INTERNATIONAL EVALUATION:

Effects of *Safety Smart* on Young Children's Knowledge, Understanding, and Behavior

prepared for
Underwriters Laboratories, Inc.

by
Michael Cohen Group, LLC

Michael Cohen Group, LLC

375 West Broadway, Suite 502
New York, NY, 10012
www.mcgrc.com

1 (212) 431-2252

Michael Cohen, PhD mcohen@mcgrc.com
Katherine Yoshida, PhD kyoshida@mcgrc.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Safety Smart is a lesson-based educational program developed by Underwriters Laboratories Inc. (UL) in partnership with Disney Educational Products. The program aims to improve children's awareness and understanding of safety, health, and environmental issues, and ultimately to impact their behavior. To assess the impact of Safety Smart on children's understanding and behavior, UL retained the services of the Michael Cohen Group LLC (MCG), an international applied research firm with extensive experience in children's education and program evaluation.

MCG designed and conducted an international scientific study to assess the effects of Safety Smart on children's safety understanding and behavior. In total, 955 children in five countries participated in a Safety Smart program and were pre- and post-tested on their knowledge gain and behavioral ability.

Overall, children's knowledge and behavior were found to be positively affected by the Safety Smart program. Significant gains in knowledge were found one week following participation, suggestive of longer-term knowledge impact. Interestingly, children's age, geographic location, and the specific Safety Smart lesson (Healthy & Fit! or Goes Green!) were mediating factors, pointing to the potential for optimization of audience-lesson fit.

BACKGROUND AND RESEARCH OBJECTIVES

Underwriters Laboratories (UL) is a leading global independent safety science company. To address the need for a formal safety curriculum in schools, UL has partnered their safety knowledge expertise with Disney Educational Products's well-known and appealing characters and storytelling abilities to produce the popular Safety Smart program. Safety Smart is a lesson-based educational program aimed at improving children's awareness, understanding, and behavior in regard to safety, health, and the environment. Specific topics include Home safety; Fire safety; Water safety; Online safety; Environmental behavior; and Health & fitness. Each lesson is centered on a 12-minute engaging and informative video featuring characters from Disney's the Lion King. Videos are supplemented by educator guides, activities and games.

Safety Smart has demonstrated an impressive reach, touching over 22 countries and 117 million people in 17 languages. Two upcoming titles will be released in 36 languages. To document the effect of the programming on children's safety knowledge and behavior, UL retained the services of the Michael Cohen Group LLC (MCG). MCG is an international applied research firm with extensive experience in children's education and program evaluation. The goal is to assess the impact of Safety Smart on children's understanding of safety topics and children's behavioral intent to make "safety smart" decisions. Given the global reach of Safety Smart, UL was interested in testing the effects of the program internationally.

To meet UL's goals, MCG designed and managed an international scientific study to assess the positive effects of Safety Smart on children's safety understanding and behavior. The research tested the hypotheses that children participating in the Safety Smart program would (1) gain significantly enhanced understanding and knowledge of safety, health, and environmental issues; and (2) develop an enhanced ability to make "safety smart" decisions.

METHOD

Safety Smart Program

Two titles were chosen to represent the Safety Smart library: Healthy & Fit! (HF) and Goes Green! (GG). The respective health and environment curricula easily lent themselves to experimental testing of children's awareness, understanding, and behaviors in relevant situations (as opposed to, for example, a fire safety curriculum).

Figure 01. Safety Smart programs: Healthy & Fit! and Goes Green!

Participants/Sample

Five countries were chosen to represent a geographic and linguistic range.

English	Castillian Spanish	French	Latin Spanish	Mandarin Chinese
United States	**Spain**	**France**	**Argentina**	**China**
North America	Europe	Europe	Latin America	Asia

Chart 01. Five countries included in the study, with a range of geographic region and language spoken.

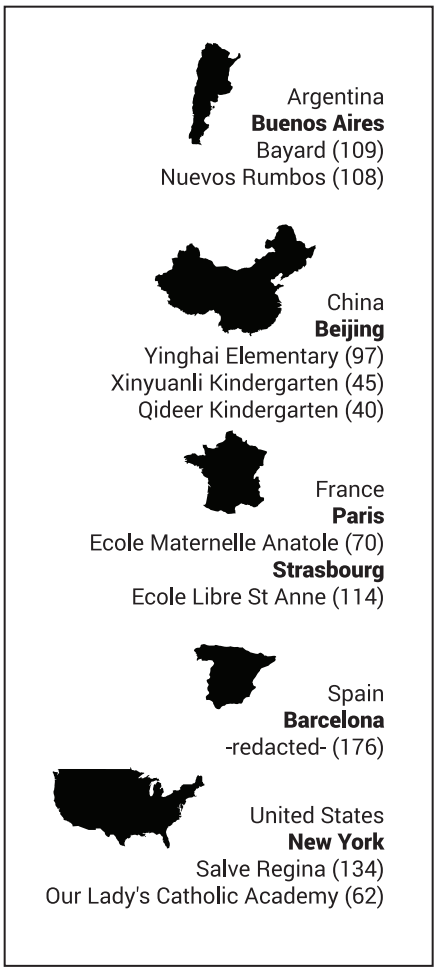


Chart 02. Participating schools. NB the school in Barcelona required anonymity in exchange for participation.

Ten pre-schools and primary schools were recruited in the five countries.

In each country, children aged 4-8 years were recruited to participate. The children were distributed by age across five grades: pre-kindergarten, kindergarten, first grade, second grade, and third grade.

A total of 955 students participated, with the grade breakdown as below.[1]

	Pre-K	K	Grade 1	Grade 2	Grade 3	Total
Argentina	45	39	42	39	41	206
China	39	40	32	30	35	176
France	40	30	63	51	0	184
Spain	35	42	54	45	0	176
USA	41	36	44	37	38	196
Total	200	187	235	202	114	938

Chart 03. Participant breakdown by country and grade.

Procedure

The testing procedure included two sessions. In the first session, children were pre-tested on their health and environment knowledge, followed by Safety Smart program participation (either HF or GG), and health and environment behavior post-testing. Finally, in the second session, about one week later, children were post-tested on their health and environment knowledge (see diagram below).

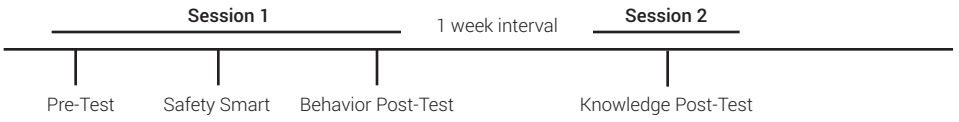


Figure 2. Study procedure timeline.

