

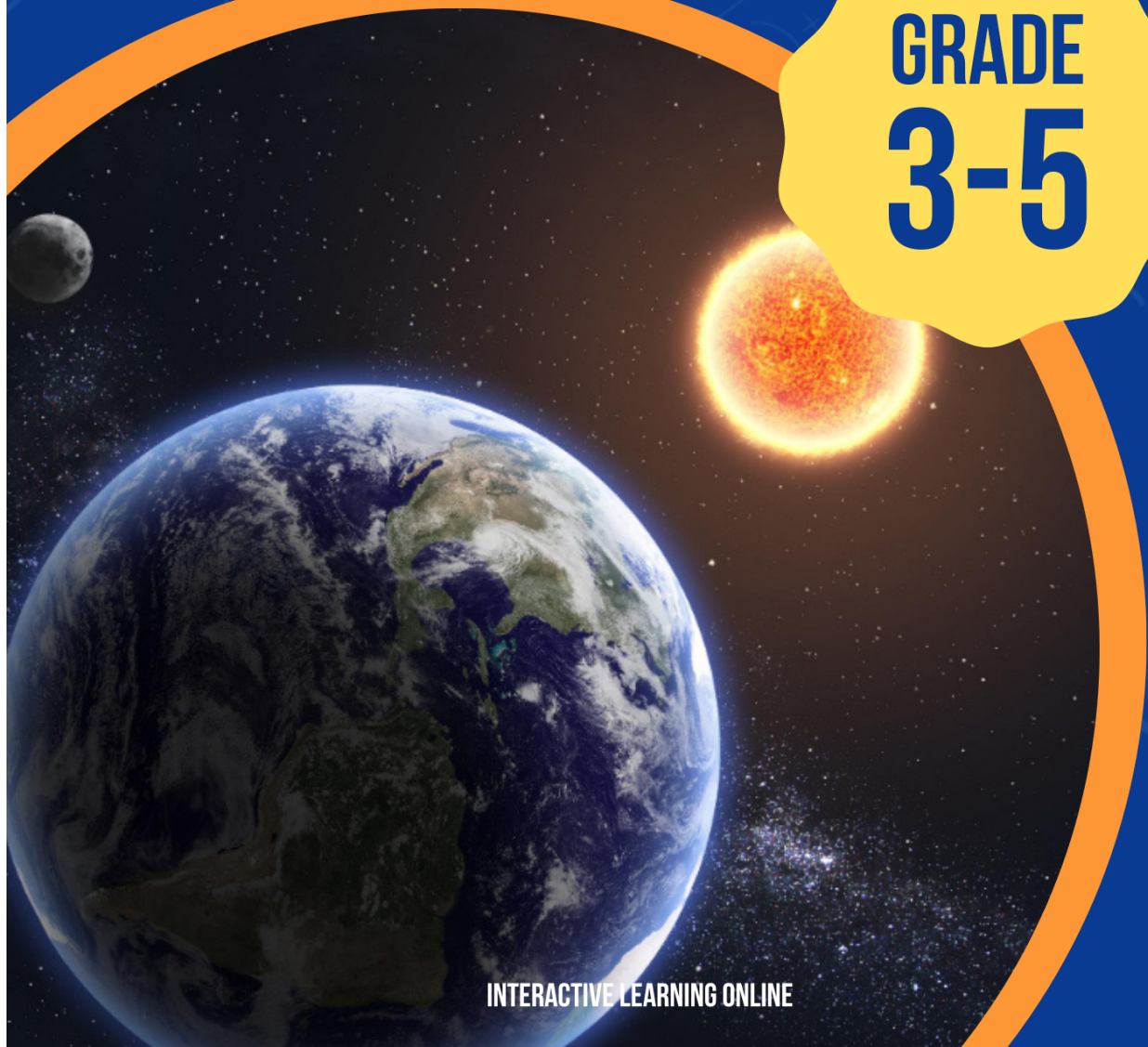


Science Check-up! TEXAS

English/Spanish Edition

Teacher's Guide

**GRADE
3-5**



INTERACTIVE LEARNING ONLINE



Science Check-up **Texas**

Grade 3-5

Teacher's Guide

English/Spanish Edition

STEM-Smart

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Science Check-up: Texas

Grade 3-5

About Science Check-up

**Science Check-up: Texas* Grades 3-5 is an online supplement that focuses on the big ideas outlined in the Grade 3-5 *Texas Essential Knowledge and Skills* (TEKS) that upper elementary students encounter in their curriculum. It is designed to help students better understand the science content learned and to prepare for tests.

