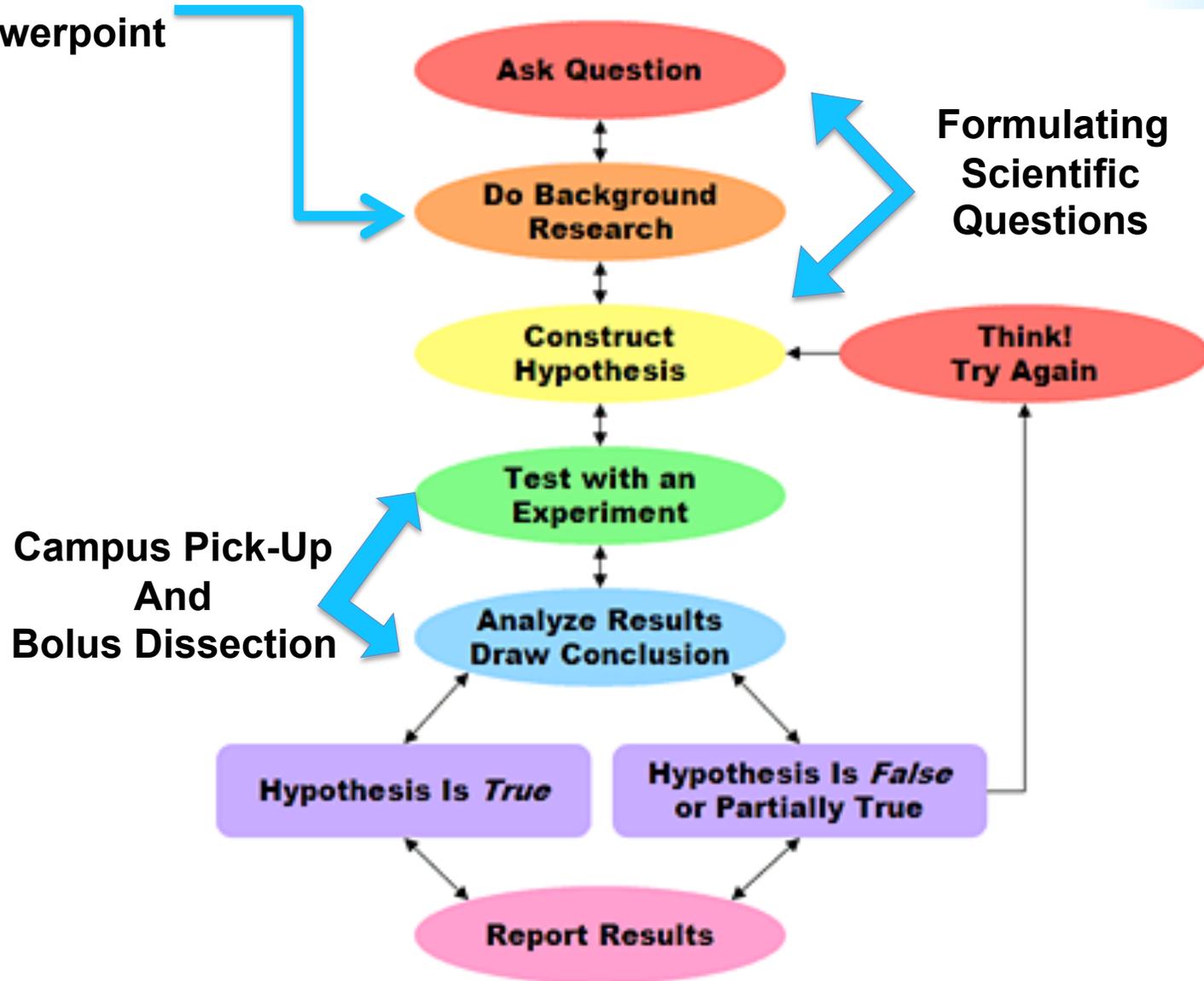


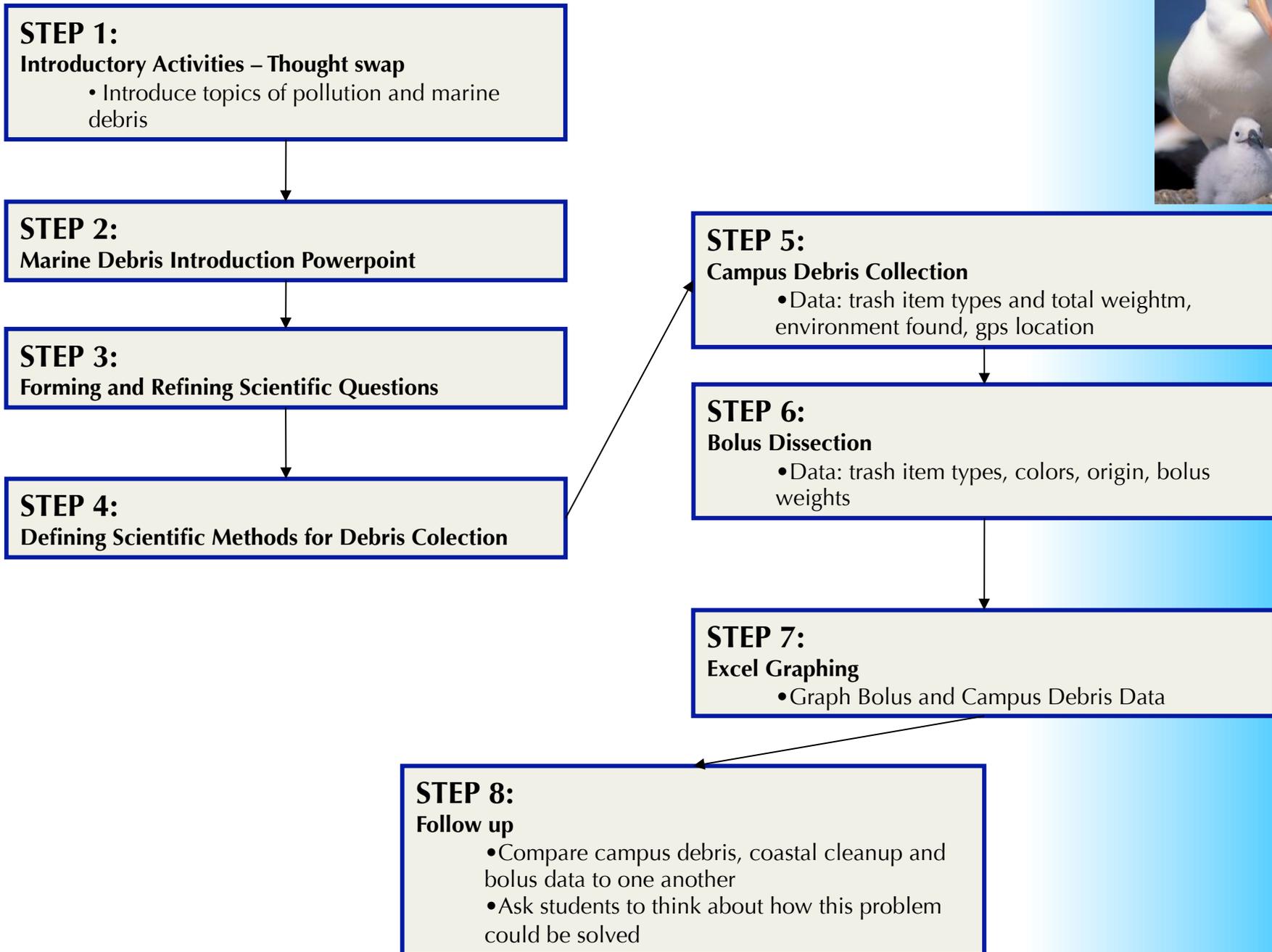


# **Marine Debris Curriculum: An 'In-Depth' Overview**

# Marine Debris Powerpoint



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# Introductory Activities: Recognizing Misconceptions



- Surveying Class
- Asking Class Questions
  - Raise your hand if.....
  - Voting
- Thought Swap

# Surveying Class



- How would you define the term 'marine debris'?
- Where do you think marine debris comes from?
- What animals do you think are affected by marine debris?