Knowledge Pre-testing

A set of multiple-choice questions were developed to test children's knowledge and understanding of the Safety Smart (HF or GG) curricula (see Appendix 2). Questions were posed verbally by a native language-speaking researcher aided by illustrations (see Appendix 3). Children were tested on both health and environment curricula.

Exposure to Safety Smart Program

Children were randomly assigned to either the HF or GG experimental conditions. Children who were assigned to the HF experimental condition also functioned as the control group for GG, and children who were assigned to the GG experimental condition also functioned as the control group for HF.

[1] Seventeen children were excluded from analyses due to age (younger than four years) or learning disabilities.

Each condition program implementation included:

(1) Viewing of the 12 minute animated video, and
(2) Group discussion guided by the Is it Safety Smart? supplemental activity included on the DVD as a PDF (see Appendix 4).

Children viewed the video in their native language in groups of about 30.

For the discussion, children formed small groups of 4-5 and, led by a researcher (functioning as an educator), engaged in a discussion about the program curricular points, structured by the supplemental activity sheet. Children were encouraged to identify and explain the relevant points (e.g., "The girl in the picture is washing her hands, which is a Safety Smart thing to do. It protects her from germs.")

Behavior Post-testing

Following Safety Smart participation, children were told that, as a thank you for their help, their class would be sent a treat of either apples or cookies. Each child was given an illustrated "ballot" (see below) and asked to vote by circling either the apple or the cookie. This test was designed to probe their health decision-making behavior.

Figure 3. Behavioral test "ballot" given to children.

After a child's response was recorded, she was instructed to discard the "secret" ballot. Each classroom was equipped with a traditional trash bin and a recycling bin (see representative images below).[2] The numbers of papers discarded into the trash bin versus into the recycling bin were counted to evaluate children's environment-consciousness behavior. Again, this was not a test of children's knowledge (i.e., an understanding of the best place to discard the paper), but rather a test of children's behavioral ability (where did they actually discard the paper).

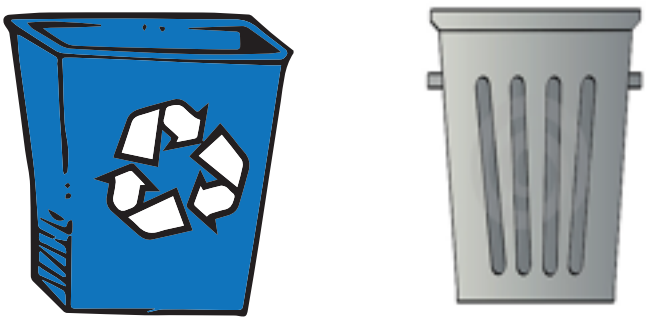


Figure 4. Representation of recycling decision in environment behavioral test.

[2] Classrooms which were already equipped with recycling bins were left intact; classrooms which were not equipped with recycling bins were provided with either a recycling bin or a trash bin labeled with a recycling logo.

Hypothesized Results: Knowledge

It was predicted that children in the HF condition (experimental) would show significant improvement in their health knowledge/ability from pre-test to post-test as compared to children who were not in the HF condition. Similarly, it was predicted that children in the GG condition (experimental) would show improvement in their environmental knowledge/ability from pre-test to post-test. Crucially, children were not expected to show improvement in the converse (control) area; HF children were not be expected to show improvement in environment questions (control) and GG children were not be expected to show improvement in health questions (control).

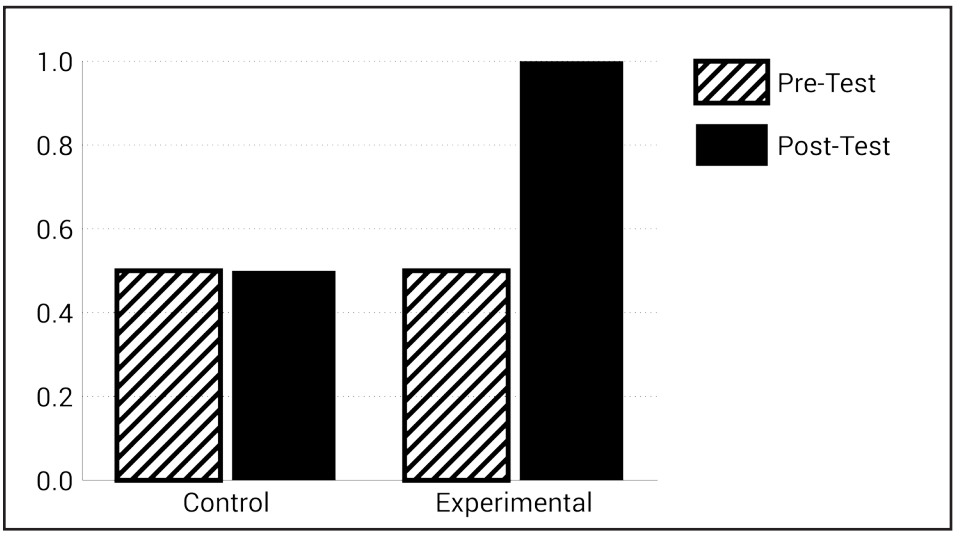


Figure 5. This chart represents the prediction that children in the experimental conditions (both HF and GG) would show improvement as compared to children in their respective control conditions (both HF and GG).

Hypothesized Results: Behavior

Children assigned to the HF condition were expected to significantly outperform children in the HF control condition in the likelihood to choose an apple over a cookie treat.

Figure 6. Predicted pattern of results for apple/cookie snack choice.

Children in the GG experimental condition were expected to outperform children in the GG control condition in their likelihood to discard a scrap of paper into the recycling bin (rather than the trash).

Figure 7. Predicted pattern of results for paper discarding task.

RESULTS

Note on Statistical Analysis

The statistical significance of the findings is denoted by p-values. Lower p-values denote increasing statistically significant change in knowledge from pre-test to post-test. All p-values less than 0.05 are considered statistically significant, and p-values between 0.05 and 0.10 are considered marginally significant (and are often technically referred to as trends).

Two types of statistical tests are applied in analyses of the knowledge test. A test for an interaction effect evaluates whether, from pre-test to post-test, improvement in experimental questions (e.g., health questions, for a child participating in HF) exceeds the improvement in control questions (e.g., environment questions, for a child participating in HF). A t-test evaluates whether, from pre-test to post-test, there is significant improvement in children's performance on experimental questions (independent of any change over control questions).

The behavioral tasks are analyzed using t-tests to compare differences between children in the two conditions (HF and GG) on snack choice and recycling behavior.

