Environmental Sensing

Environmental Sensors in the Classroom

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Introduction
Why?

Sensor

Use

Quality

Interpretation
Sensors

Cost  Availability  Media

My Sensors

SensorDrone
Pros
- Portable
- Durable
- Easy to use
- Cost-effective
Cons
- Limited battery life
- Need to be charged

Air Quality Egg
Pros
- Nitrogen dioxide
- Carbon monoxide
- Temperature
- Humidity
Cons
- Battery needs to be replaced
- No oxygen data

Air Quality Monitor
Pros
- Portable
- Easy to read
-收集
- Easy to use
Cons
- Battery needs to be replaced
- No oxygen data

Vaavud
- Water Quality Meter
- Nitrate Kit
My Sensors

**SensorDrone**
- **Pros**
  - Portable
  - Many parameters
  - Durable
  - Data Availability
  - Ease of Use
- **Cons**
  - Battery Life
  - Need Device

**Air Quality Egg**
- **Pros**
  - Nitrogen Dioxide
  - Carbon Monoxide
  - Temperature
  - Humidity
- **Cons**
  - Only need internet
  - Long-term
  - No recharge

**Vaavud**

**Water Quality Meter**

**Air Quality Monitor**

**Nitrate Kit**
What to look for?

- Cost
- Portability
- Battery Life
- Precision, Accuracy and Bias
- Ease of Use
- Durability
- Data Availability (extraction and display)
- Calibration
- Response Time
Sensordrone

**Pros**
- Portable
- Durable
- Many parameters
- Data Availability
- Ease of Use

**Cons**
- Battery Life
- Need Device

Air Quality Egg

**Pros**
- Nitrogen Dioxide
- Carbon Monoxide
- Temperature
- Humidity
- Only need internet
- Long-term
- No recharge

**Cons**
- Accuracy
- Portability
- Response time
- Data availability
- Need direct connection

Vaavuud

Water Quality Meter
CITIZEN SCHOOLS

6th and 7th grade
10-weeks
Class Structure

Brief lectures

Interactive activities

Groups
What they did
What they learned

Teaching back to their community
Summary
Next Steps

Lesson Plans – Language – Citizen Science
Conclusion

Sensor education and outreach

Sensor use

Sensor quality

Sensor data interpretation
Thank you
Environmental Sensing

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