# Thought Swap



- Stand in Two Lines, evenly split
  - Stand facing another person across from you
- Fellow will state question/write question on the board
- One person answers, other person listens
  - Listener will share answers with class
- Write answer out on board
- *Example.....*

# Marine Debris Introduction Powerpoint



- Changing focus of powerpoint for class
- Ideal powerpoint about 20 to 30-minutes
  - May want to split up time period with activity
- Making sure to touch on:
  - Marine debris
  - Land to sea connection
  - Seabirds, specifically albatross, as a bioindicator
- *Example....(more information than you need)*

# Forming a scientific question...



- **ASK A QUESTION.....**
- You will be:
  - Conducting an analysis of the debris on your campus
  - Analyzing albatross boluses

# What makes a 'good' scientific investigation question?



“A scientific question is based on a hypothesis or theory that is testable and falsifiable. If you can in no way prove that a hypothesis is wrong, then you accept on *faith* that it is true, not on evidence.”

# While playing with barf, think about....

- What is the average size of plastic found in each bolus (that an albatross swallows)? (*PHS*)
- Are there similar debris types in the courtyard as in the albatross bolus? (*CGHS*)
- What is the most common color of plastic found in the albatross boluses? (*CGHS*)
- What shape of debris would most likely be found in the albatross bolus? (*PHS*)

# Campus Debris Pick-Up Designing Methods



- Have student groups design sampling scheme
  1. Draw and write out plan
  2. Present to class – voting!
- Choices:
  - Do you want groups to overlap? sample different areas? Size of areas?
- Ideal set-up:
  - 15-minute sampling interval
  - Measure area with transect tapes
  - Various areas around campus (include stream or river)

## Equipment you will have available:

6 clipboards with data sheets

6 garbage bags

Plastic gloves (lots)

Transect tapes (Looonnnggg tape measures)

Marking flags (lots)

# Campus Debris Survey



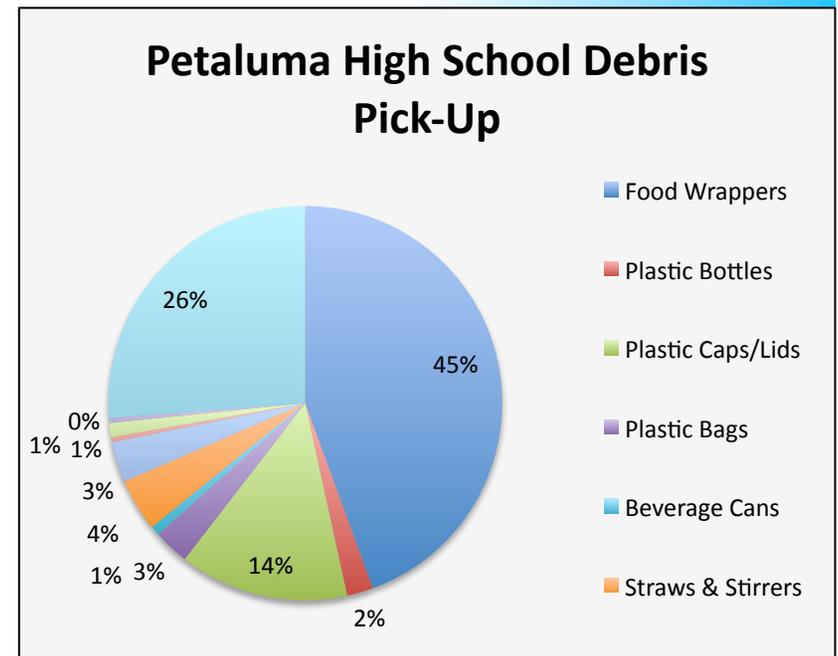
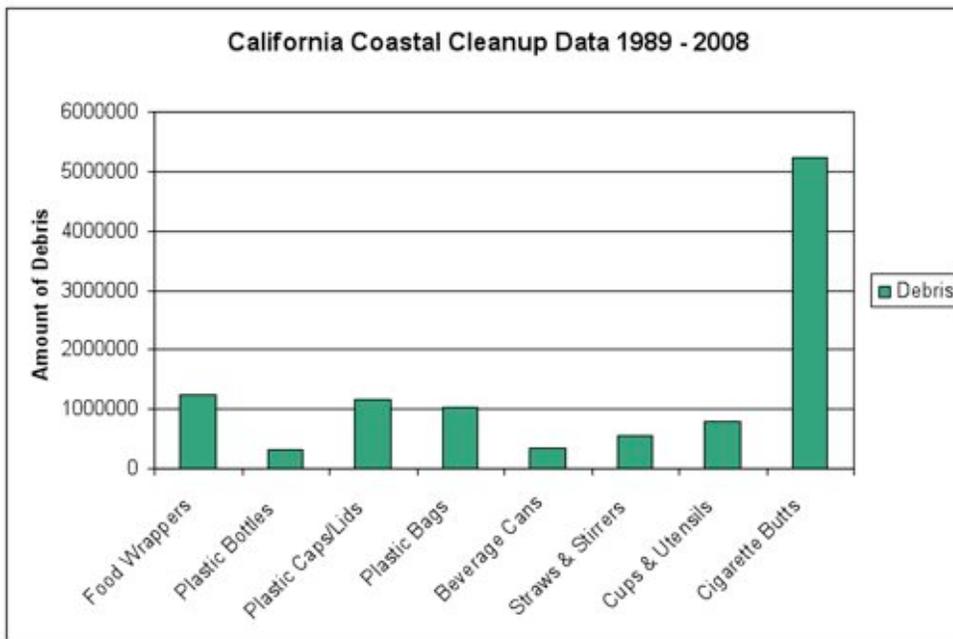
## Campus Debris Pick up Data



