Coordinating Stage

Activity 1.

"Where Everybody Knows Your Name" Prompts for Introducing Participants.

> A semi-structured discussion to help new project leaders talk explicitly about their interests, skill-sets, and hopes as the project begins.

Activity 2.

"Ordering Goals and Outcomes" Lists for Sorting Priorities of a Project.

> A list-organizing activity to help leaders define research/educational goals of a project, and concrete outcomes they hope to achieve, as a base for planning a project's structure and timeline.

Activity 3.

"Project Word Webs" Map for Visualizing Group Purpose.

> A key-terms mapping exercise to help groups discuss the central focus of their project and create a visual representation of that conceptual space.

Activity 1.

"Where Everybody Knows Your Name"
Prompts for Introducing Participants.

WHEN: Before the project gets underway, just the group leaders together.
WHY: Gives leadership a fundamental sense of each other's various views and drives in the project.
HOW: Semi-structured faculty discussion, moderated by Project Coordinator or other Facilitator.

STEP 1. The Cards.

Sit around a table. Give each participant in the discussion one [Note-Card] to fill out for themselves: their Name / Department at the top, and underneath: "I Value...," "Goals," and "Skills."

"I Value..."
Goals:
Skills:

Make clear to participants that these are **not** necessarily **project-specific** values, goals, or skills—rather they will be focusing on individuals' **broader disciplinary perspectives, drives, and abilities** (setting up an *informed interpersonal foundation* for the collaborative project negotiations to come).

Once they have filled their card out, they can turn it around for others at the table to view, read others' cards, and use [Paper and Pen] to make notes about each person (noteworthy facts, any questions, etc.).

STEP 2. The Introductions.

Once everyone has read the front of each others' cards, have all participants turn over their cards and on the BACK, fill in two [Introductory Sentence Frames] (e.g., samples below—or modify to fit your group), one about themselves and one about their conception of the group:

Personal – "Hello, my name is _____."
  "I got into the field/s of _____ because {interests, drives, intentions}____."
  "And now I'm really good at {ways of thinking, methods of researching,
    types of creation}____.

Interpersonal – "I am excited about this project because {I value...}____."
  "And ideally, I hope it/we will create or produce {project goals}____"
  "And toward that end, I'm hoping to learn {self-growth goals}____
    and to contribute {skills applied}_____."

Have participants take turns introducing themselves based on what they write down. Remind everyone else to take notes on each person using **the speaker's words** ("their personal dictionary; not your own") and **mark with an asterisk (*) if you're not certain** what *they* mean by a word—to prep for follow-up.

STEP 3. The Discussion.
Have participants *use* their notes to discuss terms they're not sure about, person by person …

"What did you mean by this skill? This goal? This overarching value?"
"What / Where" (situate it) – "When / How" (operationalize it) – "Why" (make sense of it)

… in language that is emotionally **open**, rationally **clear**, and motivationally **explicit**.

"... that definition / explanation makes me **feel** _____.
and I think that's **because** _____.
And personally, **I'd really like to** _____.
How's that sound?"

_____

PS: The Sell – If group leaders are hesitant to set aside time for this activity, ask them: (1) Do they they know the backgrounds of their fellow leaders, well enough to introduce them to the rest of the project's participants? (2) Do they know the interests and skill-sets of these peers relative to the project, well enough to anticipate their priorities and concerns, as well as tools they bring to help with those issues, as the project progresses? THIS is the goal of these structured intros.

INTRODUCTIONS

Personal –
   "Hello, my *name* is _____."
   "I got into the *field*/s of _____ because
                                                 {interests, drives, intentions}."
   "And now I'm really *good at*
   {skills: thinking how, researching what, creating what?}.

Interpersonal –
   "I am *excited* about this project because
                                                 {I value...}."
   "And ideally, I hope it/we will *create* or *produce*
                                                 {project goals}"
   "And toward that end, I'm hoping to *learn*
                                                 {self-growth goals}
   and to *contribute*
                                                 {skills applied}."

