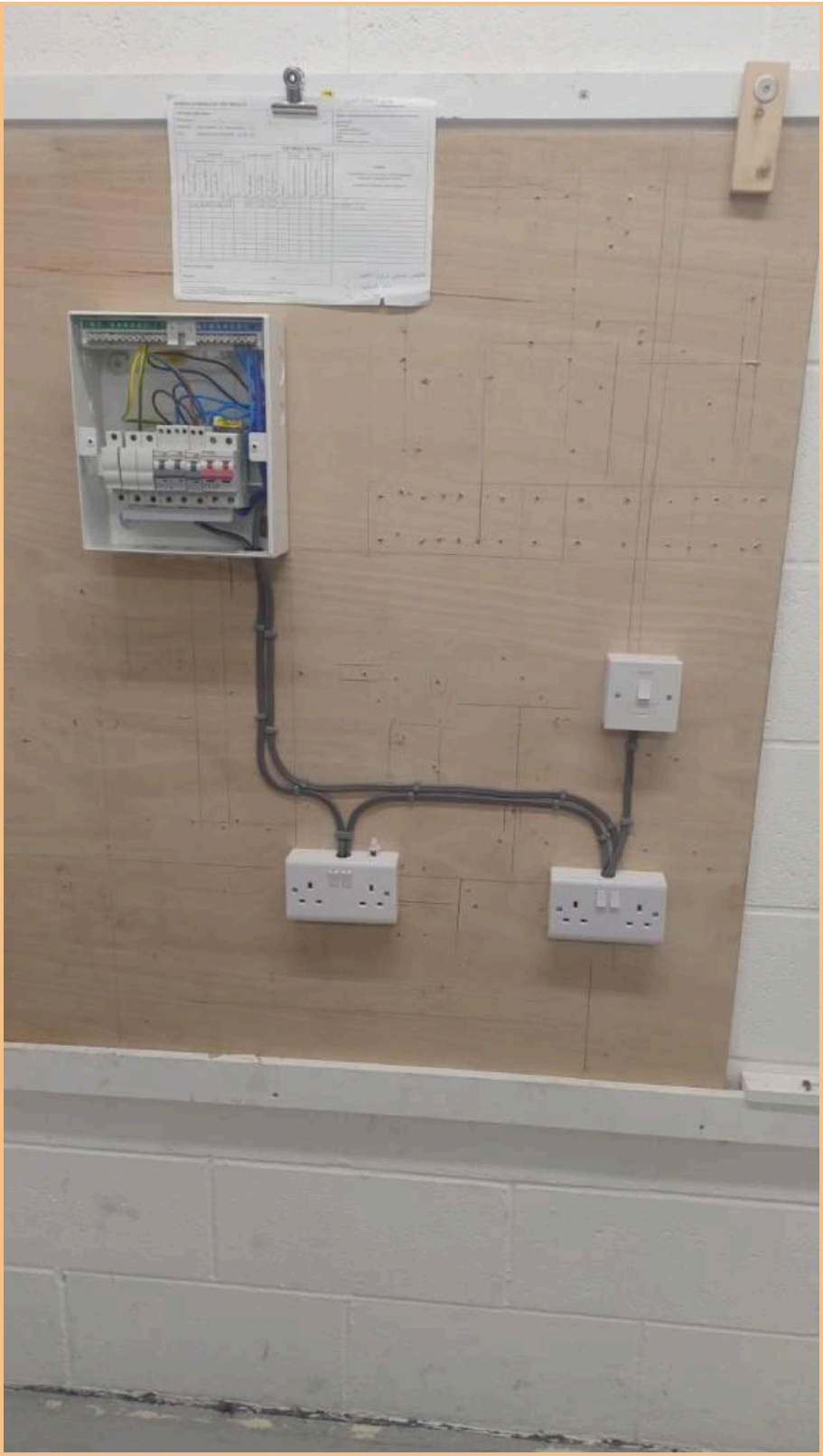
