

CLIMATE CHANGE COLLECTION SCORECARD

Date: 11/29/04

Reviewer: Carrie Morrill

Name of resource: The Greenhouse Effect

Sponsoring Organization: UCAR

URL: http://www.ucar.edu/learn/1_3_2_12t.htm

Site Homepage: <http://www.ucar.edu/learn/>

RESOURCE WITHIN A SITE? Y / N

FOUND THROUGH DLESE? Y / N

IF SO, WHICH COLLECTIONS? DLESE Community Collection, CRS Annotated Collection

RECOMMENDATION YES YES WITH RESERVATIONS NO

STARS 1 2 3 4 5 (LAME TO STELLAR)

NARRATIVE *Hands-on activity about how greenhouses work. There is some good stuff here, but additional thought and caution are needed to present the concepts in a scientifically-accurate way.*

INTENDED USE

☐ REFERENCE

☐ COMPUTER ACTIVITY

☒ NON-COMPUTER ACTIVITY

EDUCATOR OR LEARNER OR **BOTH** IF FOR LEARNER, EVIDENCE ITS BEEN TESTED? Y / N

BEGINNER OR ADVANCED OR BOTH

Easily Printed? Y / N

BUGS & TECHNICAL DIFFICULTIES (PROBLEMATIC TO ROBUST)

1 2 3 4

COMMENTS: Everything works fine.

SCIENTIFIC ACCURACY (NATIONAL ENQUIRER TO NATIONAL GEOGRAPHIC)

1 2 3 4

EVIDENCE IT HAS BEEN REVIEWED FOR ACCURACY? Y / N

COMMENTS: *Too much emphasis on inaccurate analogies using greenhouses and blankets. I'm not sure this activity is the best way to explain the greenhouse effect. For the animation of the CO₂ molecule, it would be best if infrared radiation comes from bottom of picture, since most IR is coming from the Earth's surface.*

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: *Addresses possible misconceptions to some degree (read cautionary notes), but more could be done.*

APPROPRIATE/EFFECTIVE MULTIMEDIA DESIGN (WEAK TO STRONG)

1 2 3 4

COMMENTS: *Well-made graphics illustrating experimental design. Animation showing CO₂ molecule does not agree with text. Text mentions atoms being bound loosely enough that they vibrate with absorption of heat. However, atoms move together and don't vibrate (they only rotate) in the animation.*

VISUAL APPEAL (WEAK TO STRONG)

1 2 3 4

COMMENTS: *Nothing fancy, but it has a clean design and appealing graphics.*

TEACHING TIPS: *These experiments may help students to understand the greenhouse effect, as long as the greenhouse analogy is not overemphasized (as it tends to be on this website). Pay attention to comments above.*

RECOMMENDATIONS FOR DEVELOPER: *De-emphasize the greenhouse analogy and the blanket analogy even further. Improve the animation showing the CO₂ molecule.*