ANY QUESTIONS?

… in language that is emotionally *open*, rationally *clear*, and motivationally *explicit*.

Basic Understandings:

"What did you *mean* by this Skill, Goal, or overarching Value?"

~ **What** / **Where** (situate) – **When** / **How** (operationalize) – **Why** (make sense of) ~

Honest Responses:

"... that definition / explanation makes me *feel* _____.
and I think that's *because* _____.
And personally, *I'd really like to* _____.
How's that sound?"

Activity 2.

"Ordering Goals and Outcomes"
Lists for Sorting Priorities of a Project.

WHEN: Within the first two weeks of the project, just the leaders together.
WHY: To coordinate ideas and language, in defining the priorities of the project.
    (Also prepares leaders to facilitate whole-group dialog-coordinating activities that follow)
HOW: Negotiating the project's central topic-terms and intended outcomes (primary and potential).

STEP 1. List-Making. List-Prioritizing.

Give each leader a [Half-sheet of Paper], that they can tear into strips (e.g., below) or sticky-notes, etc. and [Two Pens – one Black, one Blue]. Also give them a [Two-Columned Sheet of Paper], with columns labeled "Project Focus" and "Project Outcomes."

Have them begin by *listing* important topics, terms, and/or phrases related to the project (black ink) on strips of paper and placing them in column one; potentially desirable outcomes for the project (blue ink) in column two. Encourage them to write freely, as topics and products come to mind, in no order; anywhere between 10 and 20 items per list.

Next, have them *sort* these strips in each column, in order of importance. Which do they see as the most ESSENTIAL TOPIC-TERMS and most realistic/valuable POTENTIAL CONCRETE OUTCOMES.

STEP 2. List-Comparing. List-Negotiating.

Now, let the leaders compare their lists. Underline those terms which show up in multiple individuals' lists; asterisk * those terms which come in high on everybody's list.

Discuss these common/valued *topics* to make sure everyone roughly agrees on the *meaning* of these essential terms (or at least understands and accepts variations among each others terms). Do likewise with the *outcomes*, to make sure people roughly agree on the *practical form* of these outcomes (i.e., end products and related processes).

If there are any terms or outcomes that only one individual has included, but places high on their list, take time to discuss these items for possible inclusion. Combine/distill the lists down on one [Shared "Focus/Outcomes" sheet].

STEP 3. List-Connecting.

Are certain ideas linked to certain outcomes? Do certain terms precede others, in the timeline of this project, or subsume others, like an abstract notion that helps organize multiple concrete details?

Beginning with these questions, let group leaders talk out the interrelation of their terms and COMBINE their lists on one [Map Page], where topics and outcomes are ordered into a practical flow.

Remember to start with the pieces most important to you:

Top-priority topics → related outcomes.
Mid-priority topics → related outcomes.
Other important topics → possible additional outcomes.

"WHAT WE'RE REALLY TALKING ABOUT"
ACTIVITY STEPS:

List – Take two pens.
Write down Important topic-terms (the project's focus – in BLACK)
& Desirable results (the project's outcomes – in BLUE).

Organize – Tear these items off into separate pieces,
and *sort* them as two columns, in order of importance (to you).

Compare – Look at each other's lists. Then, on your own list, …
Underline those items which show up on multiple peoples' lists.
Asterisk * those items which are rated high on multiple peoples' list.

Discuss / Connect – Discuss these commonly agreed and / or * highly-valued *terms*.
** Does everyone agree—or understand variations in perspective—on the *meaning* of these essential terms?

Do likewise with the *outcomes*.
** Do people roughly agree on the *practical form* that these results will take?

If there are any terms or outcomes that only one individual has included,
but places high on their list, take time to discuss these items for possible inclusion.

Combine / distill the lists down on one shared "Focus / Outcomes" sheet.

Organize – Talk about the practical interrelation of these terms and outcomes.
Think about how to map these topics + outcomes into an operational flow (or refine your existing plans).

