

# STAAR<sup>®</sup> Review to Go

## Science Grade 8



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## What Is *STAAR Review to Go: Science*?

*STAAR Review to Go: Science* is a student-centered review resource to be used to address the Science TEKS that, based on current data, have proven challenging for students. Each activity is TEKS-based and may be used to enrich Tier I instruction or as a review at the rigor outlined by the TEKS.

Each review activity is designed to take 15–30 minutes of instruction and fit in a file folder to create a convenient and engaging review resource. These activities can be used over 1–2 days or up to two weeks as review activities in science class. They can also be used as Saturday review sessions or during tutorials.

### Creating Review Activity Folders

Whether using the review activities in this book or creating your own, you will need the following materials:

- access to a copy machine and/or printer
- cardstock
- clear tape
- envelopes and/or resealable plastic bags
- file folders, preferably a different color for each Reporting Category
- glue and/or glue sticks
- scissors

Create a set (or two, if needed) of Review Activity Folders and place them in stations for students to review over several class periods, or make several folders for each activity and have the whole class work through each folder at the same time.

Follow these steps to create a Review Activity Folder:

1. Read through the Materials Lists, Advance Preparation, and Teacher Notes sections of the activity pages and gather the materials for the activity.
2. Print the Labels, Task Cards, and Student Answer Keys. You may choose to make copies from the book or access the digital files to print in color or black and white. Access digital files at <http://r4hub.esc4.net> using your login.
3. Cut out the Labels, Task Cards, and Student Answer Keys and attach each to the folder. You may choose to follow the sample layout or organize the folder in a way that meets the needs of your students.
4. Print copies of the student pages. These are designed to be takeaways for students to use as a study guide.

### Using Review Activity Folders

The folder format provides flexible options for review. The following are examples of ways to use the folders:

- Whole-Class Review: During one class period, the class works through the same review activity folder(s) and debriefs them together.
- Review Stations: Student groups work through each folder and note any topics about which they have confusion or need further review. The teacher should monitor to detect any misconceptions. These points for review can be addressed individually or as a class to make the best use of class time.
- Individualized Review: Students work through activities that target their areas of greatest need based on formative assessment data.

## What Is *STAAR Review to Go: Science*?

### Answer Keys

Answer Keys are included with each activity. The Answer Keys can be used in one of the following ways:

- Place the Answer Key on the back cover of the folder for students to self-check as they work through the activity.
- Place the Answer Key inside the folder in a pocket or under a flap for students to self-check as they work through the activity.
- Plan for students to visit a Solution Station with a labeled Answer Key for each activity.

### Debriefing and Providing Feedback

Depending on how the folders are used, the teacher may choose a variety of strategies to provide feedback.

- Use Key Questions and practice assessment items to debrief the review activity. Students should be able to accurately answer these questions following the review.
- Students work through each review activity and use the Answer Key or visit the Solution Station to check their answers. Students should note when they have confusion about a concept so it can be addressed.
- Teachers may choose to be the Solution Station by holding the Answer Keys and discussing student understandings/misconceptions as they check their work.

### Using Assessment Data to Create Your Own Review Activities

When planning review activities, assessment data should be used to determine which TEKS must be reviewed thoroughly and which TEKS need minimal review. State assessment data were used to determine the TEKS addressed in *STAAR Review to Go: Science*. Current campus or district data may indicate a need to create review activities for TEKS not addressed in this product.

For a broader view of student assessment trends, use assessment data collected throughout the current year. Most districts have access to data analysis software that can provide performance data at the class, campus, or district level. Consider creating folders following the collection and analysis of data from class, campus, or district assessments so that a set of activities will be ready for use with students when it is time to begin reviewing.

If data analysis software is not available, assessment data from the Texas Education Agency can be helpful in determining which TEKS to target during STAAR review. Statewide item analysis data are available for STAAR assessments beginning in 2013. TEKS with the lowest percentage of correct answers and highest frequency of STAAR assessment questions should be the focus for review.

## What Is *STAAR Review to Go: Science*?

Once the TEKS targeted for review have been identified, evaluate available STAAR Released Test Questions to determine the types of questions that are challenging for students. Some types of questions that challenge students include those that

- require a calculation;
- require students to write and fill in an answer for a griddable item;
- require students to analyze charts, graphs, tables, or diagrams;
- include a large amount of text;
- do not provide a visual model to aid students; or
- require multiple steps to answer.

