

# Developing Outcomes Through Front-end Evaluation


Setting Your Organization Up for  
Outcome Measurement Success



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Are you about to develop a  
new education program, or  
revise a current one?

Start your evaluation now!



**Step 1:**

**Develop evaluation  
questions and decide  
who will answer those  
questions**

## Example: Developing outcomes for Asian Tropics exhibit at Denver Zoo

Evaluation Questions		Impact/Outcome Category (R, K, A, S, B)	Variable Category A	Variable Category B	Data Source A Who will we question?	Data Source B Who will we question?
29	How are Asian cultures connected to wildlife?	Knowledge	Cultural Knowledge		Visitors	
30	How does religion play a part in Asian cultures?	Knowledge	Cultural Knowledge		Visitors	
31	What interests you about Asian wildlife or culture?	Affect	Interest		Visitors	
32	What does the phrase "Saving wildlife by helping people" mean to you?	Affect	Perception		Volunteers	Staff
33	What is the difference b/ domestic vs. wild Asian elephants	Knowledge	Life Science knowledge		Visitors	Staff/Vol
34	What's the first thing you think of when I say SE Asia?	Knowledge	Cultural knowledge	Life science knowledge	Visitors	Volunteers
35	How do you connect with the animals at the zoo?	Affect	Perception		Visitors	



Step 2:

**Determine data  
collection methods and  
develop instruments;  
collect data**

## Example: Potential instruments to be used to develop learning outcomes for Asian Tropics

### **Standards review**

Visitor on-grounds survey

### **Visitor e-survey**

Visitor concept mapping

Member focus group

Education department focus group

### **Education department survey**

Adult program participant survey

### **Volunteer focus group**

Volunteer survey

Cultural expert interview

### **Facebook question**

Teacher focus group

# Sample Instrument – Standards Review

**Content Area: Science**

**Standard: Life Science**

**Prepared Graduates:**

- Explain and illustrate with examples how living systems interact with the biotic and abiotic environment

**Grade Level Expectation: Eighth Grade**

**Concepts and skills students master:**

1. Human activities can deliberately or inadvertently alter ecosystems and their resiliency

**Evidence Outcomes**

**Students can:**

- a. Develop, communicate, and justify an evidence-based scientific example of how humans can alter ecosystems
- b. Analyze and interpret data about human impact on local ecosystems
- c. Recognize and infer bias in print and digital resources while researching an environmental issue
- d. Use technology resources such as online encyclopedias, online databases, and credible websites to locate, organize, analyze, evaluate, and synthesize information about human impact on local ecosystems
- e. Examine, evaluate, question, and ethically use information from a variety of sources and media to investigate an environmental issue

**21<sup>st</sup> Century Skills and Readiness Competencies**

**Inquiry Questions:**

- Do humans have a unique responsibility to the ecosystems in which they live?
- How can a young person be a steward of an ecosystem?

**Relevance and Application:**

- Human activities such as cutting down forests and polluting water or covering deserts with fields of solar panels are constantly changing various cycles and habitats in the natural world.
- There are laws that preserve and protect wilderness areas such as national parks and other natural areas but such laws also limit the utilization of the natural resources in those areas.

**Nature of Science:**

- Critically evaluate scientific claims in popular media and peer generated explanations regarding interactions in ecosystems, and determine if the evidence presented is appropriate and sufficient to support the claims.

# Sample Instrument – Visitor Survey

8

What do you believe are the main issues facing animals in the tropical regions of Asia? Please select the three reasons of those listed below that you think are the biggest issues facing tropical Asian animals.

- Agriculture
- Climate change
- Deforestation
- Development of land for towns, cities
- Introduced (non-native) species
- Livestock overgrazing
- Logging
- Loss of wetlands
- Mining
- Natural disasters (drought, fire, tsunami)
- Predation (animals hunting other animals)
- Over-hunting/over-fishing by humans
- Politics
- Pollution
- War/conflict
- Wildlife trade (hunting animals to sell their parts or use parts to make products; taking animals from the wild for pets)
- Other issues, please specify



# Sample Instrument – Visitor Survey

- 
- 12 Think about what most interests you about the people and cultures of the tropical regions of Asia. Please share up to three things about the people of these regions that you are interested in learning about.

Interest 1:

Interest 2:

Interest 3:

- 
- 13 Now, think about what interests you about the animals or environments of these regions of the world. What would you like to learn more about from within these topics?

