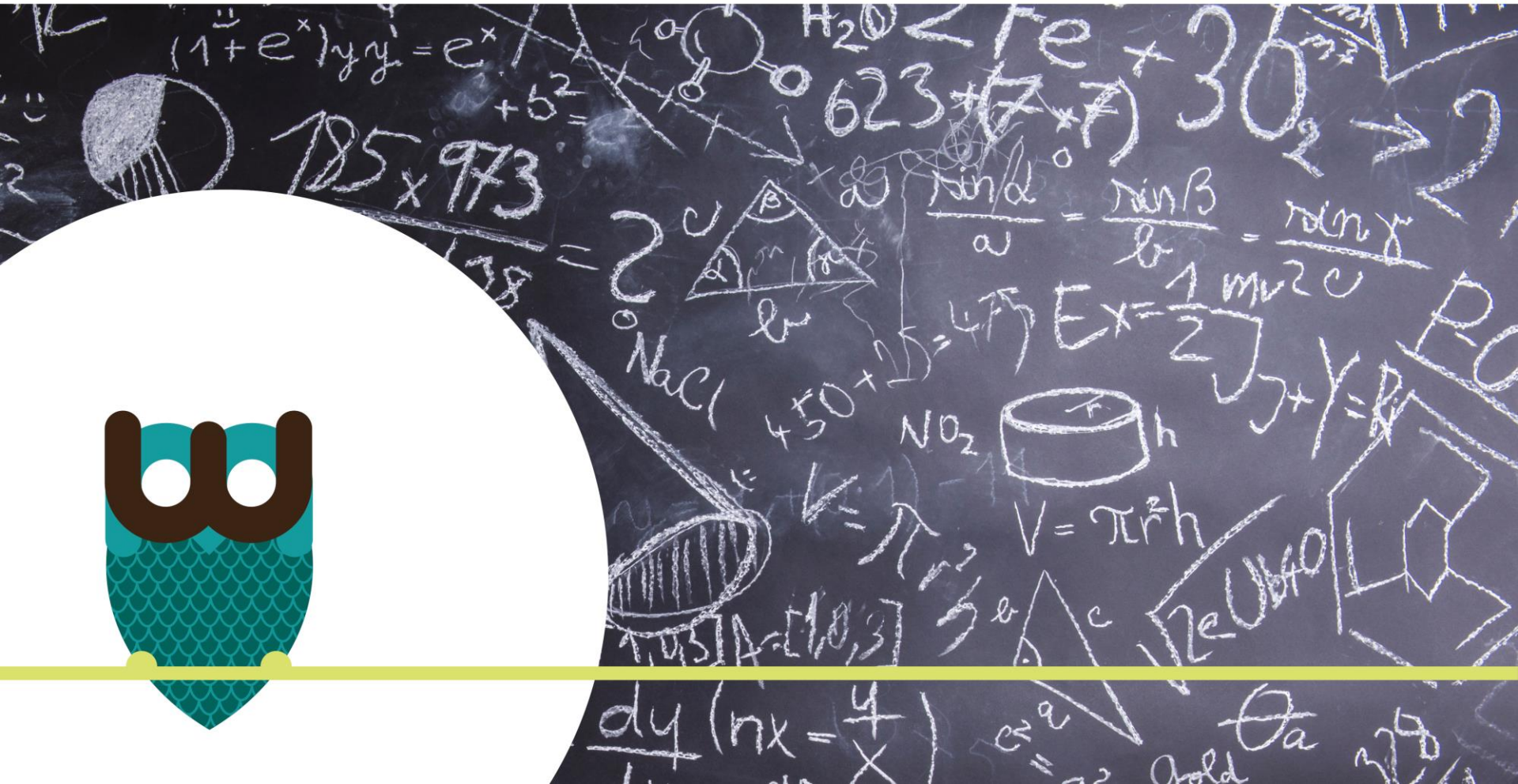


# Inquiry-based learning with TI Nspire CX

Denise Groeneweg and Sanne Kosterman - WisMon



# Who are you?



- Name, location, what do you teach?
- Experience with doing research?
  - What experience stood out for you?

