

# HMH SCIENCE **DIMENSIONS**<sup>TM</sup>

ENGINEERED *for the* **NEXT** GENERATION

## Digital Walkthrough Guide

Grades K-12



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This reference is your guide to the online features and tools of ***HMH Science Dimensions*** ©2018.

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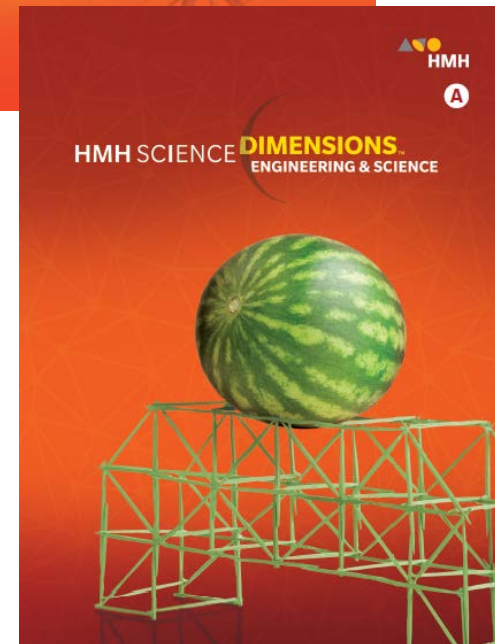


## About *HMH Science Dimensions*

*HMH Science Dimensions*™ © 2018–2019 is a brand-new, K–12 science program built specifically to address the Three Dimensions of Science Learning outlined in the *Framework for K-12 Science Education* and the Performance Expectations of NGSS. Built from a three-dimensional learning perspective, this program provides an authentic approach to increasing student achievement in science and preparing teachers for engineering instruction.

- Built from the ground-up around the integration of the Three Dimensions of Learning
- Unparalleled teacher support, including embedded professional development videos
- Integrated engineering content, with thought leadership from author and NGSS writer Dr. Cary Snider
- Included access to the Teacher Guides for HMH Field Trips powered by Google Expeditions
- Performance-based assessments, plus rubrics to evaluate open-ended responses
- Investigation-driven activities and labs and engineering-based performance tasks

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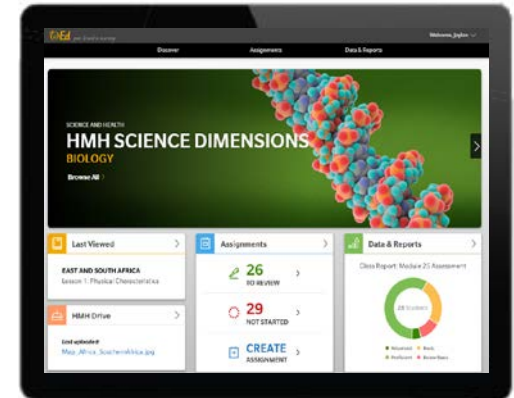
## Meet *Ed*: Your Friend in Learning

*Ed* is a new online learning system that combines the best of technology, content and instruction to personalize the teaching and learning experience with HMH programs for every teacher and student. *Ed* is designed to be a friend to learners while supporting teachers and simplifying their instructional practice.



## The Ultimate Online and Offline Experience

Additionally, program content can be accessed offline through the *HMH Player*® app. This allows for maximum compatibility in 1:1 or in Bring Your Own Device learning environments and with the wide variety of technology that students have at home.