In the figures below, asterisks are used to denote the level of statistical significance of the findings as follows (more asterisks denotes greater significance):

	Interaction	t-test
p < .10 (trend)	§	*
p < .05	§§	**
p < .01	§§§	***
p < .001	§§§§	****

Knowledge Findings: Overall

One week after participating in Safety Smart, children overall displayed a significantly higher understanding of the curricula for the program they had participated in (as compared to for the program they did not participate in, i.e., control questions).

Figure 8. Children's gains in Safety Smart knowledge/understanding for experimental questions (HF or GG lesson participated in) and control questions (HF or GG lesson not participated in). Interaction significant at p =.001; t-test significant at p=.01.

Knowledge Findings: By Lesson

When examining results by lesson, children displayed an increase in curricular knowledge for both lessons. GG children showed an increase in environmental knowledge from pre-test to post-test as compared to children not exposed to GG. However, although children exposed to HF showed an increase in health knowledge, it was not significantly different from children in the control.

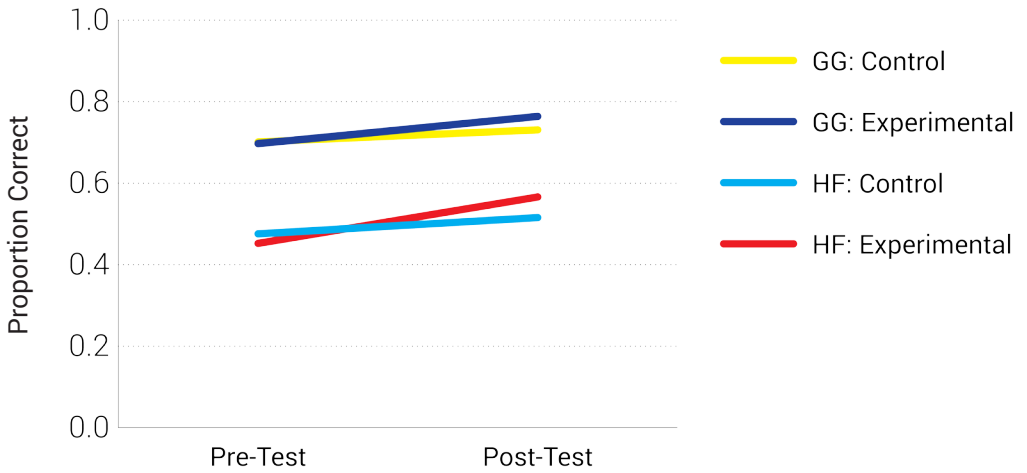
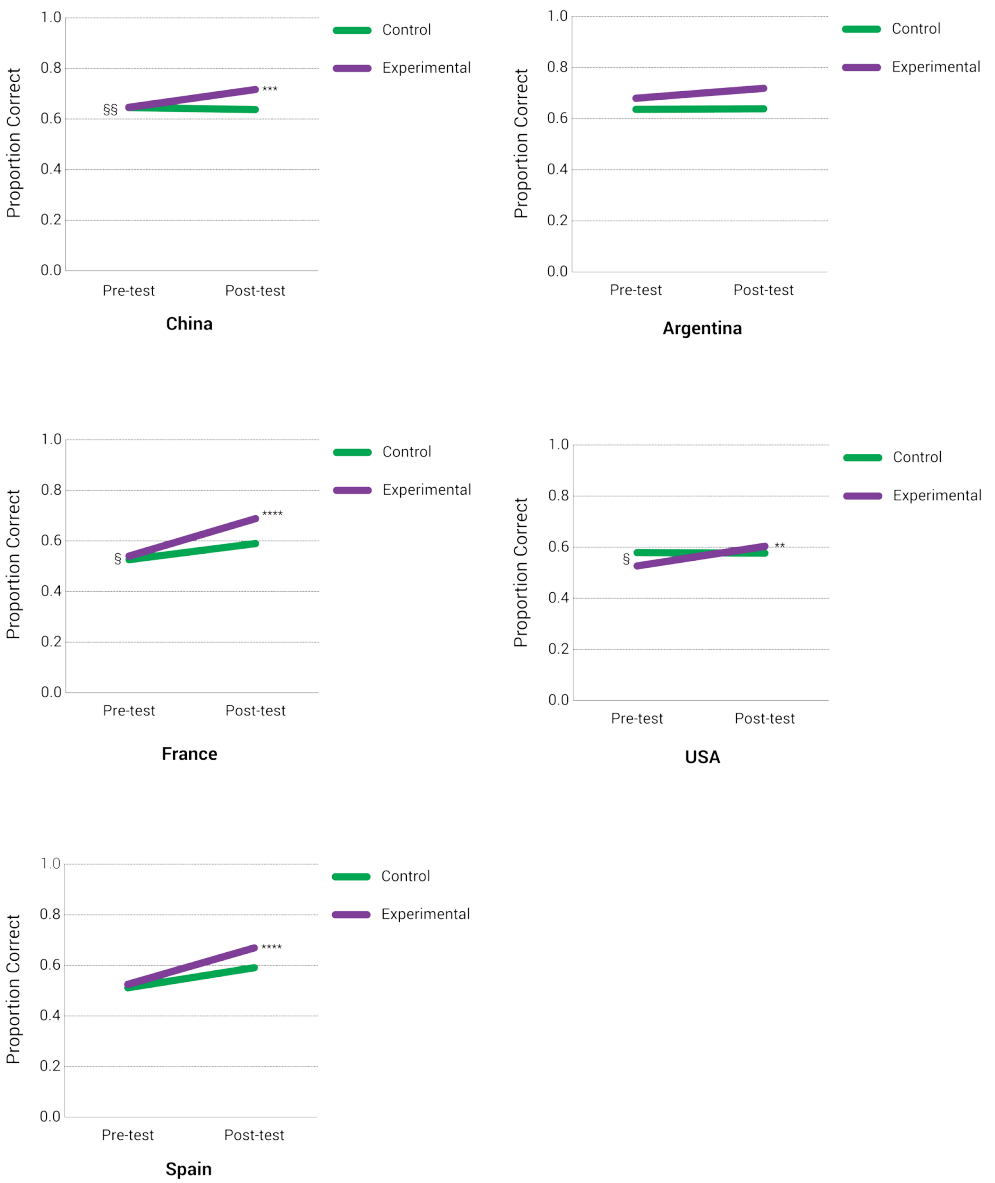


Figure 9. Children's gains in Safety Smart knowledge/understanding for experimental questions and control questions by program (HF or GG). HF: Interaction not significant at p =.160; t-test significant at p<.001. GG: Interaction significant at p<.001, t-test significant at p<.001.