*Questions in the reviews feature immediate feedback for students, opportunities to *go back* and answer questions until they get them right, and a report, “*How did I do?*”

*Teachers can generate single unit and all-unit tests on key science content and see tables of analytics and pie charts of responses on all questions in the reviews and tests to facilitate further instruction as needed.

*Teachers have total control of student access to *Science Check-up* reviews. Individually assigned usernames and passwords allow students to access only those reviews enabled by the teacher. Teachers can select reviews by simply highlighting and clicking on the reviews listed in the settings on their teacher *dashboard* for each science unit.

Dual languages

**Science Check-up* can be read in English or Spanish with a simple click of the *EN/SP* language buttons in the tool bar. Second language learners can use a built-in translation function to see and hear all text in both Spanish and English, enhancing both their science content knowledge and their language skills.

How to use Science Check-up

*The science content and questions in the *Science Check-up* reviews are intended to deepen understanding of the content and to give students that extra boost in confidence that they have learned what is needed to do their best on tests. Fifth grade teachers will find *Science Check-up* an especially useful tool for helping students prepare for the tests given at the end of Grade 5, but 3rd and 4th grade teachers can also use selected reviews to capitalize on the power and fun of *Science Check-up* and to lessen the burden on 5th grade teachers to prepare for the tests at the end of fifth grade. The best way to use *Science Check-up* is for the Grade 3-5 teachers to plan together and select reviews that align with the topics they are teaching at their grade. The table on the following page shows the alignment of the NGSS and suggested *Science Check-up* reviews.

Science Check-up works!!

Analyses of pilot study scores of 2,000 students using *Science Check-Up* showed an average gain of 22% in the number of students classified as proficient or advanced on their state science test!

Science Check-up/ Grade 3-5 TEKS Alignment

Category	Suggested Reviews
Unit 1: Matter and Energy	
The student will demonstrate an understanding of the properties of matter and energy and their interactions (5.5, 3.5)	Review 1: Properties of matter Review 2: Temperature matters Review 3: When matter is mixed
Unit 2: Force, Motion and Energy	Suggested Reviews
The student will demonstrate an understanding of force, motion, and energy and their relationships. (5.6, 3.6)	Review 1: What is energy anyway? Review 2: All kinds of energy Review 3: Electric circuits are simple Review 4: Don't mess with electricity Review 5: Light energy Review 6: How light behaves Review 7: Net forces make things happen
Unit 3: Earth and Space	Suggested Reviews
The student will demonstrate an understanding of components, cycles, patterns, and natural events of Earth and space systems (5.7, 5.8, 4.7, 4.8, 3.7)	Review 1: Sedimentary rocks Review 2: Weathering and erosion Review 3: Renewable or not? Review 4: Day and night! Review 5: Our solar system Review 6: Weather and climate Review 7: The water cycle Review 8: What fossils tell us Review 9: Phases of the moon Review 10: Dynamic Earth
Unit 4: Organisms and Environments	Suggested Reviews
The student will demonstrate an understanding of the structures and functions of living systems and their interdependence on each other and on their environment (5.9, 5.10, 3.9, 3.10)	Review 1: Habitats? Ecosystems? What's the deal? Review 2: What's a biome? Review 3: What are plants up to anyway? Review 4: Solar power for life Review 5: How living things interact Review 6: Some animal adaptations Review 7: How animals behave Review 8: How living things change Review 9: How life forms change
*Unit 5: Scientific Investigation and Reasoning	Suggested Reviews
Safe practices with tools and equipment, design, conduct and report simple experiments that require data collection and analysis and critical thinking (5.1, 5.2, 5.3, 5.4)	Review 1: Practices of science Review 2: Scientific investigations Review 3: Measurement and analysis Review 4: Evidence, reason and knowledge Review 5: Let's argue about it!

*Not a separate reporting category. Reviews provide examples of scientific investigation and reasoning in context.

Using Science Check-up: The Teacher Dashboard

Getting Started

Step 1. Login at <http://stem-smart.com/tx-e/login.php> and enter the temporary username and password assigned to you. Any browser will work, but STEM-Smart is designed to work specifically on Chrome to best utilize all the STEM-Smart language features.

Step 2. After logging in, your temporary username and password will take you to your “Let’s Get Started” page. On this page you may change your username and password if you wish. Be sure to write your username and password where you can find it.