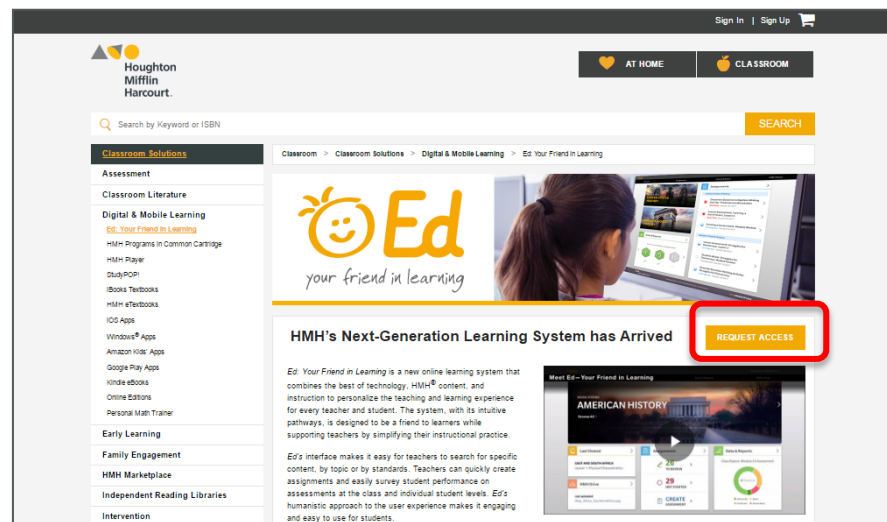




# Creating an Evaluation Account

# Creating an Evaluation Account

1. Go to [hmhco.com/MeetEd](http://hmhco.com/MeetEd).
2. Click the “Request Access” button.
3. Fill out the form, and in the drop down menu for “What subject do you wish to preview?” choose *HMH Science Dimensions*.
4. Click “Submit.”
5. An HMH Account Executive will review your request and provide credentials to log-in to the online platform within 1-5 business days.



The screenshot shows the 'Preview Ed' form on the Houghton Mifflin Harcourt website. The form is titled 'Please fill out this form to request access to the Preview Experience. These brief questions will enable us to better assist you.' It includes a section for '1) Contact Information' with fields for Location (required), Email address (required), First name (required), Role (required), City (required), and Phone. There are also fields for Last name (required), Institution (required), and Zip/Postal Code (required). At the bottom, there is a section for 'Preferred method of contact' with radio buttons for Email and Phone.

# Navigating the Dashboard



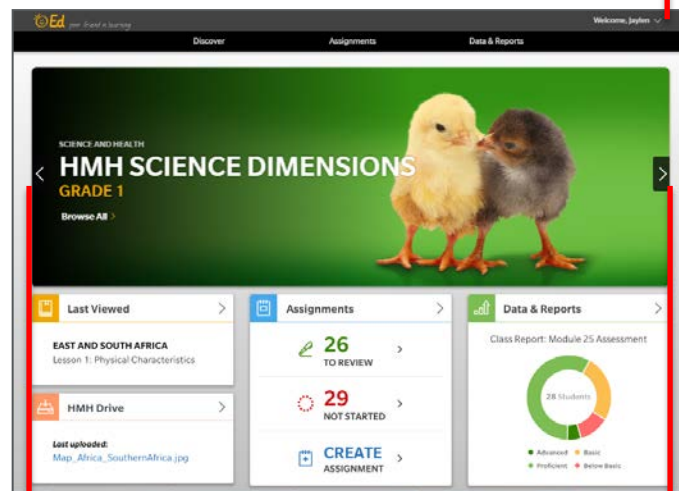
## Selecting Your Program

The *Ed* preview experience includes all of the *HMH Science Dimensions* samples in the order below:

- High School Biology
- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Grade K
- Grades 6-8 Module A: Engineering & Science
- Grades 6-8 Module B: Cells & Heredity
- Grades 6-8 Module C: Ecology & the Environment
- Grades 6-8 Module F: Geologic Processes & History
- Grades 6-8 Module K: Forces, Motion & Fields
- Grades 6-8 Module L: Waves & Their Applications

**NOTE:** The High School Earth & Space Science and additional grades 6-8 modules will be available for preview on Ed in August 2017.

Click the down arrow to access the Student Dashboard view and Manage Classes page.



Click the arrows on the left and right to advance to a different program to review those resources.



## Teacher Dashboard

Designed for today's digital natives, *HMH Science Dimensions* offers you and your students a robust but intuitive digital online experience. **Explore now!**

The screenshot displays the HMH Science Dimensions Teacher Dashboard. At the top, there is a navigation bar with three tabs: 'Discover', 'Assignments', and 'Data & Reports'. Below the navigation bar, the dashboard is divided into three main sections, each highlighted with a red circle and a number:

- 1. Discover:** This section features a large banner for 'SCIENCE AND HEALTH' with the title 'HMH SCIENCE DIMENSIONS' and the subject 'BIOLOGY'. Below the banner is a 'Browse All' link.
- 2. Assignments:** This section displays a list of assignments. It shows '26 TO REVIEW' and '29 NOT STARTED'. At the bottom, there is a 'CREATE ASSIGNMENT' button.
- 3. Data & Reports:** This section shows a 'Class Report: Module 25 Assessment' for '28 Students'. It includes a donut chart representing student performance levels: Advanced (green), Basic (yellow), Proficient (light green), and Below Basic (red).

