to design in sketchbook
- Complete your real design using Vilene

3

Cut the template out.

4

Pin the fabric shape onto a bigger piece of fabric.

5

Normally you'd sew the shape to backing fabric. In this project, KEEP THE APPLIQUE SEPARATE (see butterfly)

**Key Questions:**
- How can you trace (or draw) a design onto your Vilene? Can you follow the steps?

# Tracing Technique

These are the main principles…

1

Find an image to trace or copy. Print it.

2

Collect your Vilene shape.

**DO NOW:**

- Follow previous steps to design in sketchbook
- Complete your real design using Vilene

3

Use masking tape to secure the Vilene in front of the image. Trace through the main shapes.

4

Use a pencil/ crayons/ felt tips to add more detail or colour.

**Key Questions:**
- What is free-machine embroidery, and how is it carried out? Can you follow the steps to produce the technique?

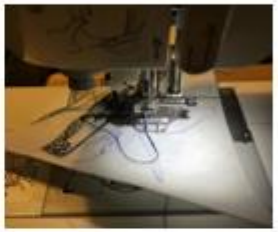
# Free-machine embroidery Technique

These are the main principles…

1

Print or draw a design onto paper. Copy the design onto the Vilene, or pin the paper design onto the Vilene.

2



Drop the feed dogs on the sewing machine. Change the presser foot to an embroidery foot.

3

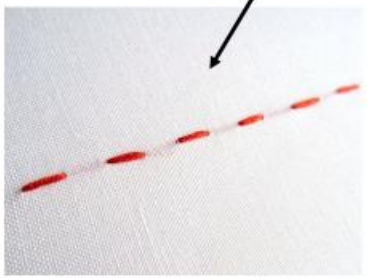
Use the foot control and a free motion to guide the Vilene under the needle, stitching any design you want.

DO NOW:
- Listen to the demo.
- Afterwards, make a **SAMPLE** of the technique on scrap Vilene.
- Finally, complete your real design based on the sketch in your sketch book

**Key Questions:**
- Can you describe and execute the main steps of blanket or running stitch to sew you vessel together?

- Needle
- Embroidery thread in a colour of your choice

RUNNING STITCH

**Blanket Stitch**

sew all edges together to complete the vessel