# Lorraine Underwood

- E-mail: l.underwood@lancaster.ac.uk
- Twitter: @LMcUnderwood
- YouTube: element14

- https://wp.lancs.ac.uk/cloudlet/

- aka.ms/idmf24

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# Clip:bit & Cloudlet

- Teaching children about data and data science using tangible tools

- Primary aged 8+

- Primary teachers

- Primary school infrastructure

- Cross curricular: computing, maths, geography, so far!

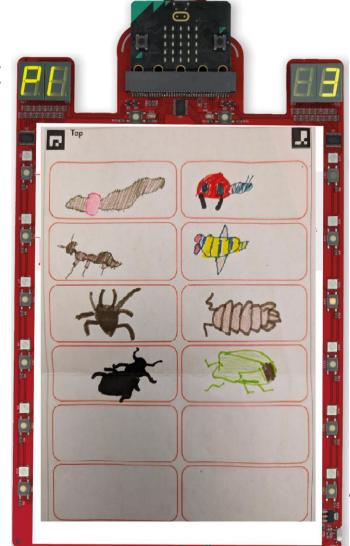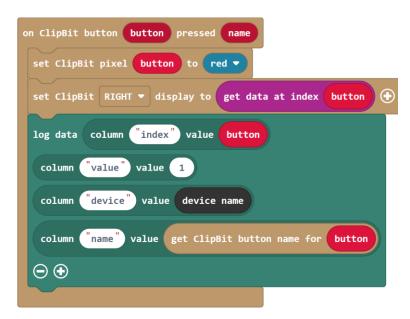# Toolkit for Educators to teach Data Science (TEDS)

- Other tools
  - Expensive
  - Fragile
  - Apps
  - Black boxes
  - Online
  - Online APIs
  - Installed software
  - Secondary aged
  - Excel
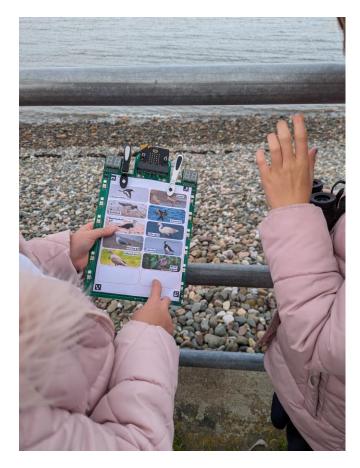  - No real data, no live data

See paper: Energy in Schools

# Toolkit for Educators to teach Data Science (TEDS)

- Data collection – clip:bit
  - Programmable
  - Mobile
  - Lightweight
  - Battery powered
  - Child led

# Toolkit for Educators to teach Data Science (TEDS)



Counting wading birds on Morecambe Bay, Year 3 (ages 8 to 9)

# Toolkit for Educators to teach Data Science (TEDS)

- Data analysis – classroom cloudlet
  - Mobile
  - Transparent
  - Offline

| NAME | COUNT | TEAM | IMAGE |
|------|-------|------|-------|
| All | | All | |
| Ant | 2 | Jan and Angie | |
| Bee | 2 | Jan and Angie | |
| Ladybird | 1 | Jan and Angie | |
| Worm | 3 | Jan and Angie | |
| Bee | 4 | Kobi and Hannah | |
| Worm | 3 | Kobi and Hannah | |
| Bee | 3 | Phil and Lorraine | |



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# Outcomes

- Experience of a data 'pipeline'

    Collection → Analysis → Visualisation → Sharing

- Knowledge of what is data and why is it important

- Giving children real life experience of cross curricular subjects working together

- Connecting children to their local area and environment

- *"I think actually getting them outside, getting them looking at nature...paying attention to what's out there to what they walk past and ignore."*