Knowledge Findings: By Country

When examining the results by country, in three of the five countries, children showed a significant gain in Safety Smart program knowledged (significantly greater than the gains in the control condition); in a fourth country there was a trend towards significance.

Figure 10. Children's gains in Safety Smart knowledge/understanding for experimental questions and control questions by country. Argentina: interaction not significant at p=.424; t-test not significant at p=.204; China: interaction significant at p=.033, t-test significant at p=.008; France: interaction marginally significant at p=.094, t-test significant at p<.001; Spain: interaction not significant at p=.208, t-test significant at p<.001; USA: interaction marginally significant at p=.09, t-test significant at p=.024.



Knowledge Findings: By Country and Lesson

When examining the country-level results by lesson, learning was still observed in the majority of countries. In fact, in all five countries, children who were exposed to GG showed significant gains or trends. Children who were exposed to HF showed significant gains in two of the five countries. The overall lesson differences persisted, with initial (and final) levels of health understanding at a higher level than environmental understanding; in some countries (e.g., Argentina, China, USA), the initial high levels of health understanding may have impeded knowledge gain.

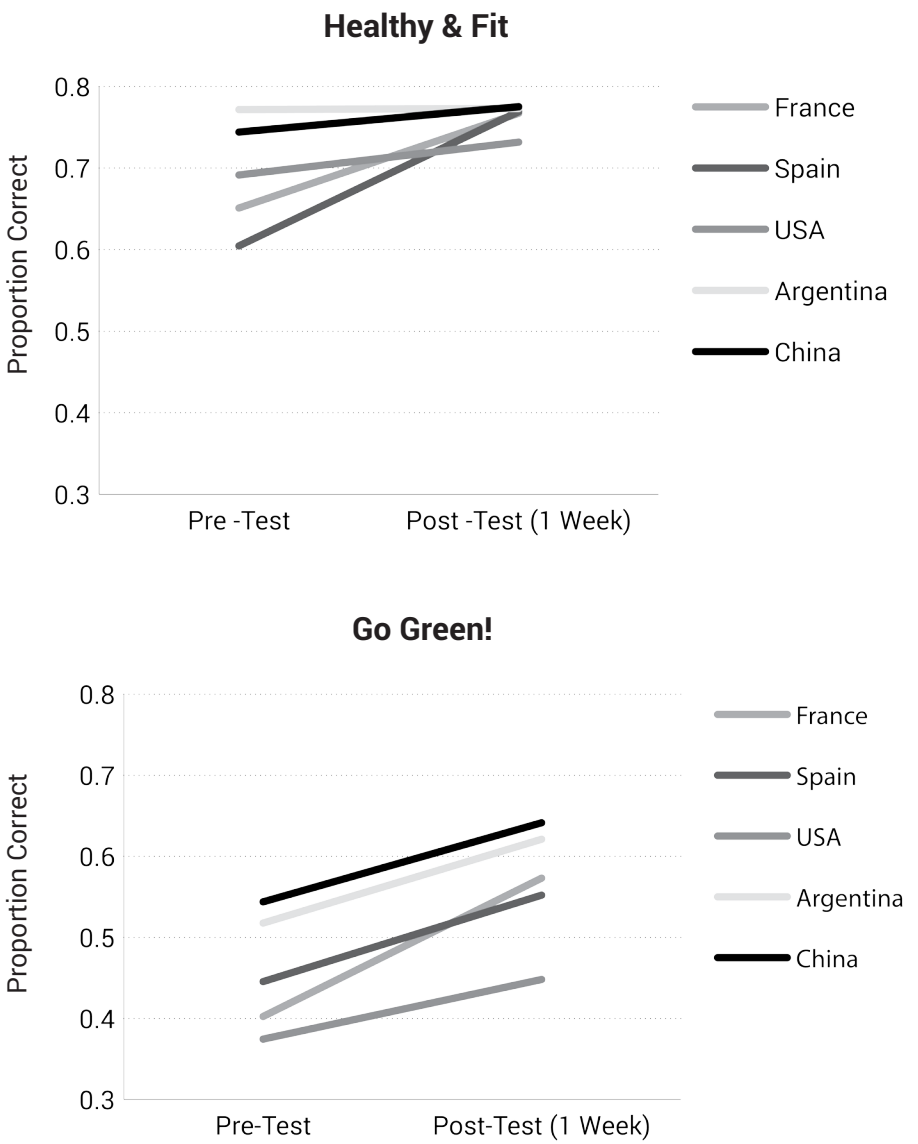
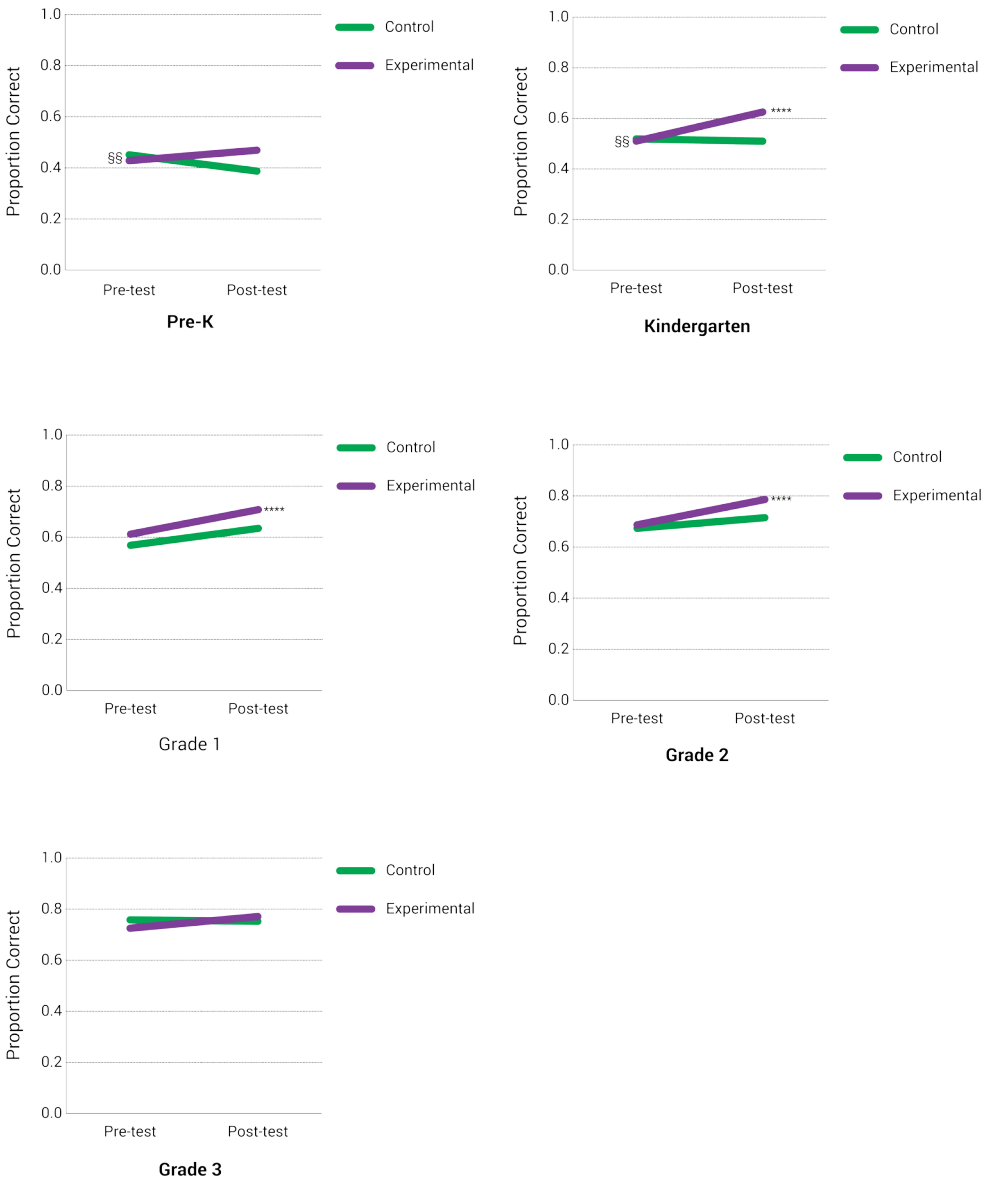