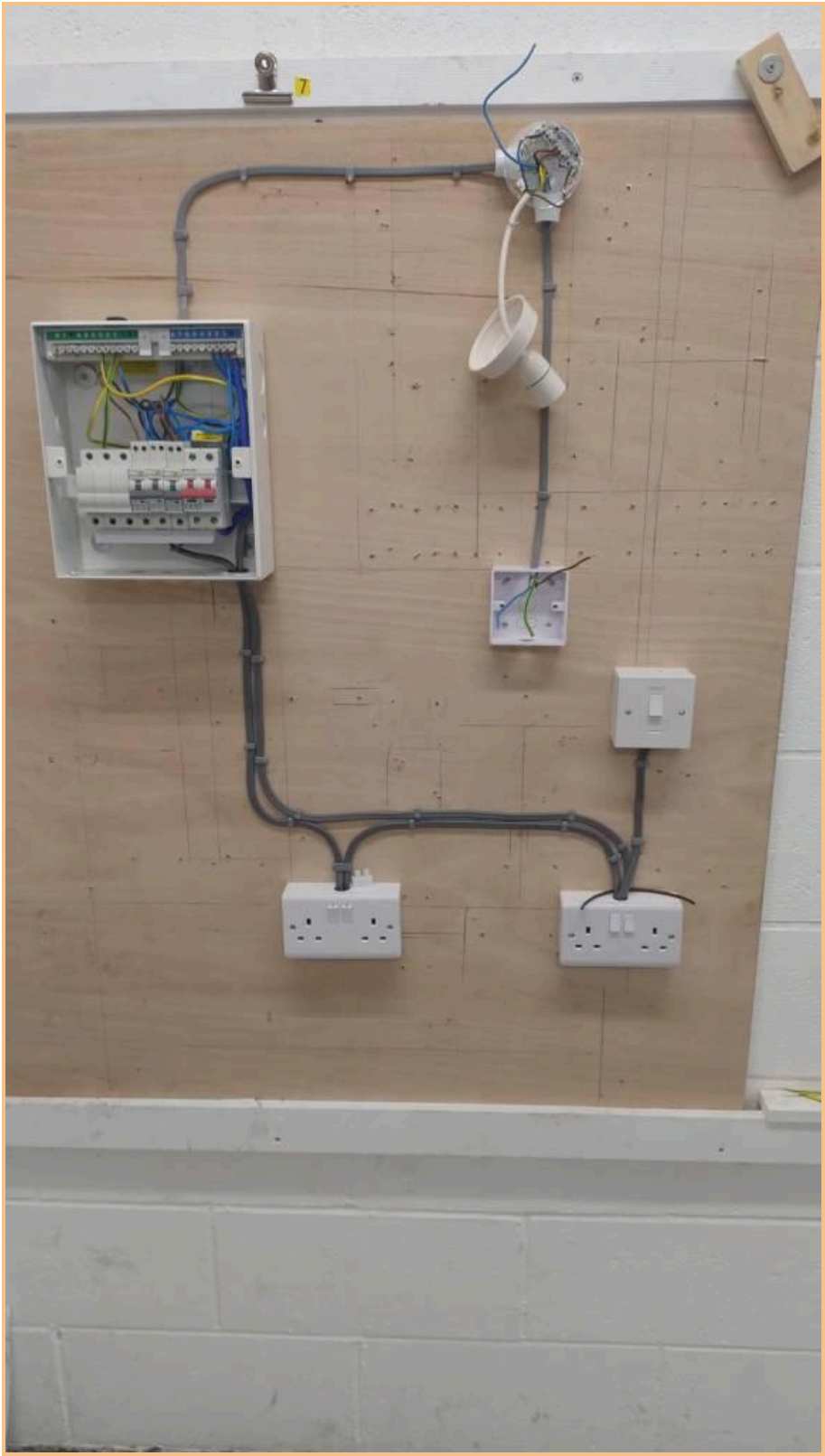
May 25, 2025