# Sample Instrument – Staff Survey

- 2 **What do you think Denver Zoo audiences should know as a result of participating in a program about the tropical regions of Asia? Please list up three different ideas about knowledge.**

Answer Option 1:

Answer Option 2:

Answer Option 3:

- 3 **How do you think Denver Zoo audiences should feel, or what attitudes should they have, as a result of participating in a program about the tropical regions of Asia? Please list up to three different ideas about attitudes or feelings.**

Answer Option 1:

Answer Option 2:

Answer Option 3:

# Sample Instrument – Facebook Post



**Denver Zoo** Happy Thursday everyone! We want to know from our loyal Denver Zoo visitors and fans: What do you want to learn about the Asian Tropics exhibit when it opens to the public in the summer of 2012? Your suggestions may help guide education program development! Thanks for your help and have a great day!

Thursday at 8:47am · Comment · Like

13 people like this.



**Sarah Benjamin** How does it resemble the wild, why is that important for the elephants?  
:)

Thursday at 9:59am · Like



**GayLynn Brown Rediger** Will different species share any of the areas?

Thursday at 10:09am · Like



**Anne Welch** How is it involved in international breeding plans? Any potential release of animals back to the wild some day?

Thursday at 11:50am · Like



**Carissa Cooper** i would like to know about the different eco systems and about the different animals

Thursday at 12:00pm · Like



**Jenn Carlson** I would like to know more about the out of work domesticated elephants and is being done about the situation.

Thursday at 2:10pm · Like



**J.D. McCrumb** Where will the Hippos live?

Thursday at 2:33pm · Like



**Nancy York** What are you going to do with the space the animals live in now

Thursday at 5:19pm · Like



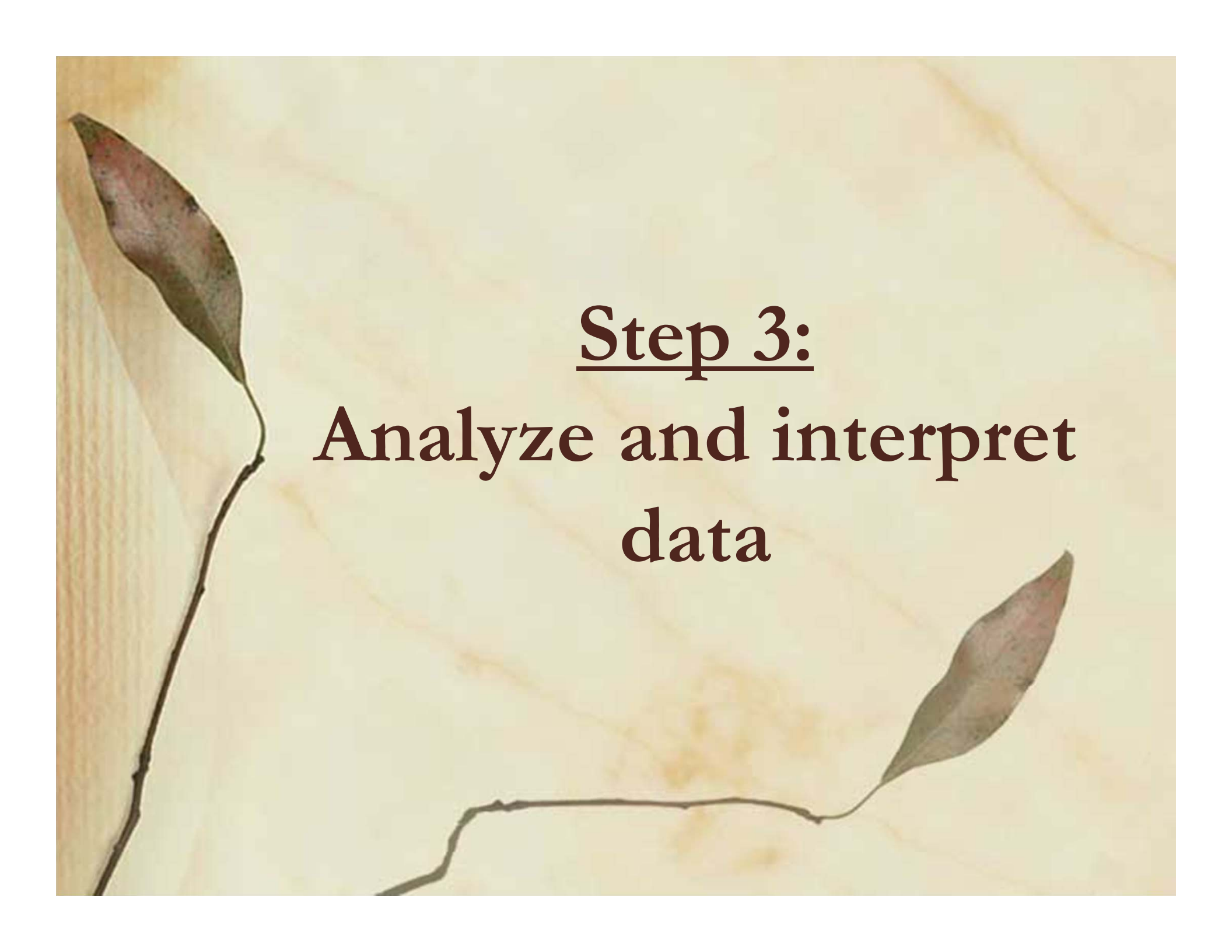
**Rebecca Goodmaker** Fun facts for kids! Behavior in the wild, info. on habitat and the interaction between species there. Also, would love to see more on individual animals... names, birthdates, where they came from, what they like to eat, ect. Kids like that stuff.