# Who are we?



We are a group of STEM teachers with a passion for the development of education.

A part of our time we spent teaching, the rest of our time we spent developing innovative STEM education.

**“Our goal is to make STEM more fun and accessible to everyone.”**



*The WisMon team last summer*



- What questions regarding inquiry-based learning can you think of at this moment?
- Write your questions down on individual post-its (one question per post-it) and we will get back to them at the end of the session.



Everyone has a cardboard box on their table.  
Pick it up and take a moment to look at it,  
move it, weigh it, in short: discover!



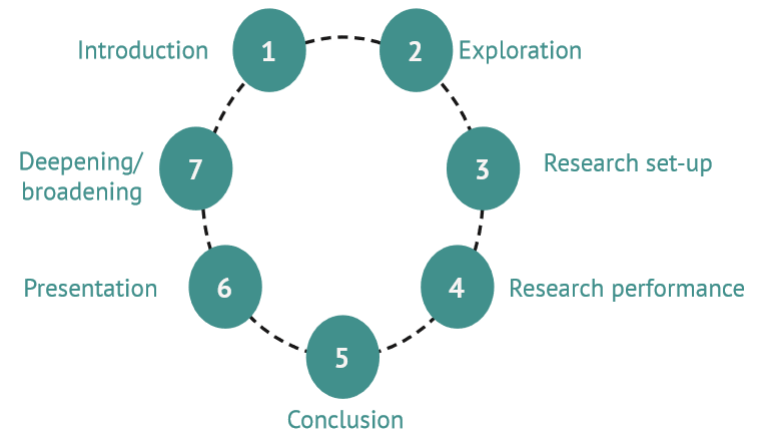
- Experiment: *Discover what the object in your blackbox is.*
- You may:
  - Weigh
  - Make sounds
  - Smell
  - Use magnets
  - Etc.
- But don't look inside yet!



- Done exploring? Open the box and see what's inside!
- Which questions did you ask?
- What method did you use?
- Did you get it right?