# 3 – third class notes (2365)

## Practical

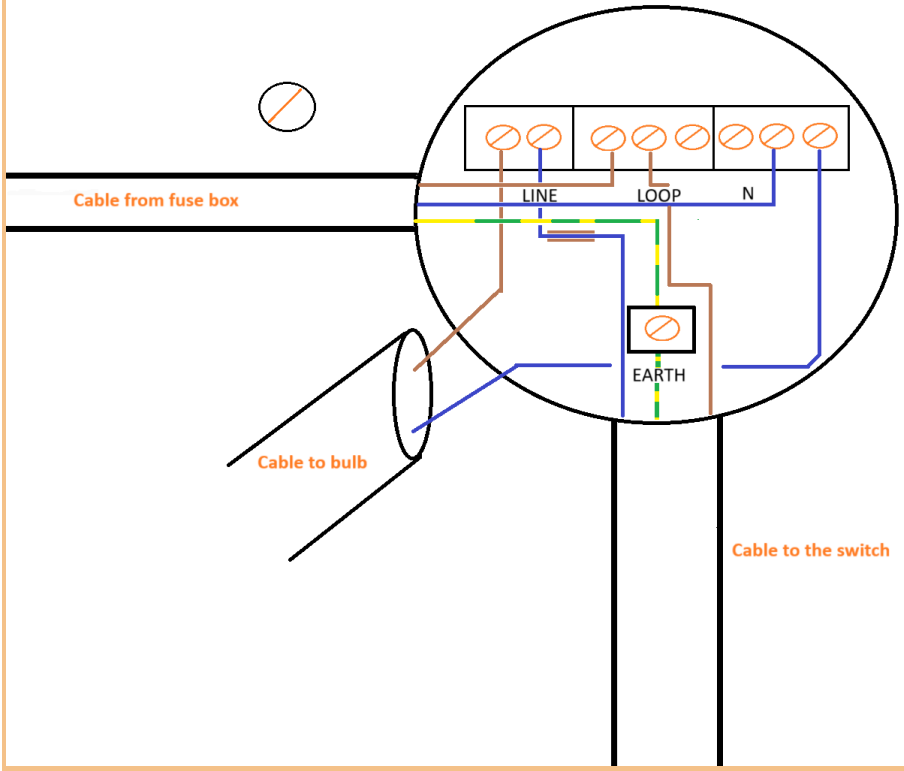


**circuit G1** – Ring circuit with a spur

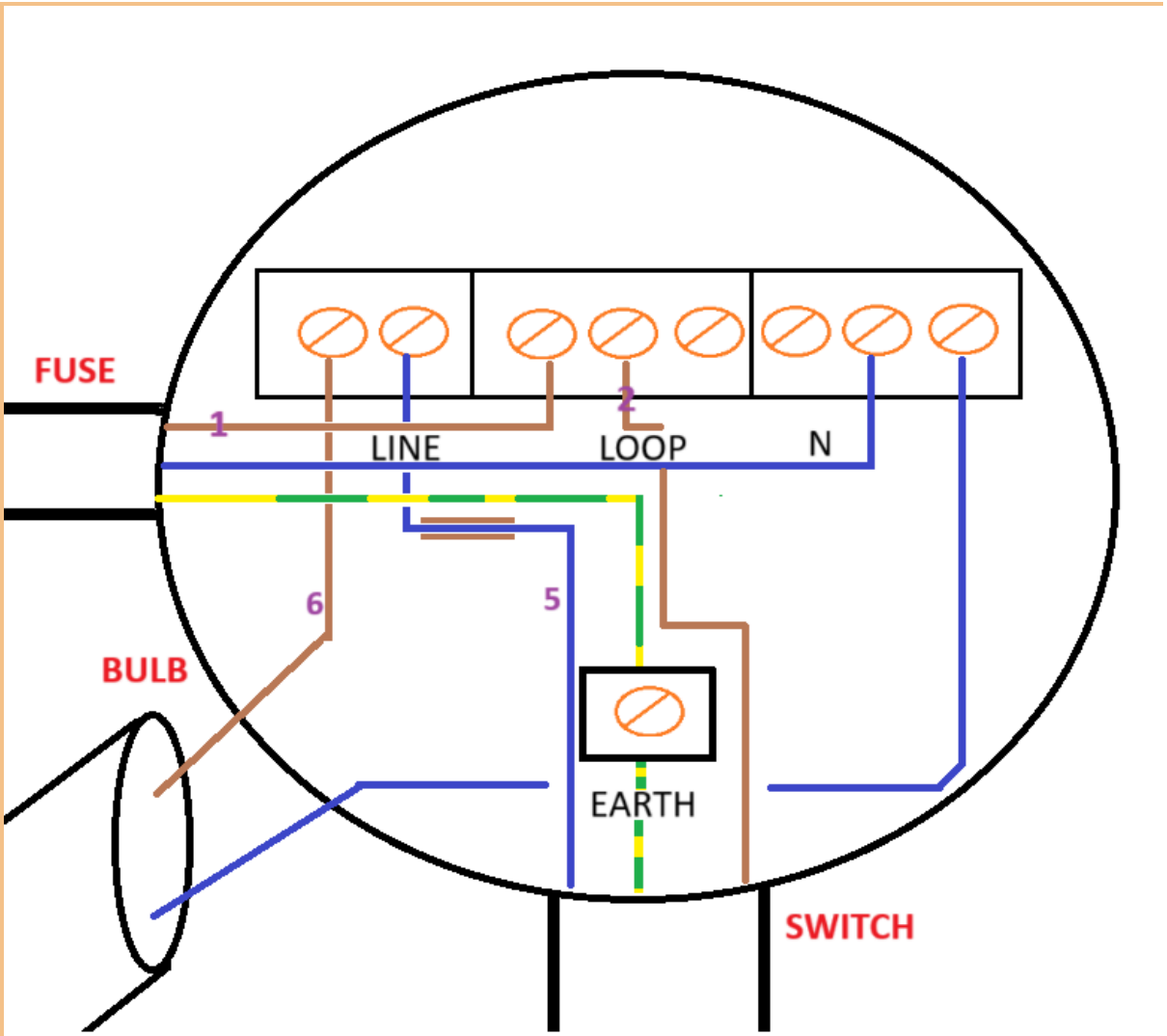


**circuit G2** – Fuse box to **Ring circuit with a spur** and **radial circuit**.

We started the class with **circuit G1** then we upgraded the circuit into **circuit G2**. The new addition to the circuit is the rose ceiling and the light switch.

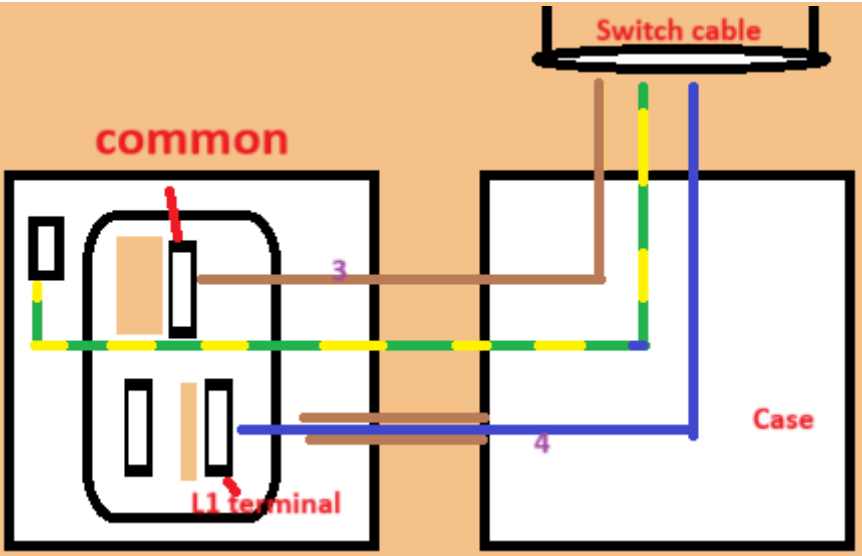



**Long view of the rose ceiling**




**Detailed view of the rose ceiling**

- **Step 1** – power flows from the fuse's **brown live wire** into the **Loop segment** of the connector block.
- **Step 2** – In the loop segment of the connector block. The electricity flows from the **brown live** wire of the Fuse cable to the **brown live** wire of the switch cable.




**Detailed view of the "switch button and case"**

- **Step 3** – the electricity flows down the **brown live wire** of the switch cable to the actual "switch button". The **brown live wire** is placed into the **common terminal**.
- **Step 4** – When the "switch button" is pressed the circuit is complete and the electricity will flow into the L1 terminal and back to the rose ceiling through the **blue neutral wire** with a **brown sleeve** (**Switch live** wire). Which is called the switch live wire. Because, it gets electrical flow when the button is pressed.
- **Step 5 / Step 6** – The electricity flows into the line segment of the connector block. This grant electricity to the adjacent terminal in the line segment. The adjacent terminal holds the **brown live wire** for the bulb. Therefore, the electricity then flows down and the bulb will be lit.

In other words:

**Switch live** on the two block-terminal LINE segment of the connector block. This wire is indicated by a **brown sleeve** over the top of the **blue neutral wire**. The **switch live wire** will only have power when the switch is pressed. Adjacent to the switch-live terminal (on the LINE segment) is the **brown live wire** which goes to the bulb pendant. So the electricity will flow from the switch-live to the **brown** live wire of the bulb.

# Theory

Two methods for wiring a light:

1. Two plate – goes from switch to light
2. Three plate – goes from light to switch

**Hazardous substances**

Adhesives – to join a plastic conduit

solvents – usually a liquid

lubricants – used in the machinery and maintenance

jointing compounds

cleaning agents

SWA cable you can use shoe polish

Hazardous substances – How to reduce risk: PPE, ventilations, RA, Method statement and SSOW.

**Tutor**: The majority of the students will have a van and will be on the move. Lock the equipment to the plyboard inside the van.