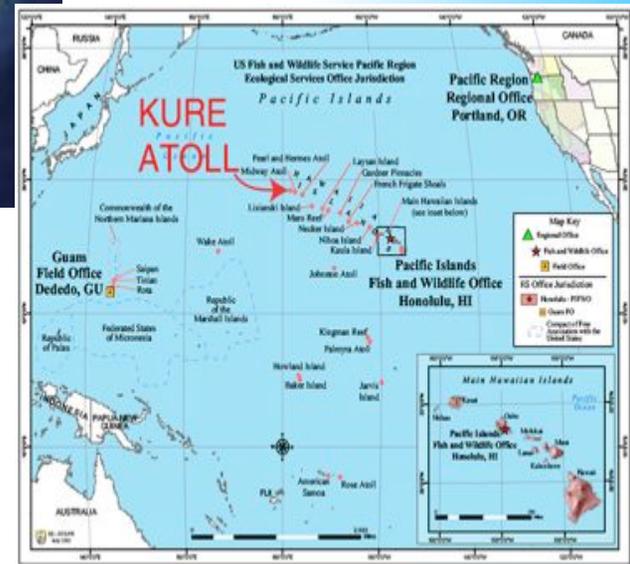
# Campus Debris Analysis



- Excel Lesson Plans
- Comparison to Coastal Commission Data



# Bolus Dissection



# Albatross Bolus Dissection

## Direction



- Boluses are large enough to split btwn 2 grps
  - Class of 30 only needs about 3 boluses ( 6 groups of 5 people)
- Boluses were gently pulled apart with hands and forceps.
  - Put into categories – categories are listed on data sheet.
- Once sorted, student counted (average) amount of each item
  - Data sheets filled out
- Students framed dissected boluses.



# Albatross Bolus Dissection Direction



Squid Beaks



# Bolus Dissection



# Other Activities and Follow-Up/Debrief



- **Tracking Albatross and Trash** (Coastal Commission Activity)
  - TOPP → tagging of pelagic predators website
    - [TOPP](#)
- **Making a 'Bill'**
- **Assessment Activities**
- **Seabird and CCS Computer Activity**