Step 3. The “next” button will take you to your *teacher dashboard* where you can control everything. Students can only see and do the units and reviews that you have “enabled” and see and take unit test and all-unit tests AFTER you have “enabled” (opened and closed) them as well. You may make changes in things enabled at any time, but students must be logged-out and log back in to see the changes you’ve made.

Step 4. You can access all student accounts by clicking the **Student Accounts** tab in the toolbar at the upper right of your teacher dashboard. The following screen shot shows list of students assigned.

Step 5. When students log in for the first time, they will be asked to update their name, username and password, but that’s all optional. Clicking on **Manage Account** allows you to reset student usernames and passwords to be those assigned by the school or in case a student forgets his or her username and password.

#	Student Name	Login Details	All Unit Test	Unit 1: Nature of science	Unit 2: Earth and Space Science	Unit 3: Physical Science	Unit 4: Life Science
1	Gerlach, Helmer	Username: UsernameChanged Manage Account	No results	No results No QC results No results	No results No QC results No results	No results No QC results No results	No results No QC results No results
2	Feeney, Annamarie	Username: Annamariefeeney Manage Account	No results	No results No QC results No results	No results No QC results No results	No results No QC results No results	No results No QC results No results

Step 6: STEM-Smart can be read in English and Spanish. The **Edit Language** link on home page tool bar allows you to select the text language for the reviews. If both languages are enabled, students can toggle between English and Spanish by clicking the EN or SP button at the top right of their screen. You may also choose to enable only one of the languages as well.



Deciding what students will see

On the home page you can open and close any or all of the STEM-Smart units, open and close any or all of the reviews within a unit, generate individual unit and/or all-unit tests, and view student responses to the *Quick Checks* in the reviews and to the tests that you’ve generated.

A. Selecting a unit and enabling or disabling reviews in a unit

Step 1: Click the **Settings** button under one or more of the units. Below is what you will see for Unit 1 when the settings link is clicked. The sample screen that follows shows that two of the three reviews have been enabled and will be open for student access. The default for all reviews in units is “Disable All.”



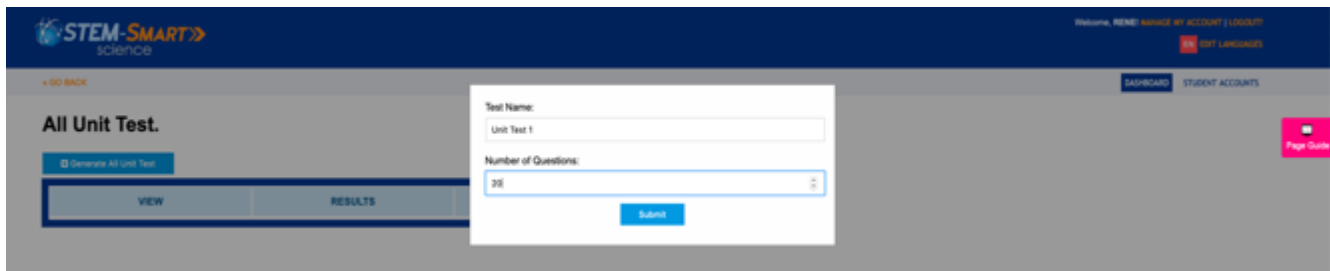


B. Generating All-Unit Tests

Step 1: Clicking on the **View All-Unit Test** allows you to create multiple tests of randomly selected items from the test item pools for each unit.



Step 2: When you click on **Generate All Unit Test**, you will be asked to provide a name for the test and input the number of questions for the test. The screen shot below shows the teacher generating a test of 20 items. You may generate as many different tests as you like.



*After creating an all-unit test, you have the option to *view the test, enable or disable the test* and *view the test results* after students have completed the test. Clicking the “Generate All Unit Test” again allows you to generate another version of the test with a new set of randomly selected items.


Step 3: Clicking on the **View Test Results** tab shows a matrix of students' scores on the all-unit tests generated. The rows in the matrix show the percent of correct responses across all items by individual **Student Name** and the **columns** show the percent of correct responses by all student on each item.