Thursday at 5:24pm · Like



**Angelina Lopez** Often the exhibits mention what the animals eat in the wild. I would like to know more about what they are fed while in captivity and also other details of what goes into caring for each kind of animal such as vaccinations and/or supplements for what and why? etc..

Thursday at 5:25pm · Like

The image features a background of aged, yellowish paper with a pressed leaf. The leaf is dark brown and elongated, with a stem that curves across the bottom of the frame. The text is centered on the paper.

**Step 3:**  
**Analyze and interpret  
data**

# Coded data – Visitor Survey

## Visitor Survey Question 7: How are you connected to the tropical regions of Asia?

Of the 98 respondents, only 73 answered this open-ended question. Of those that answered, their responses fell into the following codes (note that some responses [26 responses, or 36%] were coded twice because the response contained two connections)

- **No connection** (32) 44% of the responses  
*Example responses:*
  - Not really connected to the region, love the animals and would love to see some truly exotic species...
  - I don't feel any personal connection to any region of Asia, except for visiting the zoo and enjoying the animals from that region
  - I wouldn't really consider myself connected to the tropical regions of Asia.
  - Not connected
  - I am not. I am having a hard time figuring out which countries this might be. Laos? Thailand?
  - I don't know.
  - Not at all.
  - I don't feel much affinity for the region.
- **Curiosity/interest** (9) 12% of the responses  
*Example responses:*
  - A wonderful part of our ecosystem on this planet. Also, somewhere that is a bit mystical/magical as a 'Westerner'.
  - We are excited to see the new zoo exhibit
  - no connections, just curiosity.
  - I'm not, beyond a general interest.

The image features a light beige, aged paper background with faint, natural patterns. A single, pressed leaf is visible, its stem extending from the left edge towards the center, and another leaflet is positioned on the right side. The text is centered on the page in a dark brown, serif font. The word 'Step' is underlined, and the number '3' is also underlined. The word 'Communicate' is in a larger font size than 'Step 3', and 'findings' is in the same size as 'Communicate'.

Step 3:  
**Communicate findings**



Who will report the findings, and to whom will they be reported?

Who will use the findings?



Step 4:

**Develop outcomes and  
program logic model**



# Example Outcome Development

**OUTCOME: Apply conservation behaviors in daily life to take action for animals and the environment.**

Select up to 6 observable behaviors from the previous work developed by EVSD staff that your group feels are the strongest evidence that this long-term outcome is being achieved. What knowledge, skills, affect, and intentions to behave do we think audiences need for that observable behavior to occur?

Audience (Age)	Observable Behavior	Short-term Outcomes
0-5 years (Early childhood)	Differentiate basic recyclables from trash.	Knowledge: what is recyclable Skills: differentiation between recyclable and not Affect (Attitudes): desire to help the environment by recycling Intentions: to help animals/environment
	Remind/ show family to recycle	Knowledge: what is recyclable Skills: pass on info Affect (Attitudes): desire to help the environment by recycling Intentions: wanting others to help animals/environment
	Asks questions relating to conservation/environment.	Knowledge: there is a need for everyone to pitch it Skills: recognize connections between actions and the effect on the environment Affect (Attitudes): care about the well-being of animals and their environment Intentions: wanting to help more/ learn more
	Recognizing and talking about animals.	Knowledge: What is an animal, how an animal lives in the wild, basic animal needs Skills: Animal identification Affect (Attitudes): Liking animals Intentions: Wanting to see and learn about <u>animlas</u>
		Knowledge: Skills: Affect (Attitudes): Intentions:



Step 5:

**Develop, implement  
and evaluate program**



1. Redevelop/develop new programs
2. Develop/implement formative evaluation
3. Revise/adjust
4. Measure program outcomes!



# Contact Information

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