

Climate Change Collection Scorecard

Date: 11/27/04

Reviewer: Jack Ganse

Name of resource: The Greenhouse Effect in a Jar

Sponsoring Organization The Franklin Institute

URL: <http://sln.fi.edu/tfi/activity/earth/earth-5.html>

Site Homepage: <http://sln.fi.edu/index.html>

RESOURCE WITHIN A SITE? ☒ Y / N

FOUND THROUGH DLESE? ☒ Y / N

RECOMMENDATION YES ☒ YES WITH RESERVATIONS NO

STARS 1 2 ☒ 3 4 5 (LAME TO STELLAR)

NARRATIVE (USE OTHER SIDE IF NEEDED)

This site outlines an activity for simulating the greenhouse effect using glass jars and thermometers. I've encountered variations of this activity on other websites as well—I'm not sure where the activity originated. The site provides instructions for the activity as well as background information relating the activity to the greenhouse effect. The materials are pretty simple and inexpensive.

INTENDED USE

☐ REFERENCE

☐ COMPUTER ACTIVITY

☒ NON-COMPUTER ACTIVITY

☒ EDUCATOR, LEARNER OR BOTH (CIRCLE)

☒ BEGINNER OR ADVANCED (CIRCLE)

BUGS & TECHNICAL DIFFICULTIES (PROBLEMATIC TO ROBUST)

1 2 3 ☒ 4

COMMENTS: None

FACTUAL ERRORS/OMISSIONS (NATIONAL ENQUIRER TO NATIONAL GEOGRAPHIC)

1 ☒ 2 3 4

COMMENTS: The activity compares the greenhouse effect to a jar which can "trap" heat. Of course, the actual greenhouse effect does not trap heat, but is more of a radiative process. The explanation would cause the author of the Bad Meteorology website severe dyspeptic discomfort.

PEDAGOGICAL INFORMATION

☐ REFERENCE ONLY

☒ TEACHER GUIDE

☒ MATERIALS LIST

☐ ASSESSMENT STRATEGIES

☐ TIMEFRAME PROVIDED

☐ STANDARDS ALIGNMENT

PROMOTES STUDENT LEARNING (WEAK TO STRONG)

1 ☒ 2 3 4

COMMENTS: While the hands-on activity would probably engage students, the science is misleading and will promote misconceptions about the greenhouse effect.

APPROPRIATE/EFFECTIVE MULTIMEDIA DESIGN (WEAK TO STRONG)

1 ☒ 2 3 4

COMMENTS: Basic web design—nothing fancy. Non-interactive.

VISUAL APPEAL (WEAK TO STRONG)

☒ 1 2 3 4

COMMENTS: Text only; not printer-friendly.

TEACHING TIPS: ANNOTATION DESCRIBING HOW SITE COULD BE USED OR ADAPTED FOR CLASSROOM

This activity could be easily done in the classroom, but I would be careful about comparing it to the greenhouse effect. One could talk about radiation and convection, but would have to modify the explanation of how the activity

differs from the actual greenhouse effect. At 8th grade, I would certainly want to relate the activity to what is happening at the molecular level as well and then expand that to the Earth's atmosphere.

RECOMMENDATION: ANNOTATION DESCRIBING HOW THE DEVELOPER COULD IMPROVE THE SITE.
Correct the scientific explanation of the greenhouse effect—our atmosphere does not trap heat.