PROJECT FOCUS

~ (important topic-terms) ~

PROJECT OUTCOMES

~ (potential, desirable, concrete results) ~

[Black Ink]

[Blue Ink]

A MAP:

(Do certain *topics* link *to* specific *outcomes*? Do certain *terms* precede others, in the timeline of this project,
or subsume others, as guiding ideas might connect multiple concrete details? … map your priorities into a practical flow.)

- abstract / big-picture -

initially   finally

- - - - - - - - - - - - - - - - - - - concrete / local-immediate -

Example Goals & Outcomes: *Green Chemistry*
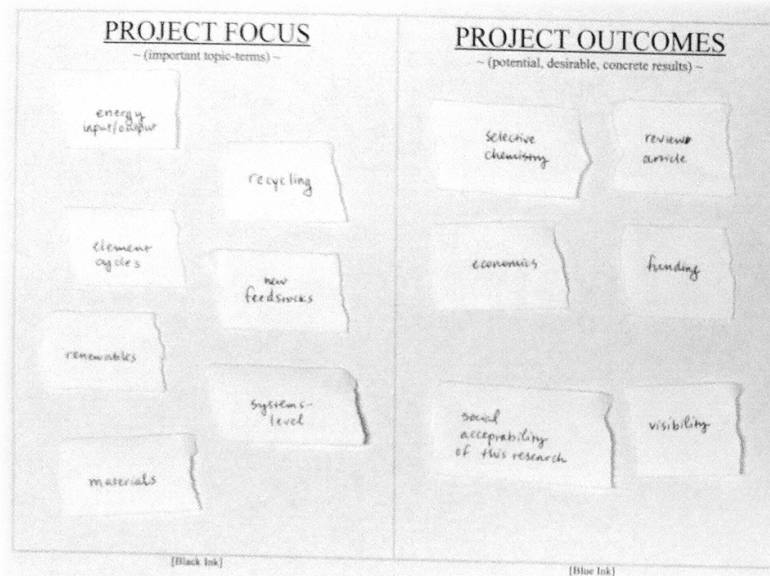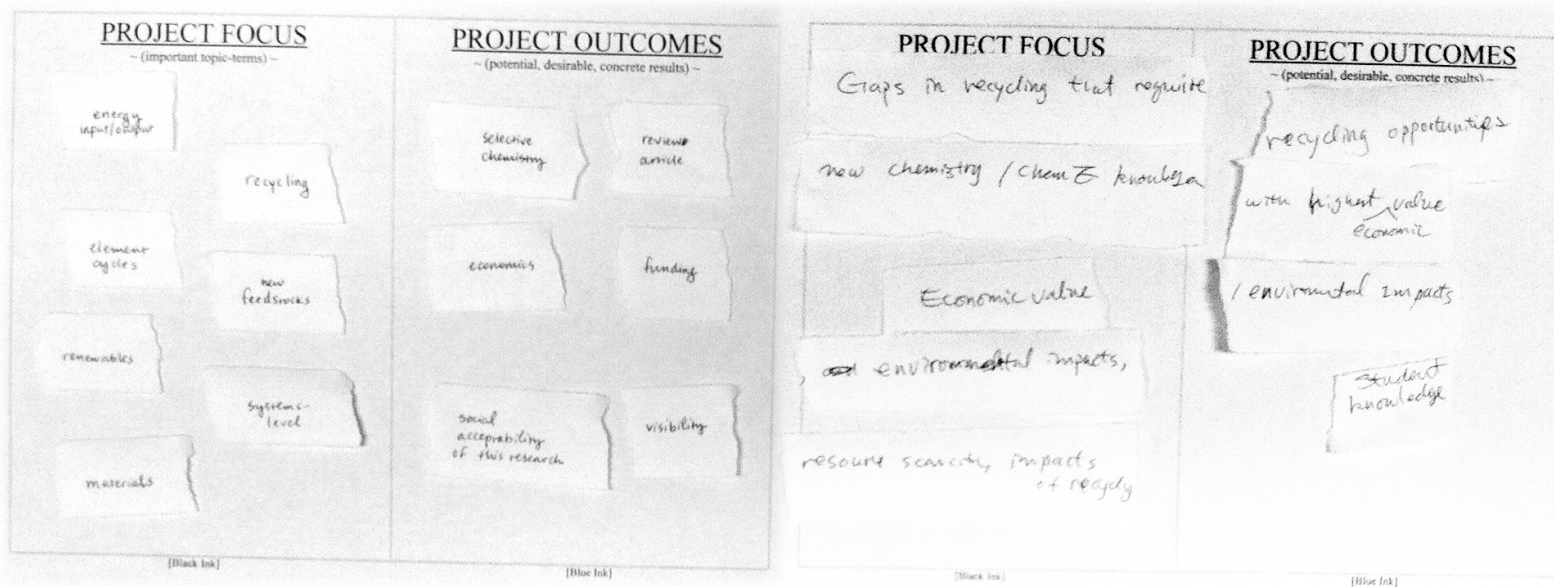
Activity 3.