Your personalized Teacher Dashboard is organized into three main sections:

- 1. Discover**— Quickly access content and search program resources.
- 2. Assignments**—Create assignments and track progress of assignments.
- 3. Data & Reports**— Monitor students' daily progress

## Discover *HMH Science Dimensions*

**Discover** allows you to view the Student and Teacher Editions, browse program resources, search content by standard, and access online assessments.

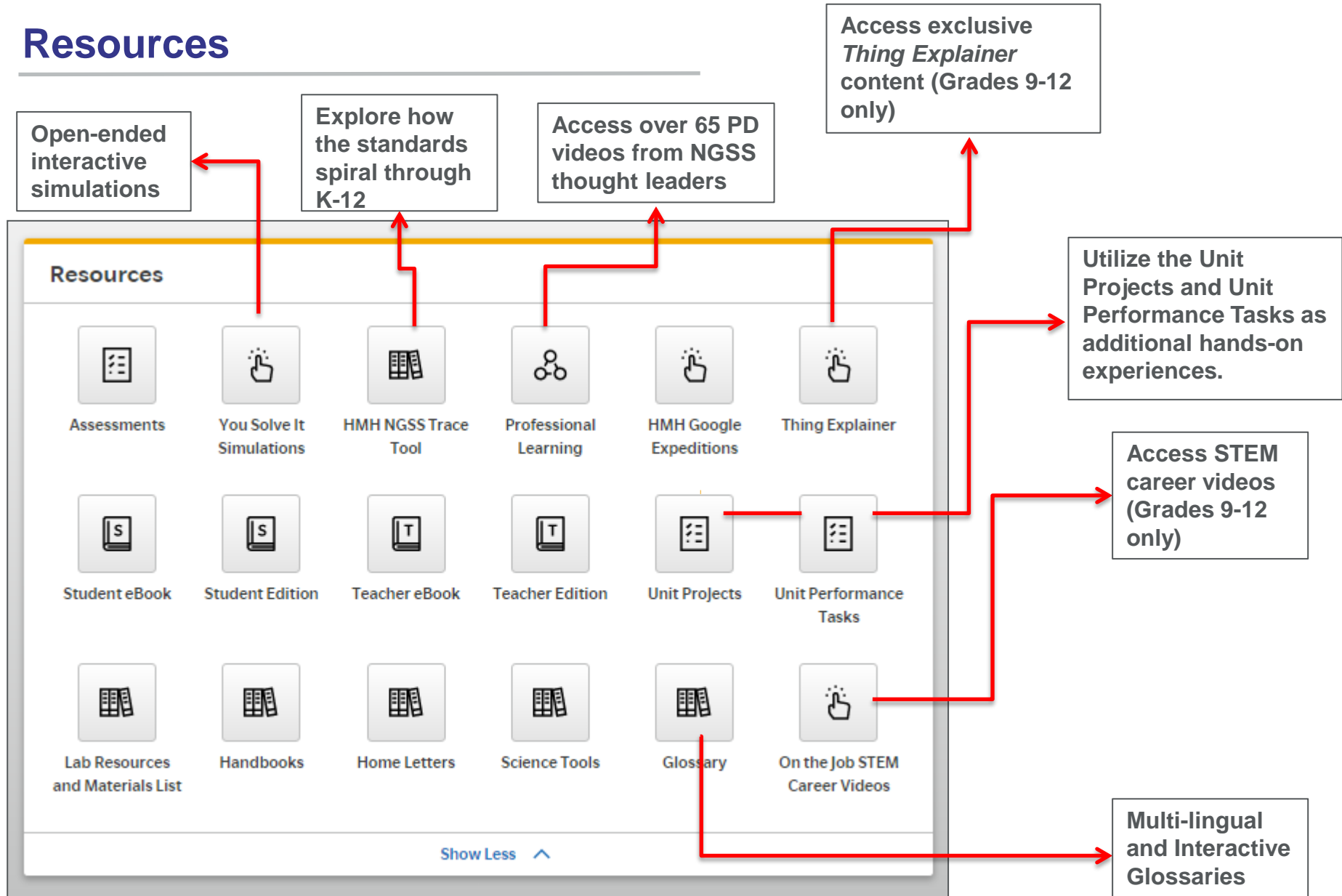
The screenshot shows the 'Discover' page for HMH Science Dimensions: Biology. At the top, there's a navigation bar with 'Discover', 'Assignments', and 'Data & Reports'. Below this, a dropdown menu shows 'HM Science Dimensions: Biology'. To the right of the dropdown, there's a 'View by' section with 'CONTENT' and 'STANDARDS' tabs, and a search icon. A red arrow points from the 'STANDARDS' tab to a text box that says 'Click to view by standards (feature coming soon)'. Below the 'View by' section, there's a 'Units' section with five unit cards: Unit 1 (Living Systems), Unit 2 (Chemistry in Living Systems), Unit 3 (Matter and Energy in Living Systems), Unit 4 (Ecosystems: Stability and Change), and Unit 5 (Cells: Stability and Change). A red arrow points from the 'STANDARDS' tab to a text box that says 'Use the arrows to locate additional units.' Below the 'Units' section, there's a 'Resources' section with six resource cards: Assessments, You Solve It Simulations, HMH NGSS Trace Tool, Professional Learning, HMH Google Expeditions, and Thing Explorer. A red arrow points from the 'Resources' section to a text box that says 'The resource shortcuts provide a quick way to access all program resources.'