Data sheets used to determine what products to use

Do not use different bottle for a different product

Use hand protection when you use solvents

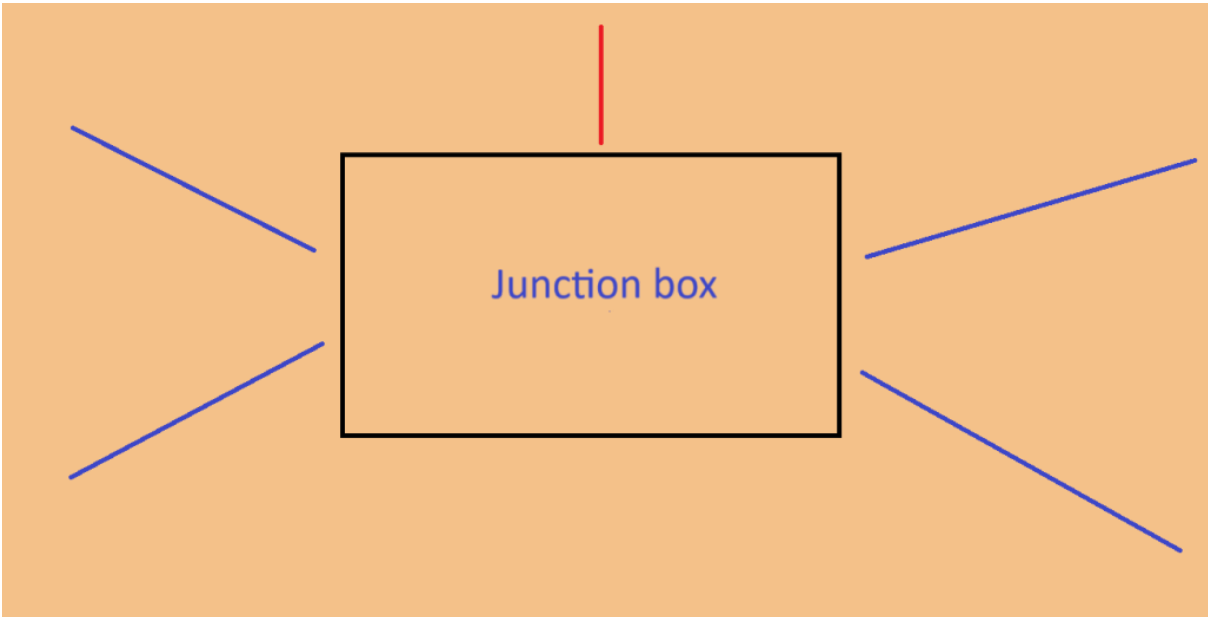
Barrier cream and after-hand cream

A permit to work – who, what when and where?

permit to work feeds off from Risk Assessment (RA)

**Electrical dangers**

- Checks for faulty equipment should be checked every time before use
- Double insulated cable required on wires,
- Junction box – one wire goes into junction box and the junction box feeds into many directions.




- The wires should be feeding horizontally or vertically in line with the light switch,

- Love voltage increases the current,
- 55v shock is the max you will receive from 100x equipment,
- the max temperature is **70 degrees** is because this is the temperature that the insulation will melt. However, the internal copper wire will be fine. Because it takes more than 70 degrees to melt copper.
- The warning is for the insulation.

## Fire and fire fighting

Think of regulations as MOT. They test the house(s) against the regulations for when the house was built. If you do a new installation it must comply with recent regulations.



## Classifications of fires

- Class A – Materials,
- Class B – Liquids,
- Class C – Flammable gases,
- Class D – Metals,
- Class E – Electrical fires,
- Class F – Cooking oils/chip pan fires.

## Asbestos

Type of asbestos:

- Chrysotile (white),
- Amosite(brown),
- and Crocidolite(blue).

Additional information:

- Causes long conditions,
- Test to find if work area contains asbestos,
- Keep area damp to reduce the dust in the air,
- Asbestos can be taken to local waste plant – ensure it is double bagged.

**Environmental protection**

Diesel particule filler (dpf)

Three waste disposals;

- Recycling,
- Hazardous waste,
- landfill,
- **offshore (tutor mentioned)**.

You can strip down cables for copper. Copper is valuable.

Give it back to the wholesaler and then get a credit note.

Spill kit can be used for diesel and engine oil apply sand on it , when spilt.

Petrol evaporates so no need.

In the third class we change the **ring circuit with a spur** and added a **radial circuit** to it. View the picture below.