"Project Word Webs"
Map for Visualizing Group Purpose.

WHEN: As the whole-group project begins, leaders and all participants (e.g., faculty/students) together.
WHY: To give all group members a coordinated sense of the project's focus and purpose: *"Making sure we know what each other means."*
HOW: Note-card and Sticky-note word mapping activity (to create a manipulable image of the project's essential parts, that can be easily moved and altered as the group negotiates what is central, what comes first, what finally emerges, etc.)

STEP 1. Important Words – in Common Language.
Give people [Scratch paper], [Big Note cards], [Sticky Notes + Pens] and have group decide on the words (terms, phrases) most essential for this project, in two steps:

Individually – vernacular brainstorming on Scratch Paper ("first-order" intuitive thinking, free-flowing, open association).
*ALLOW: words of actions, situations, objects, ideas, feelings—in vernacular, conversational language.

Groups of 3-8 – Compare and distill words onto notes ("second-order" critical thinking, prioritizing, combine where able).
ALLOW: hierarchal sorting ("Which words encapsulate several others?"*), type sorting (*"Is this a Big Idea or a Concrete Detail?"*), connecting (*"To which subject/s is this adjective relevant?"*), replacing (*"These are really saying the same thing, and this one is more explicit"*), recognizing pragmatic boundaries (*"Important idea in general, but not really a project-specific term..."*).
* Once words are decided, put BIG key terms on Note Cards. Put SUPPORTING details on Sticky Notes.

STEP 2. Word Connections – See the Project's Shape.
Bring all the groups' words together; build and arrange them into an image that represents the project, on a [Floor or Large Board] ("crowdsourced" synthetic thinking, organizing, discussing).

* START WITH: the big pieces, on Note Cards. Negotiate what {place/subject/topic} goes at the center, what {ideas/values/perspectives} sit at the top, what {methods/situations/stakeholders} come into play beneath that, which {actions/steps/hurdles} come at the front, and which {short-to-long outcomes/audiences/changes} hopefully follow by the end.

*THEN ADD: the details, on Sticky Notes. You can further cut redundant-or-tangential terms as you discuss and adjust this web's main structure.

STEP 3. Draw Lines & Arrows – See the Project's Flow.
Once the Word-Clumps are arranged in a way that everyone agrees makes sense, use [Board Markers or Floor Strings, etc.] to visually mark How these parts of the project work together. Now you have a Word-Web.

* If you have any FREE-FLOATING TERMS? See whether they fit between clumps, helping to make connections.

* Insert arrows (where flow is directional: "This leads to that") or double-sided arrows ("This could flow either way") or cycling arrows ("These mutually influence each other") or static lines ("These exist separately but relatedly, regardless of time or consequence").

* If you have any discipline-specific JARGON that you'd reeally like to include? … Okay, NOW you can add it to the web, without creating major ambiguities in meaning.