Figure 11. Children's gains in Safety Smart knowledge/understanding for experimental questions and control questions by program and country. HF: Spain t-test is significant at p<.001, France t-test is significant at p=.006, USA t-test is not significant at p=.33, China t-test is not significant at p=.31, Argentina t-test is not significant at p=.97. GG: USA t-test is significant at p=.044, France t-test is significant at p<.001, Spain t-test is significant at p=.005, Argentina t-test is marginally significant at p=.076, China t-test is significant at p=.014.

Knowledge Findings: By Age/Grade

When examining the findings by age/grade, children at many ages showed an increase in knowledge following Safety Smart participation. Children at many ages showed a significant increase in knowledge following Safety Smart participation, particularly children at the midpoint of the target age range (i.e., kindergarteners, first- and second-graders, though for the first- and second-graders, it was not more significant than the gains of the control group). The oldest children (third graders) were close to ceiling at pre-test, with high initial levels of knowledge impeding significant gains.

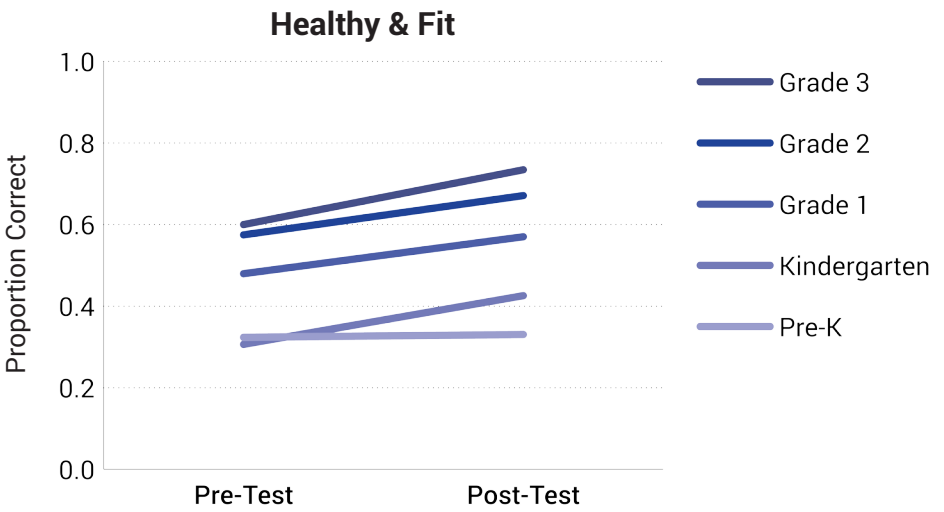
Figure 12. Children's gains in Safety Smart knowledge/understanding for experimental questions and control questions by age. Pre-kindergarten: interaction significant at p=.019; t-test not significant at p=.216; Kindergarten: interaction significant at p=.009, t-test significant at p=.001; First Grade: interaction not significant at p=.506, t-test significant at p<.001; Second Grade: interaction not significant at p=.124, t-test significant at p<.001; Third Grade: interaction not significant at p=.203, t-test not significant at p=.106).

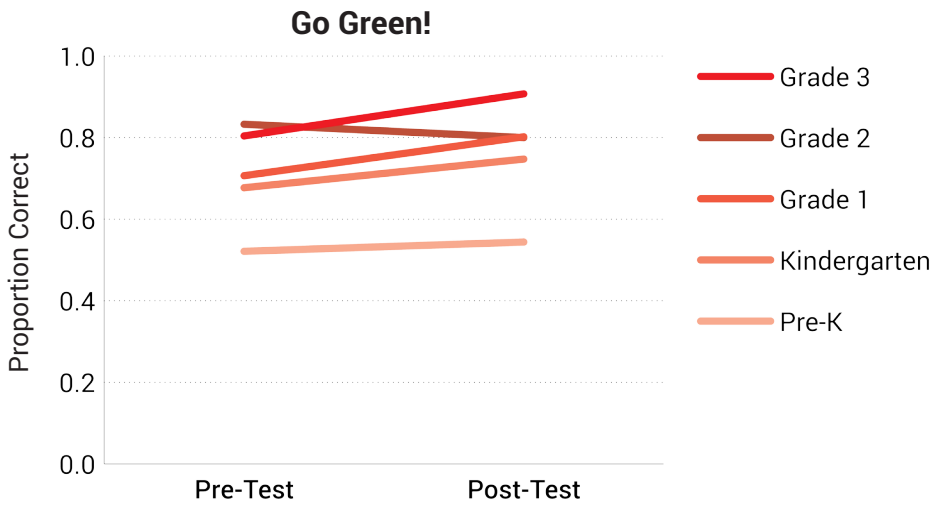


Knowledge Findings: By Age/Grade and Lesson

When examining the results by age/grade and lesson, interesting patterns emerged between the two lessons. For HF, as with the overall results, children at in the middle of the age range displayed the greatest gains in health understanding. However, for GG, all children except for the youngest (pre-kindergarten) showed gains in environmental understanding.