STUDENT NAME	Q#1	Q#2	Q#3	Q#4	Q#5	Q#6	Q#7	Q#8	Q#9	Q#10	TOTAL %
Beier, Dahlia	-	-	-	-	-	-	-	-	-	-	0%
Dare, Lora	-	-	-	-	-	-	-	-	-	-	0%
Kilback, Baylee	-	-	-	-	-	-	-	-	-	-	0%
Ortiz, Astrid	-	-	-	-	-	-	-	-	-	-	0%
Ortiz, Olga	-	-	-	-	-	-	-	-	-	-	0%
Total (5)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Step 4: Clicking on the item number heading (e.g., "Q#1"), shows a copy of the test item and correct response and generates a pie chart showing the distribution of students' responses to the item.


Question #1

Use the pull down menu to indicate whether the object is experiencing balanced or unbalanced forces.




A ferry slows down as it approaches a dock.

Unbalanced




A basketball arcs towards the hoop.

Unbalanced



A hockey puck slides across the ice at a constant speed.

Balanced



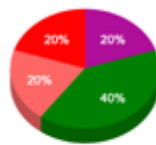
A red rock sits motionless atop some other rocks.

Balanced

Answer: Unbalanced,Unbalanced,Balanced,Balanced

STUDENT ANSWER STATISTICS

The pie chart below shows the students' answers to the question and the percentage for each selected letter choice.



● Unbalanced,Balanced,Balanced,Balanced
● Unbalanced,Unbalanced,Balanced,Balanced
● Unbalanced,Balanced,Balanced,Unbalanced
● Unbalanced,Unbalanced,Unbalanced,Balanced



● Correct
● Wrong

C. Managing the Units

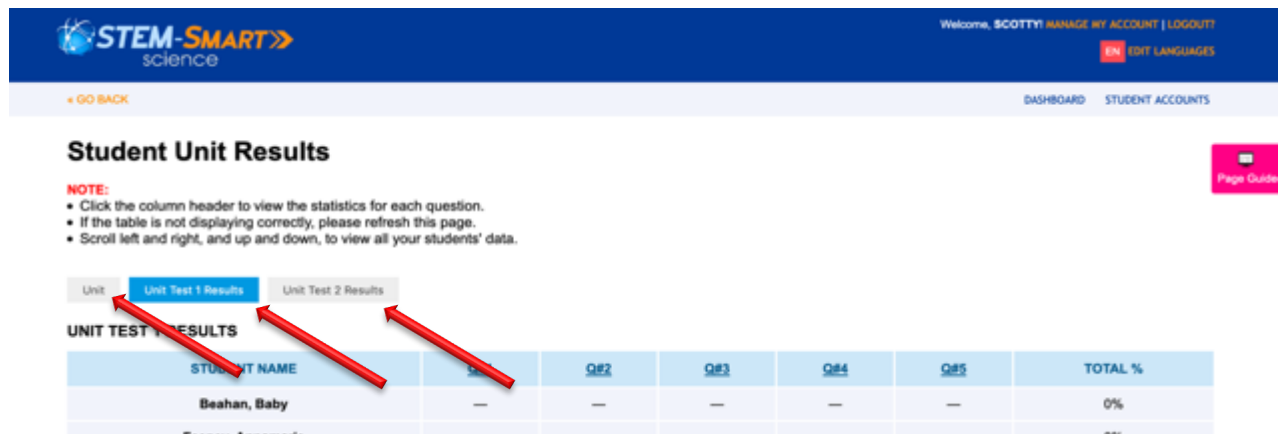
Step 1: Clicking on the **Generate Unit Test** tabs on your dashboard allows you to create up to **two** tests of randomly selected items for that unit. As with the all-unit test, you will be asked to select the number of items.

The screenshot shows the Teacher Dashboard interface. The top navigation bar includes the STEM-SMART science logo, user information (Welcome, KASSANDRA), and account management options. The main content area is divided into 'SECTIONS' and 'ACTIONS'. Under 'SECTIONS', there is an 'ALL UNIT TEST' section and a 'UNIT 1: MATTER AND ENERGY' section with a 'Matter and Energy' unit card and a 'Settings' button. Under 'ACTIONS', there is a 'Generate All-Unit Tests' button, a 'View Unit' button, a 'View Unit Results' button, and two 'Generate Unit Test' buttons (1 and 2). A red arrow points to the 'Generate Unit Test 1' button.

Step 2: After creating a unit test, you have the option to view the unit itself, view the unit tests, view the unit test results, and enable (or disable) the tests.