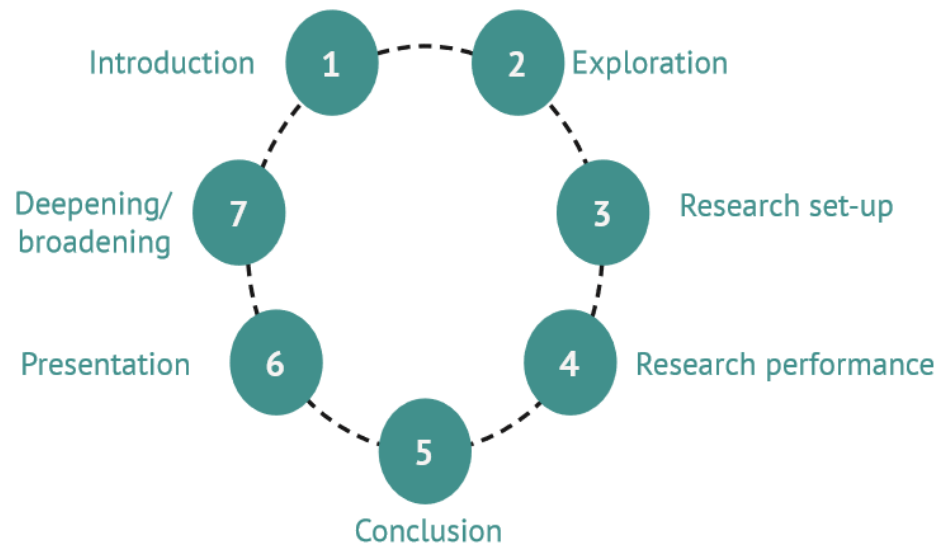
# Blackbox: Inquiry-based learning





# Why Inquiry-based learning?

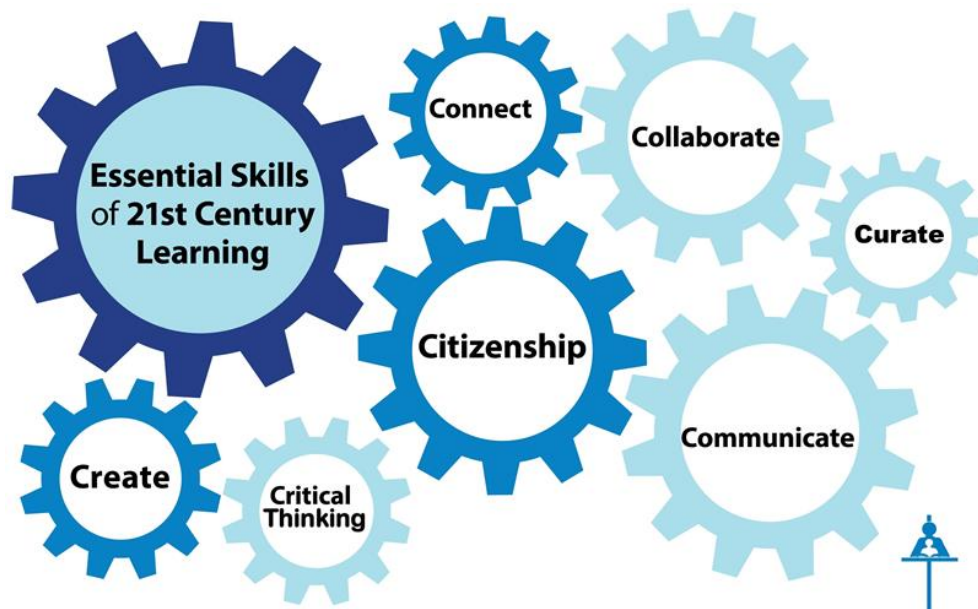
“The **curiosity** and **creativity** of the students form the starting point for their learning process, so that they better understand and remember the subject content.”



# 21st century skills



“During **Inquiry-based learning** students determine their own learning direction and develop many new skills at the same time.”



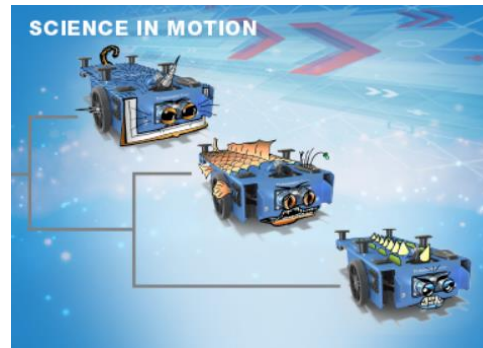
Critical thinking  
Creative thinking  
Problem solving  
Information skills  
Communication  
Collaboration  
Self regulation

# Inquiry-based learning at WisMon





Can You See Me in the Pedigree?



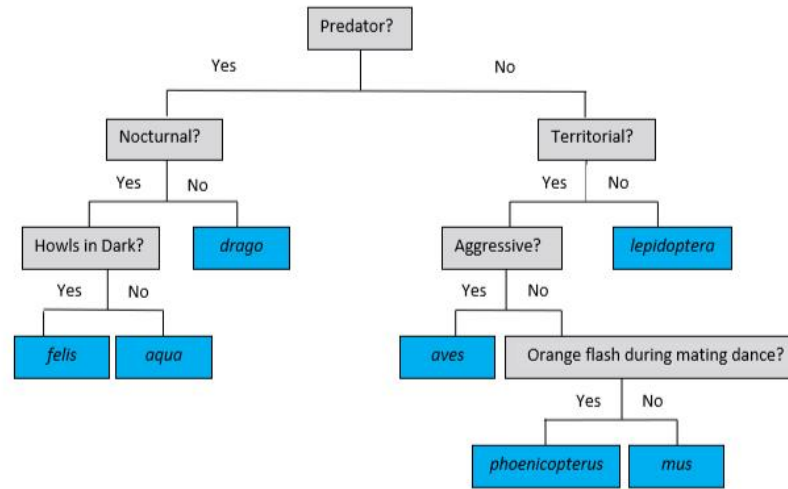
Dichoto-Me



Speed Check

**TI-Innovator Rover Species Identification Chart**

Use this dichotomous key to identify the species name of your Rover. Remember that you must conduct all tests in the order shown in the chart below.