Figure 13. Children's gains in Safety Smart knowledge/understanding for experimental questions by age and lesson. HF: Pre-kindergarten t-test not significant at p=.603; Kindergarten: t-test marginally significant at p=.082; First Grade: t-test significant at p=.001; Second Grade: t-test significant at p<.001; Third Grade: t-test not significant at p=.298; GG: Pre-kindergarten t-test not significant at p=.870; Kindergarten: t-test significant at p=.003; First Grade: t-test significant at p=.005; Second Grade: t-test significant at p=.003; Third Grade: t-test significant at p=.002.





Knowledge Findings Summary

Children significantly learn information presented in the Safety Smart program. Patterns of learning differ between lessons, countries, and ages.

Behavior Findings: Health Test (Overall)

As predicted, children in the HF condition were significantly more likely than children in the HF control to choose the apple over the cookie as a snack.

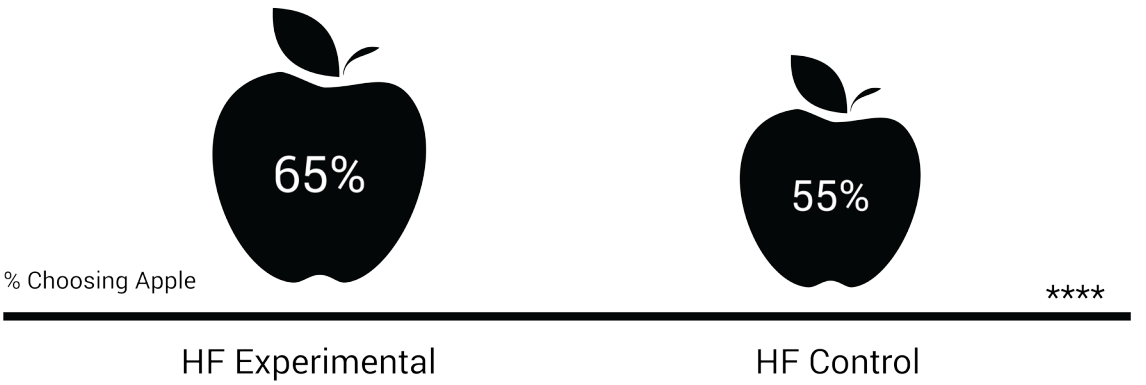


Figure 14. The proportion of HF experimental and HF control condition children choosing an apple over a cookie for a snack (p<.001).

Behavior Findings: Health Test by Age

When examining the findings by age, at all ages, children in the HF experimental condition were more likely to choose the apple than children in the HF control.

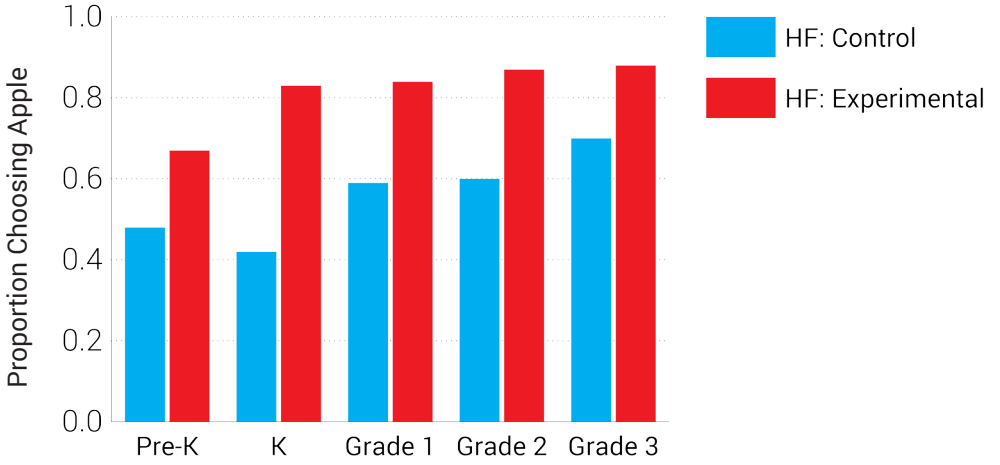


Figure 15. Proportion of children choosing an apple over a cookie for a snack by age and lesson. Children in the HF experimental condition were, at all ages, significantly more likely to choose the apple than children in the HF control condition (all ps<.01).

Behavior Findings: Health Test by Country

In four of the five countries, children in the HF experimental condition were more likely to choose apples than children in the HF control condition.

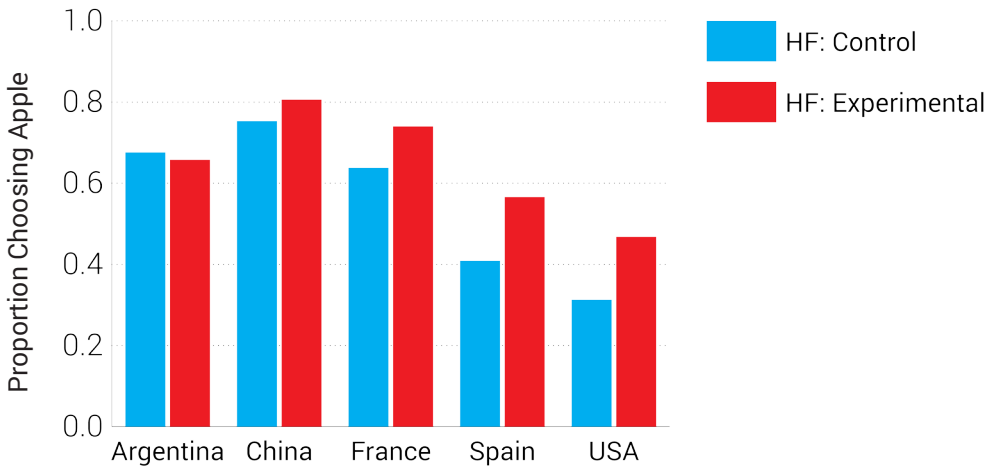


Figure 16. Proportion of children choosing an apple over a cookie for a snack by country and condition. In four of five countries, children in the HF experimental condition were more likely to choose the apple than children in the HF control condition (ps<.01).