Afterward.
Discuss meanings in context!
*ALLOW: multiple definitions, questions, prompts for explanation/description. Use phrases like these:

"Are you saying ___?" "What does ___ look like?" "Is ___ an example of ___?" "How does ___ differ from ___?"

<u>ACTIVITY STEPS</u>: "Word-Webs"

(Solo) Vernacular Brainstorming – Think about words/terms that are central to this project. Write
them down. Notice which words are "Big" words (broad topics, general ideas: e.g., 'data,' 'model,' 'audience') and which are "Small" words that point to details within those larger themes (e.g., 'optimal parameters,' 'color-scheme,' 'store managers'). (~5 minutes)

* *Options:* you can assign this as a *Take-Home Activity*, or you can do it *In-Class* before breaking into groups.

* *Clarifying:* if participants need clear directions about what these words should be, offer a prompt to guide them, such as:
"*Write out a list of words that you see as essential to this class/project's topic: **ideas, things, processes, important choices/details,** etc. that are central to the issue being addressed. Keep the language simple and conversational: **single words** or **phrases** that we can then organize as a group into an image of the group's core focus*."

* *Use Conversational language.* Where specialized terms are important/*unavoidable*, put a plain-language term underneath in parentheses: e.g., "*Vernacular (conversational)*".

(Group) Compare/Connect Words – Let's get into groups and share our words. Decide which
words are big ideas, truly central to the project (in everyone's eyes), and which are smaller details (that individuals see as important details related to those terms, or filling a gap/making a connection between them). Write the "Big" terms on <u>notecards,</u> and the "small" important-detail terms on <u>sticky-notes</u>. Attach small-stickies to big-cards, where the group sees a clear connection. It's fine to leave other terms floating … they'll find a home in the next step. (~15-20 min.)
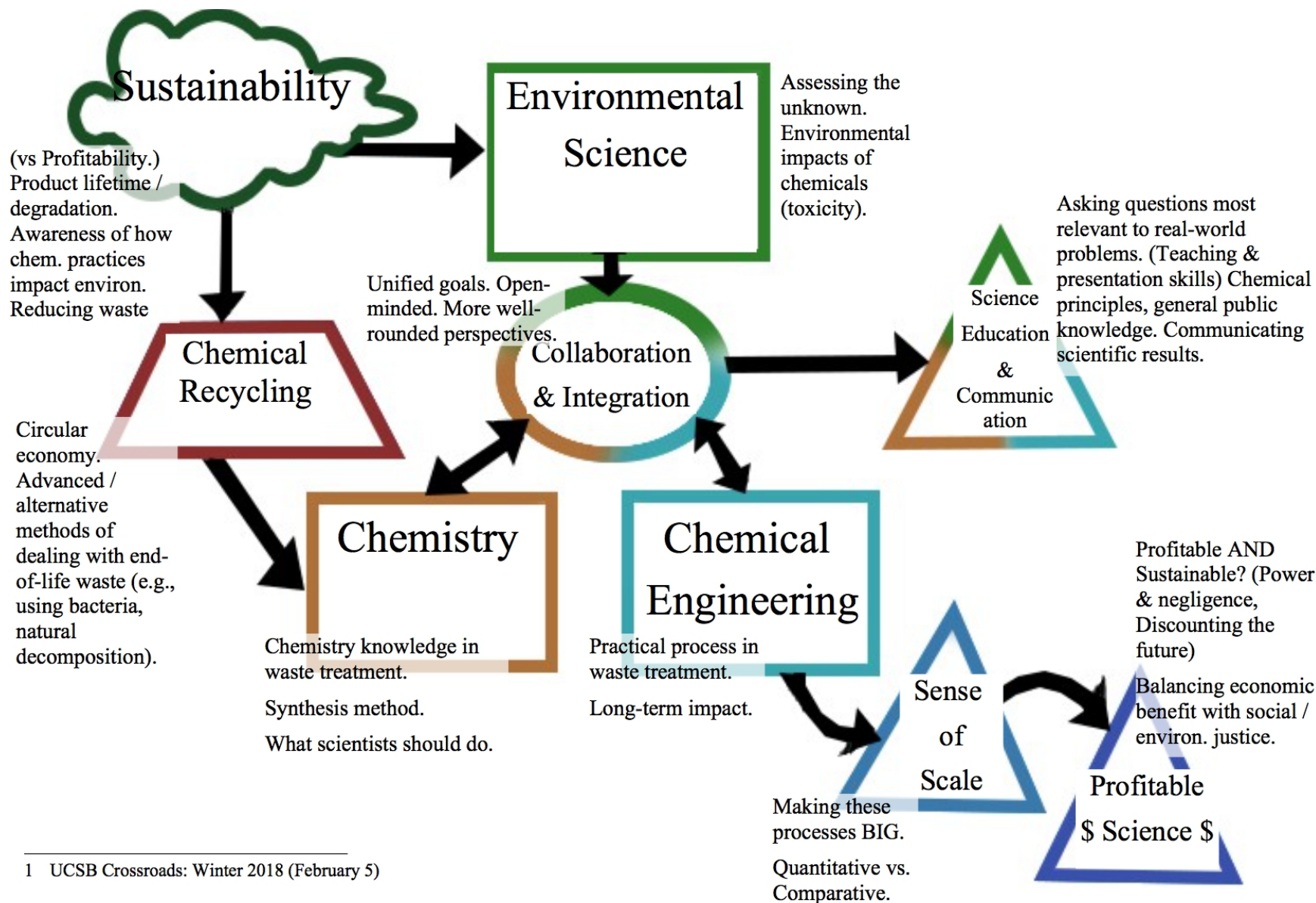
* *Priming:* Keep dialogs focused. (At 5 min.) "*Remember: Conversational language, no jargon – if you need it, explain simply in parentheses underneath. And think modularly: basic terms and phrases – that build into something more complex.*"
(At 15 min.) "*Finish getting your ideas down and connected, and start bringing those parts up to the center of the room.*"