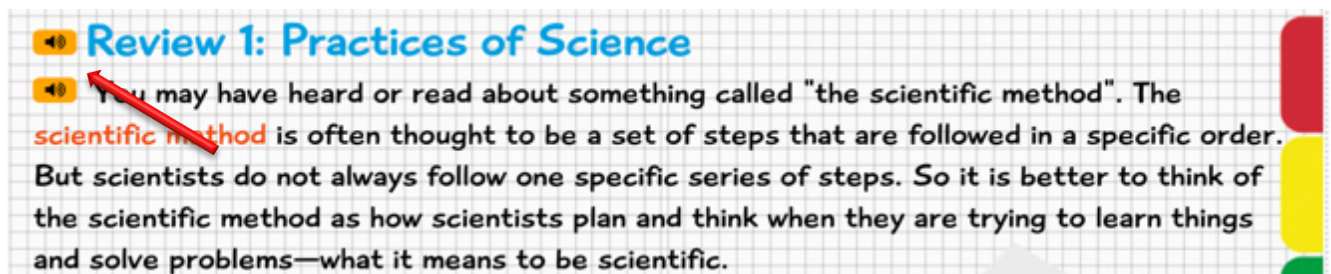


Step 3: After students have finished a unit and it has been disabled (closed), clicking on **View Unit Results**, takes you to **Student Unit Results** screen that are the same as the “all unit” tests (See Section B.4 above).

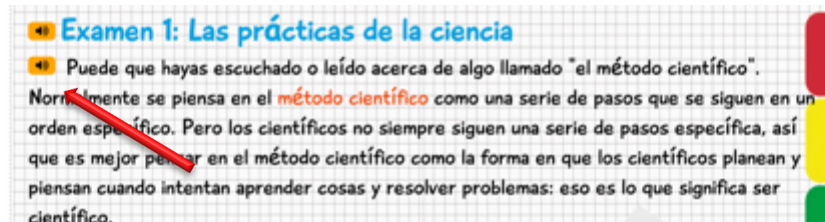


D. Translation and Audio Features

*Full text audio and translation: Students can always hear the full text on a screen read to them in English by clicking on the “speaker” icon to the left of the text—whether the text appears in English or Spanish.



- Volver al tablero de instrumentos
- Seleccionar página
- Seleccione el idioma



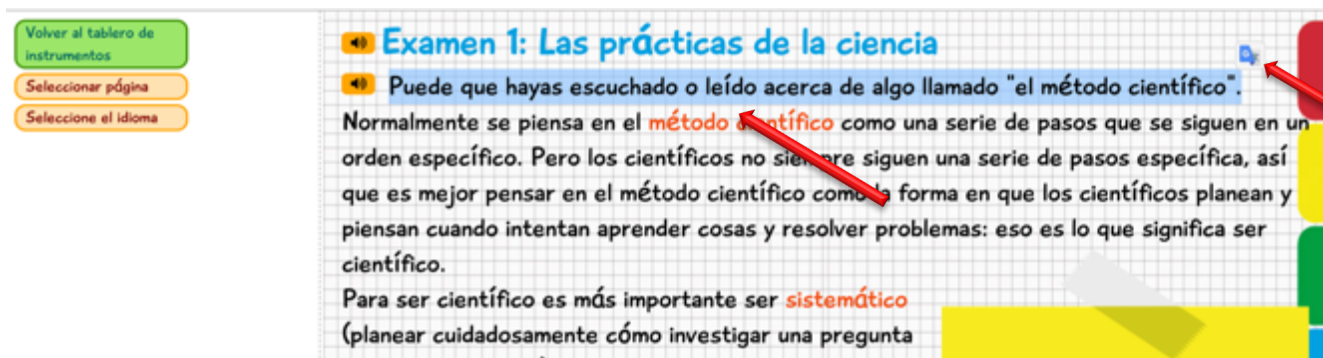
*Specific text audio and translation: If a student wants to see or hear a translation of only a single word, sentence or section of Spanish text, the “Google Translate” plugin needs to be added to their browser at:

<https://chrome.google.com/webstore/detail/google-translate/aapbdbdomjkkjkaonfhkkikfgjllcleb?hl=en>

After it has been added a Google Translate icon will appear in the toolbar.



Step 1: The translation can be done by highlighting a word, a sentence or a section of text on the Spanish screen. Then find and click on the Google Translate icon near the highlighted word or sentence(s).



Step 2: Clicking on the translation icon will produce a box that contains the word or sentence(s) in English and Spanish. Clicking on the “speaker” icons in the box will produce audios of both translations.