Behavior Findings: Environment Test (Overall)

Children in the GG experimental condition were significantly more likely to recycle a scrap of paper than children in the GG control condition.[3]

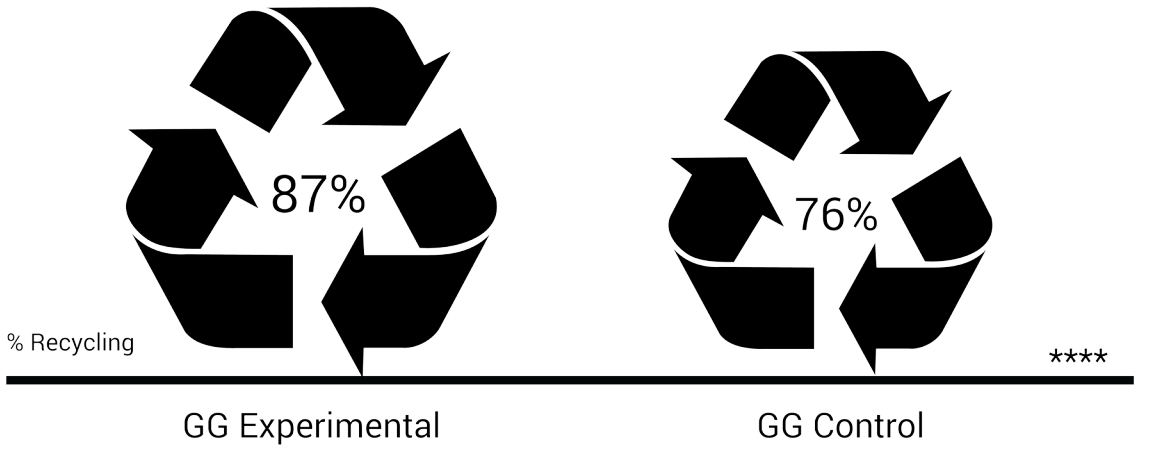


Figure 17. Proportion of GG control and GG experimental children recycling a scrap of paper (p<.001).

[3] Recycling behavior was assessed by counting papers in bins. Papers from children of different ages were mixed together, preventing age analyses.

Behavior Findings: Environment Test (By Country)

When examining the results by country, in all countries but one, children in the GG experimental condition were more likely to recycle than children in the GG control condition.[4] In the remaining country (Spain), the school had previously implemented a rigorous environmental curriculum, and children assigned to both conditions were likely already sensitized to environmental issues.

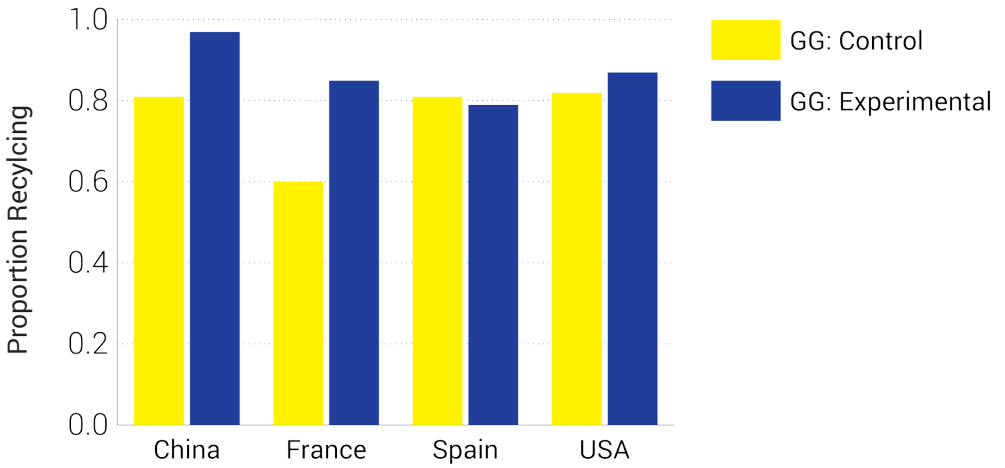


Figure 18. Proportion of GG experimental and GG control condition children recycling a scrap of paper by country. In three of four countries, children in HF were more likely to choose the apple than children in GG (ps<.01).

Behavior Findings Summary

Safety Smart positively affects children's behavior related to the program topic: More children make a healthy eating choice following Healthy & Fit!, and more children recycle following Goes Green!

[4] Data from Argentina was excluded due to interference from a school official.

DISCUSSION & IMPLICATIONS

Knowledge Assessment: Overall Finding

Overall, children show significant gains in knowledge following participation in the Safety Smart program. These gains were seen after a one-week delay, revealing longer-term retention of the learning.

Knowledge Assessment: Mediating Factors

Children showed significant gains in knowledge in both lesson curricula (HF and GG). However, the pattern of learning differed, with higher a priori health knowledge than a priori environment knowledge. This differed slightly by country, suggesting that curricula could benefit from targeted delivery to certain geographic audiences.

Differences in age were also observed, with children at the midpoint of the age range (kindergarten, first- and second-graders) showing the most consistent gains. Age factors also interacted with lesson factors, with the oldest children (third grade) at ceiling with health understanding but still showing gains in the environmental curriculum. Pre-kindergarten children did not evince significant learning in either lesson.

Children in four of the five countries (China, France, Spain, and the US) showed significant gains following Safety Smart participation. The exception was Argentina, where children had high a priori levels of knowledge, and may have been at ceiling.

Behavior Assessment: Overall Finding

Children's behavior and decision-making ability was positively impacted by Safety Smart participation: Children participating in HF were more likely to make a healthy eating choice, and children participating in GG were more likely to recycle a scrap of paper.

Behavior Assessment: Mediating Factors

Children's behavior was consistent across age in the health test , and relatively consistent across countries. Locations where children have been previously exposed to related curriculum may offer diminished opportunity for Safety Smart impact.

5 Age data was not available in the environment test.

IMPLICATIONS

The Safety Smart program achieves its educational goals: There are overall significant, positive effects on children's knowledge acquisition and behavior.

Children, like adults, constitute a complex and nuanced segment. Different levels of learning are observed across key variables: lesson, country, & age. These findings suggest that Safety Smart lessons do not impact all children equally, and that specific titles target subgroups of children. The strategic and targeted use of Safety Smart lessons can help increase effectiveness and provide information to those children who need it most.

The Safety Smart program is designed for children aged 4-8 years. Findings indicate that the program is well calibrated for this age range. Children in the middle of the target age range, aged 5-7 years, generally were found to show the most consistent significant gains in knowledge. The less-familiar environmental curriculum was also significantly effective in the population of 8-year-old children, suggesting that certain lessons (with less familiar curricula) may find a receptive audience in even older children.