*Roboticus drago*



*Roveridae aqua*



*Innovatidae felis*



*Calculatoridae mus*



*Graphinia aves*



*Codus lepidoptera*



*Programmicus phoenicopterus*

# Mood ring






# TI Nspire CX sensors



## Data Collection Sensors

Data collection sensors and devices can be used with TI-Nspire™ and TI-Nspire™ CAS handhelds. Experience simple direct-connect compatibility using the built-in USB port with TI-Nspire™ and TI-Nspire™ CAS handhelds.

	 Lab Cradle TI-Nspire™ family	 Vernier Go!Link TI-Nspire™ & TI-84 Plus families	 Vernier EasyLink® TI-Nspire™ & TI-84 Plus families
30-Volt Voltage Probe	•	•	•
25-g Accelerometer	•	•	•
3-Axis Accelerometer	•		
Low-g Accelerometer	•	•	•
CBR 2™ <sup>1</sup>	•	Connects directly to handheld USB port	
Go! Motion	•	Connects directly to computer USB port	
Extra Long Temperature Probe	•	•	•
Stainless Steel Temperature Probe	•	•	•
Surface Temperature Sensor	•	•	•
Wide-Range Temperature Probe	•	•	•
Ammonium Ion-Selective Electrode	•		
Anemometer	•	•	•
Barometer	•	•	•
Blood Pressure Sensor	•	•	•
CO <sub>2</sub> Gas Sensor	•	•	•



- Make interdisciplinary teams and choose a central theme, for example:
  - Health
  - Movement
  - Music and Arts
  - Sustainability
  - ...
- Come up with one research question and think of suitable methods





- Were we able to answer the questions you had on Inquiry-based learning in the beginning of this session?
- If not, how could you find the answer to questions you still have?

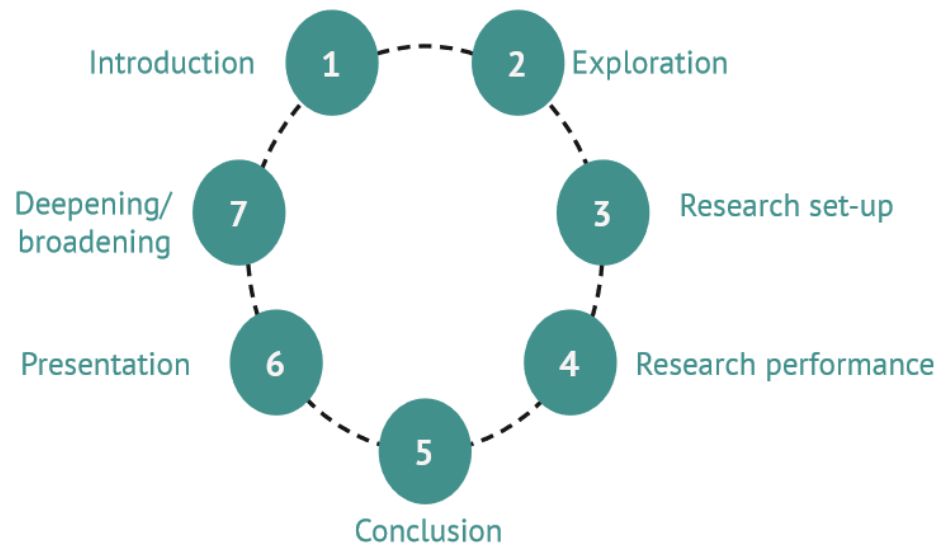


- Can you come up with an interesting interdisciplinary research project?
- How can you work together with your colleagues?
- What are the biggest opportunities within your subject?
- What are the biggest challenges?
- What possibilities do you see with the TI technology?

# What does WisMon offer?



Workshops, guest lessons and teacher trainings on Inquiry-based learning.





Want to know more about (Dutch) STEM education?  
Contact us!



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# Questions?

