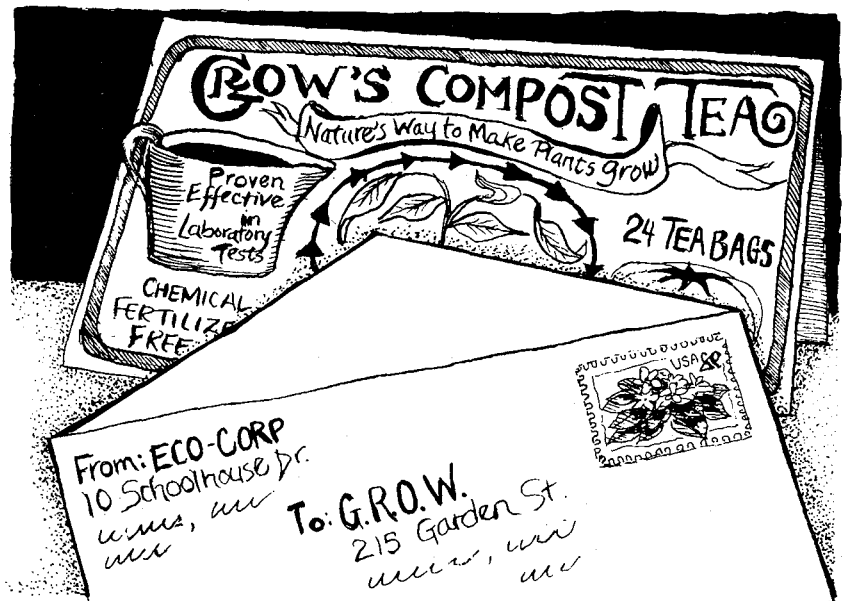


3.7 GROW Gets an Answer— Performance Assessment







Action Synopsis

Students complete their work for GROW by working in groups to create advertisements that teach the public about nutrient cycling, and GROW's research and products.


Session 1

40 minutes

- | | | |
|--|---|-----------------------|
| 1. Share and discuss letters written to GROW. |  | communicating |
| 2. Discuss possible themes and methods to use in creating advertisements for GROW. |  | linking to real world |
| 3. Establish criteria for judging the success of the ads. |  | setting standards |
| 4. Begin planning advertisements in groups. |  | planning |

Session 2

40 minutes

- | | | |
|--|---|--------------------|
| Work in groups to create advertisements. |  | applying knowledge |
|--|---|--------------------|

Continued

1. Present advertisements to the class.
2. Have a final discussion about the effects of the ads and the impression the public gets of science through advertising.



communicating



reflecting

Desired Outcomes

By the end of this assessment activity, students should:

- ✓ Be more skilled at cooperatively planning and completing a project.
- ✓ Be able to communicate their knowledge about nutrient cycling in an engaging way.
- ✓ Be able to judge their own work and reflect on their understanding of nutrient cycling.
- ✓ Have new perspectives on the representation of science in popular media.

What You'll Need



Sessions 1 & 2

For the class:

- overhead transparency of the letter from GROW (page 267)
- materials for making advertisements (see "Getting Ready")

For each group of 3–4 students:

- copy of "Scoring Sheet" (page 343)

Session 3

For each student:

- copy of "Scoring Sheet" (page 343)
- copy of "Group Work Evaluation" (page 42)
- copy of "Portfolio Cover Sheet" (page 39)

Getting Ready

Session 1


- ◆ Assemble materials students can use to create their advertisements, such as poster paper, cardboard, markers, paints, stencils, old magazines, a tape recorder and blank cassettes, and a box of clothing for costumes.
- ◆ Decide if you'd like to invite other adults to view and score students' finished ads.

Action Narrative

Session 1

Who would like to read the letter you wrote to GROW?

Have a few students read aloud the letters they wrote for Lesson 3.6 homework. This could result in some lively discussion if their recommendations to GROW differ. Encourage students to explain their reasoning, as well as to consider other viewpoints with an open mind. At the end of the discussion, have students hand in their letters and the "Experiment Conclusions" sheet they did for homework. (See page 334 for suggestions on evaluating these.)

	
	Eco-Corp
	Meeting Your Research Needs
	Dear Ms. Gold,
	I'm glad to tell you that my personal opinion on the radish plants is that they grow better with compost tea. Not only do I think that but the majority of the company agrees to it also. This means that it won't cost you much to make your fertilizer because you can just soak the compost in water. Here is what we did.
	We split our company, Eco-Corp, up into 7 teams. Each team did the same thing so that we had 7 repeats of the experiment. We planted radish seeds in vermiculite. After they had cotyledons, each team gave six of their plants compost tea. These were the treatment plants. Everyone had 6 controls, too.

Now we're ready to complete our work for GROW. Let's look at their letter to remember what else they asked us to do.

Show the overhead of the letter from GROW. Have students summarize what they need to do to fulfill GROW's request: develop advertisements that teach the public about GROW's work to develop natural fertilizer products.

Given the results of your experiment, what do you think the ads should focus on?

If students' experiments showed that compost tea improved plant growth, then they might suggest creating ads to convince people to buy compost tea. If their experiments did not show that compost tea helps plants grow, then they might prefer to do a more general ad campaign focusing on how and why GROW is trying to develop natural fertilizer products. In either case, the ads should communicate some basic information about nature's way of recycling nutrients.

Now let's brainstorm different types of advertisements you could do.

Make sure students understand that a basic rule of brainstorming is that every idea is accepted without immediate comment or judgment. This encourages creativity and risk-taking. Have students think about the multitude of advertising approaches they encounter daily. It might help for them to think specifically about advertisements that show how a company uses scientific research to develop products, or that make claims about products based on scientific results. Record their suggestions on a class list.