* *Numbers:* groups of *3-8 people* work well. If it's a small class, let the whole group do this together.
If more than 10 people, split the class into medium groups, with people from similar disciplines together.

(Group) Build/Arrange Word-Web – Let's all gather in circle around these terms. Look at and
compare each others' terms. Then start arranging them: what terms are at the core of this project? What informs those central terms (from above), or supports them (from below)? What feeds into them or precedes them (before)? Where are they directed, toward what purpose or eventual impact (after)? Arrange accordingly :) Remove redundant terms. Give everybody's hands access to try at moving things.

"Are you saying ___?" "What does ___ look like?" "Is ___ an example of ___?" "How does ___ differ from ___?"

Word-Web Process: *Visualizing Environmental Models*

Example Word-Webs: *Green Chemistry*

Sustainability

(vs Profitability.) Product lifetime / degradation. Awareness of how chem. practices impact environ. Reducing waste

Environmental Science

Assessing the unknown. Environmental impacts of chemicals (toxicity).

Chemical Recycling

Circular economy. Advanced / alternative methods of dealing with end-of-life waste (e.g., using bacteria, natural decomposition).

Unified goals. Open-minded. More well-rounded perspectives.

Collaboration & Integration

Science Education & Communication

Asking questions most relevant to real-world problems. (Teaching & presentation skills) Chemical principles, general public knowledge. Communicating scientific results.

Chemistry

Chemistry knowledge in waste treatment.

Synthesis method.

What scientists should do.

Chemical Engineering

Practical process in waste treatment.

Long-term impact.

Sense of Scale

Making these processes BIG.

Quantitative vs. Comparative.

Profitable AND Sustainable? (Power & negligence, Discounting the future)

Balancing economic benefit with social / environ. justice.

Profitable $ Science $

Example Word-Webs: *Grizzly Reintroduction Project*