Click to view by standards (feature coming soon)

Use the arrows to locate additional units.

The resource shortcuts provide a quick way to access all program resources.

# Resources





## Resources, cont.

### Resources

Assessments

You Solve It Simulations

HMH NGSS Trace Tool

Professional Learning

HMH Google Expeditions

Thing Explorer

Student eBook

Student Edition

Teacher eBook

Teacher Edition

Unit Projects

Unit Performance Tasks

Lab Resources and Materials List

Handbooks

Home Letters

Science Tools

Glossary

On the Job STEM Career Videos

Show Less ^

Access the Hands-on Lab Worksheets

ELA, Math, Science and Engineering Practices, Crosscutting Concepts, and Lab Safety Handbooks

Scientific Calculator, Periodic Table, Graphing Tool, and Graph Paper

### Additional icons:



ELD Strategies  
(K-8 only)

ELD Strategies



Hands-on Activity  
(K-5 only)

Hands-On Activity



Video-Based Projects  
(3-8 only)

Video-Based Projects

# Assigning Resources

Filter by Instructional Purpose: Core Instruction, Exploration, Extension, Investigation, Practice and Apply, Practice and Review, Reference, Assessment, Teacher Support

View the Resource

Assign the resource. Assignments appear in the Student's Dashboard. The green dot indicates assignable items.

Ed your friend in learning

Welcome, Jaylen

Discover Assignments Data & Reports

HMH Science Dimensions: Module A

## Lab Resources and Materials List

1 of 2 | NEXT >

**Filters** [reset](#)

**Instructional Purpose**

☐ Investigation

☐ Reference

Unit 1: Introduction to Engineering and Science > Lesson 1: Engineering, Science, and Society

**Hands-On Lab Worksheet**

**Engineering, Science, and Society: Hands-On Lab - Investigate a Technology Inspired by Nature**

● Assignable

This is the Hands-On Lab worksheet for "Investigate a Technology Inspired by Nature." During this lab, students will observe the interaction between a cocklebur and artificial animal fur, identify a design problem that could be solved by a nature-inspired solution based on their observations, and extend what they learn to additional examples.

[Launch](#)

[Assign](#)

Unit 1: Introduction to Engineering and Science > Lesson 1: Engineering, Science, and Society

**Hands-On Lab Worksheet**

**Engineering, Science, and Society: Hands-On Lab - Investigate a**

# Navigating the Online Student Edition



# Grades 3-12 View



## Contents

Students open the Table of Contents to access units and lessons.



## Bookmarks

Students can easily access pages they have bookmarked and add notes as well.

**Unit Opener**

**UNIT 1**  
Introduction to Engineering and Science

The Falkirk Wheel is a rotating boat lift that connects two major waterways in Scotland. It is an example of how technology and science allow engineers to create tools to solve modern problems.

Explore the images to discover more about the development of locomotive technology.

Navigate through the unit using the directional arrows.

Use the scroll bar to view interactive elements.

## Grades K-2 View



### Contents

Students open the Table of Contents to access units and lessons.

Tap this button to play or pause your audio.

Tap this button to reset your page and start over.

These dots tell you which page you are on. You can tap them to jump around.

Access Google Classroom

Use the left and right arrows to move back and forward through the unit content.

Plant Needs

Play the video to see how a plant can change.

Play the video to see how a plant can change.