Kinds of Advertisements

posters

billboards

magazine and newspaper ads

flyers to send in the mail

TV commercials (maybe with actors, puppets, cartoons)

radio commercials

eye-catching displays to put in stores

What should your GROW ads do to be successful?

In responding to this question, students will generate their own criteria for measuring the success of their work.

A Successful Ad for GROW will...

get people's attention

show how nutrient cycling works

stick in people's minds

make them like GROW

make them want to buy GROW's stuff

Either formalize students' list into a scoring chart, or hand out and discuss the "Scoring Sheet" so that students will know what is expected of them. Emphasize that their ads should not make unwarranted claims (e.g., that vegetables grown using compost tea taste better), and should include accurate information about nutrient cycling.

Each group can develop its own advertisement for GROW. Let's make a list of steps each group should take to create an advertisement.

Help students generate a checklist of steps for planning their projects. This could include deciding on: the target audience for the ad; what information to get across; the tone of the ad (e.g., serious, inspiring, entertaining, funny); what medium to use; an outline or script for the ad; what materials are needed; and who will do what.

Get started making plans in your groups.

Let students know when their projects are due so they can gauge how ambitious to make their plans. Also let them know what materials you have on hand, and help them figure out where they can get what else they need.

Circulate as they begin planning to observe their group process.

Session 2

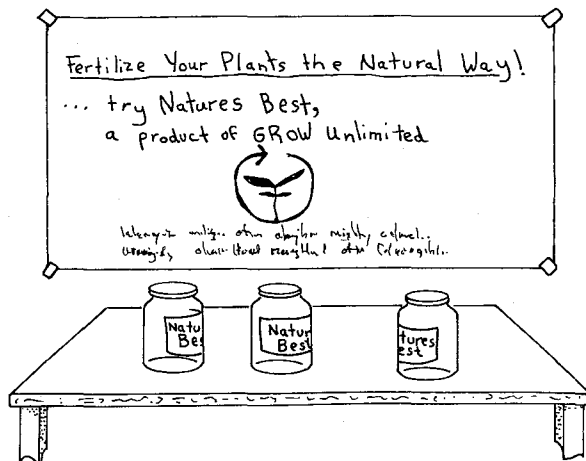
Continue working on your advertisements.

Check in with each group to remind them to make sure their ads meet the scoring objectives. If any groups are doing live performances such as a television ad, make sure they're writing a script that they can hand in for scoring.

If some groups finish early, encourage them to create a second ad, or to elaborate on their existing one.

Next time, come prepared to present your ads to the rest of the class.

Students might need additional work time to complete or rehearse their ads.



Session 3

Remember to give each group your full attention when they present their advertisement. Which group wants to go first?

Give each group time to display or perform its ad. You might want to begin filling out a "Scoring Sheet" for each group as they make their presentations.



Conclude with questions such as:

What kind of impression of GROW did the advertisements convey?

What do the ads teach people?

Do you think people respond favorably when they know a company uses scientific research to help develop its products? Should they?

What was challenging about translating your science experience into a public awareness campaign?

What impressions do people usually get from popular media about scientific research and findings?

What do you think is important for the public to understand about science? About ecology?

Ongoing Assessment

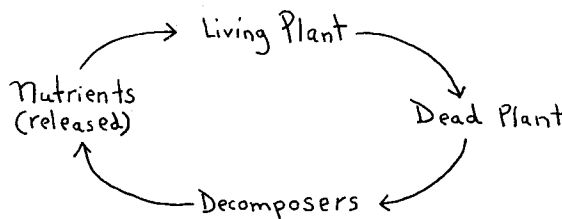
Student Reflections

Have students complete a "Scoring Sheet" to assess their own work, and fill out a "Group Work Evaluation" (page 42). This is also a good time to have them select work samples for a portfolio, and complete a "Portfolio Cover Sheet" (page 39). Review the purpose and structure of a portfolio, and set a due date.

Teacher Reflections

With the exception of the content objectives, scoring most of the objectives for students' ads will be more a matter of opinion than a judgment of whether students' work is "right" or "wrong." Since the success of advertisements is usually judged by their effect on a large audience, you might want to invite several adults to view and score the students' ads as well, or have each student group score the other groups' work. You can then average the scores to determine final group scores.

If you want to give students an individual grade as well as a group score, consider having each person hand in documentation of the factual content of their ads, such as a diagram of a nutrient cycle.



NAME(S) _____ DATE _____

GROW GETS AN ANSWER

OBJECTIVES	POINTS				SCORE
	3 High Quality	2 Meets Objectives	1 Falls Short	0 Not Done	
CONTENT					
1. Includes correct information about nutrient cycling.	_____	_____	_____	_____	_____ x 2 = _____
2. Has an important main point that comes across clearly.	_____	_____	_____	_____	_____ = _____
METHOD					
1. Uses a medium and tone suited to the message.	_____	_____	_____	_____	_____ = _____
2. Ambitious—did something challenging.	_____	_____	_____	_____	_____ = _____
3. Done with care and attention to detail.	_____	_____	_____	_____	_____ = _____
OVERALL EFFECT					
1. Attracts attention and pulls audience in.	_____	_____	_____	_____	_____ = _____
2. Creates a positive impression of GROW.	_____	_____	_____	_____	_____ = _____
3. Ad is memorable.	_____	_____	_____	_____	
COMMENTS:					FINAL SCORE: _____
					Total Possible Score: 27
					Overall Achievement:
					23-27 High
					18-22 Sound
					9-17 Limited
					0-8 Inadequate