Consider the STAAR Released Test Questions when planning review activities. Ask, “Would this activity help my students master the targeted concept and answer this question successfully?”

### References

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- Region 4 Education Service Center. (2014). *Warm up to science: TEKS-based engagement activities series, grade 6*. Houston, TX: Author.
- Region 4 Education Service Center. (2014). *Warm up to science: TEKS-based engagement activities series, grade 8*. Houston, TX: Author.
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# STAAR Review to Go: Science Features

3: Kinetic and Potential Energy  
Reporting Category: 2, TEKS 6.8A

**TEKS**

6.8 Force, motion, and energy. The student knows force and motion are related to potential and kinetic energy. The student is expected to:  
A. compare and contrast potential and kinetic energy.

**TEKS and ELPS** are embedded in each activity and are reflected in the content and language objectives.

**Materials lists** aid in activity preparation.

**Language Proficiency Standards (ELPS)**

Articulate second language acquisition/writing. The student is expected write using standard basic vocabulary and content-based grade-level vocabulary.

**Materials**

**For folder**

- snack-size resealable plastic bag, small envelope, or pocket to hold cards
- cardstock to make folder pockets or flaps
- 12 inches of string or yarn (optional)
- tape or glue (optional)
- **Venn Diagram Descriptor Cards**
- **Venn Diagram Template** (optional)
- pendulum (optional)
- safety glasses (if providing a pendulum)

The titles of **Activity Masters** and **Student Pages** are printed in bold for ease of reference.

**For each student**

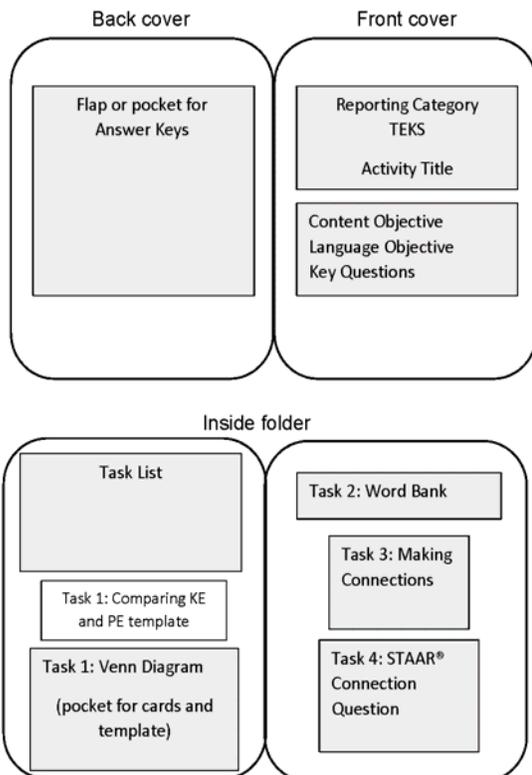
- **Describing KE and GPE** Student Page
- **Making Connections** and **STAAR® Connection Question** Student Page

**STAAR® Released Test Questions**

2013: Question 19  
2014: Question 4  
2015: Question 25

**STAAR® Released Test Question** item numbers are listed for reference or further review.

**Sample Layout**



**Activity Folder Sample Layouts** provide an option/example for assembling folders.

# STAAR Review to Go: Science Features

Folder tab label: RC 2 TEKS 6.8A  
Kinetic and Potential Energy

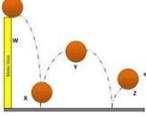
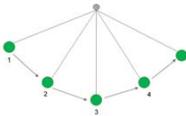
**Folder Tab Labels** are provided to aid in organization of folders.

Cover:

Reporting Category 2  
Force, Motion, and Energy

TEKS 6.8A

Kinetic  
and  
Potential Energy



region 4

**Content Objective**  
I can compare the amount of kinetic energy and gravitational potential energy of objects.

**Language Objective**  
I can use sentence stems to describe the kinetic energy and gravitational potential energy of an object.

**Key Questions**

1. What determines the gravitational potential energy of an object?
2. What determines the kinetic energy of an object?

**Language Objectives and Content Objectives** describe the focus of the TEKS-based activity in student-friendly language.

**Key Questions** help students focus on what they need to know after completing the tasks in the activity folder.



# STAAR Review to Go: Science Features

## Kinetic and Potential Energy Task List

### Task 1: Comparing KE and GPE

Use the Venn diagram to compare and contrast kinetic energy and gravitational potential energy. Place the Venn Diagram Descriptor Cards in the correct areas of the Venn diagram. Check your answers before starting Task 2.