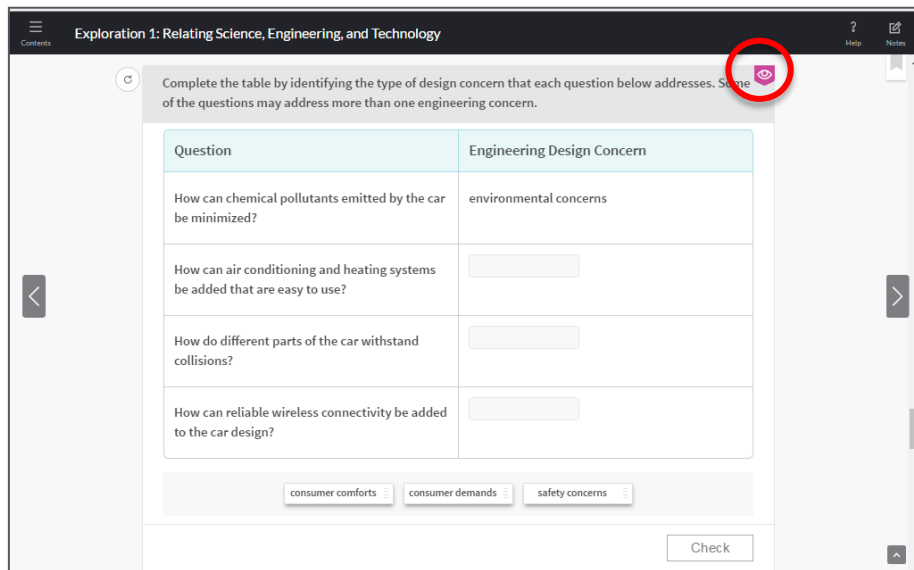
# Teacher Resources



# Using the Teacher eBook

The navigation for the Teacher eBook is similar to that for the online student edition. You'll find the same navigation icons and features.

Additionally, you can click the pink eye icon to view answers to interactive formative assessment items.



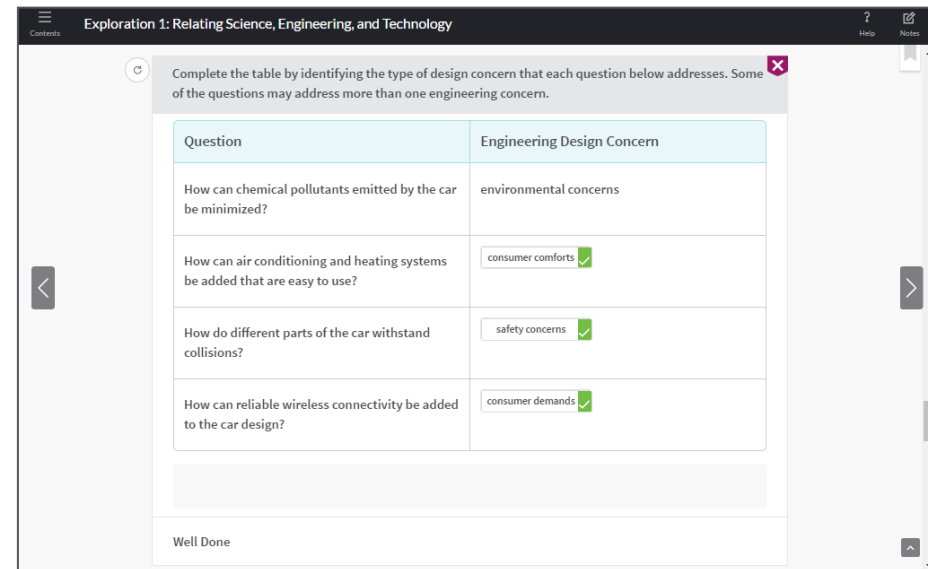
Exploration 1: Relating Science, Engineering, and Technology

Complete the table by identifying the type of design concern that each question below addresses. Some of the questions may address more than one engineering concern.

Question	Engineering Design Concern
How can chemical pollutants emitted by the car be minimized?	environmental concerns
How can air conditioning and heating systems be added that are easy to use?	
How do different parts of the car withstand collisions?	
How can reliable wireless connectivity be added to the car design?	

consumer comforts consumer demands safety concerns

Check



Exploration 1: Relating Science, Engineering, and Technology

Complete the table by identifying the type of design concern that each question below addresses. Some of the questions may address more than one engineering concern.