Baseline (pre-test) levels of knowledge constrained achievement (post-test knowledge); children unsurprisingly had difficulty learning an entire curricula in one session. Lessons with more complex or less familiar curricula (e.g., Goes Green!) may benefit from multiple exposures, whereas lessons with more familiar curricula (e.g., Healthy & Fit!) may require less exposure. Further, younger children (4-year-olds), with the least prior experience, may also benefit from repeated program exposure.

Ceiling effects found in Safety Smart participants from certain countries (and, in the oldest participants in Healthy & Fit) indicate that children who are not as familiar with the curricula may particularly benefit from the Safety Smart program. For example, children in developing countries may well be a highly receptive and welcoming audience.

APPENDIX 1. CONTRIBUTORS

Project Directors
Michael Cohen, PhD
Katherine Yoshida, PhD

Site Directors & Support
Marcela Berland
Kimberly Crawford
Maura Gordon
Inna Ilmer
Daniele Kelley
Ferran Pons, PhD
Katie Potter
Marta Retondo
Amy Siskind, PhD
Helene Subremon, PhD
Anna Wegrzyn

University Partners
Judit Gervain, PhD (Université Paris 5)
Ferran Pons PhD (Universitat de Barcelona)
Mijke Rhemtulla PhD (U Kansas)
Hélene Subremon PhD (Université Paris 8)
Deng Linyuang PhD (Beijing Normal)

Researchers: Argentina
Camila Abate
Brenda Archimedes
Marcela Berland (MCG)
Luis Cassinotti
Paula Cossi
Agostina Di Martino
Ezequiel Ferraro
Mariana Iglesias
Martin Leibovici
Maria Florencia Noceda
Marta Retondo
Silvina Palazzi
Amy Siskind (MCG)

Researchers: China
Deng Linyuan
Guo Lil
Guan Haijuan
Fan Fulin
Huang Luhuan
Huang Hong
Inna Ilmer (MCG)
Kong Rong
Li Xiang
Liu Xuemei
Pan Jianhai
Ren Beibei
Wu Mingmin
Katherine Yoshida (MCG)
Zhang Xinyue
Zhao Ying
Zhu Menghua
Zhu Xueting
Zhu Yuhan

Researchers: France
Alexandra Castelletti
Michael Cohen (MCG)
Lisa Diotalevi
Anouck Durand
Judit Gervain (U Paris)
Cécile Heggan
Daniele Kelley
Couve Marine
Noemie Riedinger
Florian Pey
Rachel Sarg
Laure Simoes
Helene Subremon
Filomena Vieira
Lucy Vignon
Clementine Vivarelli
Katherine Yoshida (MCG)

Researchers: Spain
Irune Fernandez
Itziar Lozano
Carmina Marcial (MCG)
Jorgina Solé
Ferran Pons (U Barcelona)
Maria Teixidó
Katherine Yoshida (MCG)

Researchers: USA
Alpana Choudhury (MCG)
Michael Cohen (MCG)
Claire Hatamiya (MCG)
Inna Ilmer (MCG)
Carmina Marcial (MCG)
Kristen McGregor (MCG)
Katie Potter (MCG)
Amy Siskind (MCG)
Katherine Yoshida (MCG)

APPENDIX 2. LIST OF KNOWLEDGE QUESTIONS

1. Which is the best way to cough or sneeze?
a) Into your sleeve **
b) Onto someone else
c) Into the air
d) Onto a plate of food

2. Which is what happens when plastic bottles are recycled?
a) They are burned
b) They go into the garbage
c) They are made into a new bottle**
d) They go into the ocean

3. Which is the healthiest activity?
a) Basketball **
b) Video games
c) Computer games
d) Cards

4. Which is the most energy-efficient way to travel?
a) In a car
b) On a bus **
c) In a van
d) In a truck

5. Which can help keep you from getting sick?
a) Pizza
b) Steak
c) Orange **
d) Rice

6. Which should you do with old toys?
a) Give them to someone else **
b) Put them in the garbage
c) Pack them away in a box
d) Make sure nobody else can use them again

7. Which is the best thing to protect yourself from germs?
a) Be outside
b) Eat ice cream
c) Wash your hands **
d) Comb your hair

8. Which should you do with an empty water bottle?
a) Put it into the garbage
b) Put it into the recycling bin **
c) Put it down the drain
d) Put it into water

9. Which of these can germs do?
a) Make you grow
b) Make you happy
c) Make you get sick**
d) Make your hair change color

10. Which can be recycled?
a) Newspaper **
b) Apple core
c) Sunshine
d) Stuffed animal

11. Which should you do immediately after using the bathroom?
a) Comb your hair
b) Wash your hands**
c) Eat an orange
d) Turn off the light

12. Which should a regular light bulb be replaced with?
a) A compact fluorescent lightbulb **
b) A candle
c) Another regular lightbulb
d) A flashlight

13. Which is the healthiest thing to do?
a) Brush your teeth**
b) Make your bed
c) Comb your hair
d) Clean your room

14. Which should you do with your empty food wrapper?
a) Put it into the garbage **
b) Put it into the recycling bin
c) Put it down the drain
d) Put it into water

15. Which is the healthiest thing to do?
a) Sleep**
b) Watch tv (lying down?)
c) Read a book (lying down?)
d) Talk on the phone (lying down?)

16. Which is the most energy-efficient way to travel?
a) Walking **
b) In a car
c) On a plane
d) In a hot air balloon

17. Which is the healthiest thing to eat?
a) Fruit **
b) Fries
c) Cookie
d) Steak

18. Which is the best thing to do for the environment?
a) Leave water running in the sink
b) Turn off water while brushing teeth **
c) Leave the lights on
d) Take a bath

19. Before eating dinner, which is the healthiest thing to do?
a) Wash your hands**
b) Brush your teeth
c) Set the table
d) Eat a banana

20. Which is best for the environment to drink water from?
a) A reusable bottle **
b) A plastic cup
c) A plastic bottle
d) From a hose

APPENDIX 3. KNOWLEDGE QUESTION ILLUSTRATIONS

Which do you think you should do with old toys?

a. Give them to someone else

b. Put them in the garbage

c. Pack them away in a box

d. Make sure nobody else can use them again

APPENDIX 4.
IS IT SAFETY SMART? SUPPLEMENTAL ACTIVITY SHEETS

Date: _____

Name: _____

IS IT SAFETY SMART®?

What is happening in each picture? Decide if it's Safety Smart® or not.

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Name: _____

IS IT SAFETY SMART®?

What is happening in each picture? Decide if it's Safety Smart® or not.

Safety Smart®? (YES) NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO

Safety Smart®? YES NO