### Task 2: Describing KE and GPE

Use the completed Venn diagram and the Task 2 word bank to complete Describing KE and GPE on the student handout. Some words will be used more than once.

are available, observe the pendulum in motion. Determine reatest and least kinetic energy and gravitational potential energy. Record your answers on the student handout. Use evidence to justify your answer.

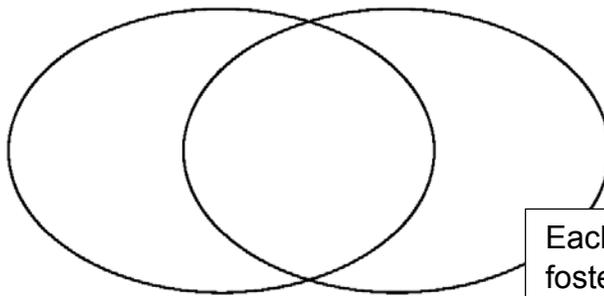
### Task 4: STAAR® Connection Question

Answer the practice question. Provide evidence to justify your answer.



Varied border designs are used to differentiate tasks.

### Task 1: Comparing Kinetic Energy and Gravitational Potential Energy



Venn Descriptor Cards  
Task 1

Each activity includes a literacy component to foster student engagement and processing.

### Task 2: Describing Kinetic Energy and Gravitational Potential Energy

#### Word Bank

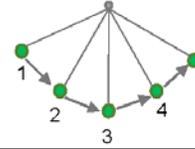
fastest	height	motionless	speed
ground	highest	motion	slowest
position	lowest	stored	



# STAAR Review to Go: Science Features

## Task 3: Making Connections Student Page

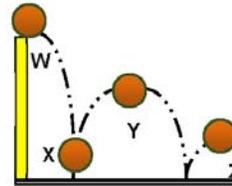
1. The pendulum has the greatest kinetic energy at position \_\_\_ because
2. The pendulum has the least kinetic energy at position \_\_\_ because
3. The pendulum has the greatest gravitational potential energy at position \_\_\_ because
4. The pendulum has the least gravitational potential energy at position \_\_\_ because



Each activity includes a student takeaway that provides students with a study resource.

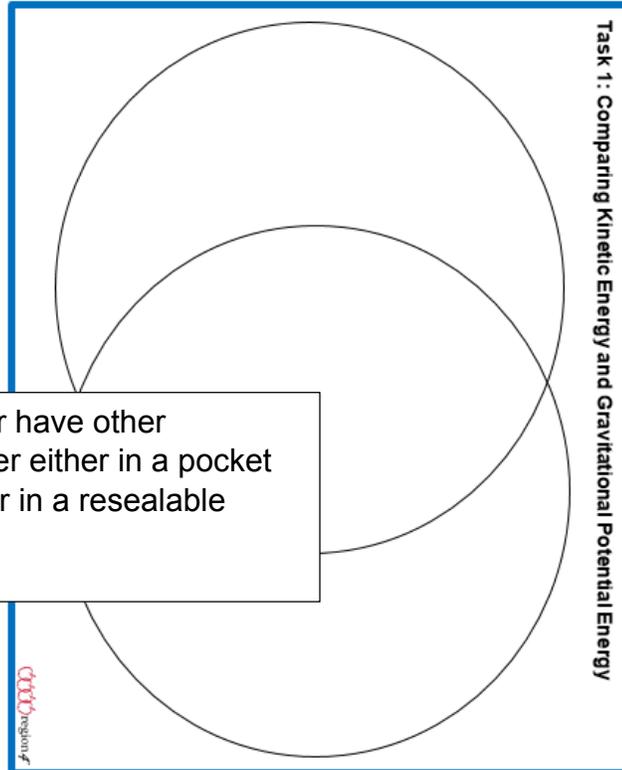
## Task 4: STAAR® Connection Question Student Page

The answer is \_\_\_\_\_. The basketball has the greatest kinetic energy and least gravitational potential energy at position \_\_\_\_\_ because



### Venn Diagram Descriptor Cards

Kinetic Energy	Both	Gravitational Potential Energy
depends on speed of object	measured in Joules	depends on height (position) of object
energy of motion	depends on mass of the object	stored energy



Some review activities include card sorts or have other manipulatives. Cards are stored in the folder either in a pocket (created using cardstock or an envelope) or in a resealable plastic bag.

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