Question	Engineering Design Concern
How can chemical pollutants emitted by the car be minimized?	environmental concerns
How can air conditioning and heating systems be added that are easy to use?	consumer comforts ✓
How do different parts of the car withstand collisions?	safety concerns ✓
How can reliable wireless connectivity be added to the car design?	consumer demands ✓

Well Done

# Assessments

End-of-Year Tests (K-5 and 9-12), End-of-Module Tests (6-8), Unit Pretests, Lesson Quizzes, and Unit Tests are automatically scored for reporting to provide immediate feedback.

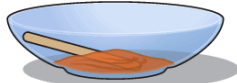
## Grade 2 - Unit Test: Matter

1 of 20

The pictures show a frozen ice treat in a glass bowl.



After 1 minute  
out of the freezer



After 30 minutes  
out of the freezer

What caused the frozen ice treat to change?

Choose the correct answer.

- ☐ The stick in the treat broke it apart.
- ☒ The heat in the room melted the treat. ✓
- ☐ The treat did not cook for long enough.






## Grade 2 - Unit Test: Matter

2 of 20

The table shows objects made by heating or cooling. What object cannot change back?

Push on the correct picture.

 melted chocolate	 ice cube
 snowball	 fried egg

Correct answers:

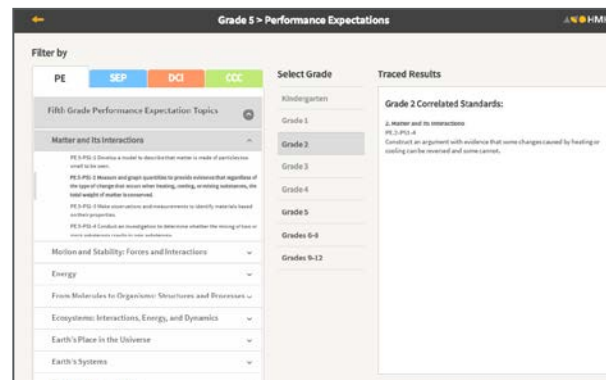
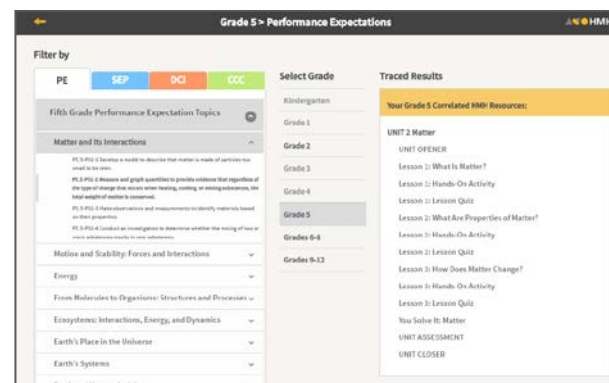
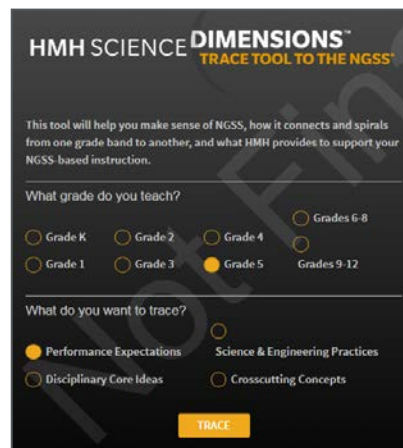
1 Correct answer



# Using the Trace Tool

The Trace Tool provides you with a clear view of where all of the NGSS are addressed throughout the K to 12 grade span and the interrelationship among them.

1. Select a Grade.
2. Select what you would like to trace.
3. Expand the topic by selecting the downward arrow next to that title.
4. Select the standard to trace. When you select a standard and grade level, you are shown the resources in the grade you're currently exploring that relate to that standard.
5. Notice in the middle column under Select Grade that other grades are available. When you click on a different grade, you will see the standard in that grade that is related.
6. Use the PE, SEP, CCC, and DCI tabs to navigate through other standards.





# Using the You Solve It Simulations

You Solve It simulations provide performance-based assessments in a digital setting. These minds-on activities allow you to measure student growth in the NGSS when you simply don't have time to set-up, conduct, and clean up a performance-based assessment in a lab setting.



## Overview

This provides context and some basic instructions on using the open-ended simulation.



## Simulation

This open-ended simulation gives students FULL control. They make their own choices on how to gather evidence or achieve a solution.



## Support

The Support section includes background, tips, and a rubric.

# HMH SCIENCE **DIMENSIONS**<sup>™</sup>

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