

RESOURCE GUIDE

for

Alternate Kentucky Summative Assessment (AKSA)

Attainment Tasks

2023-2024



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Introduction

In response to feedback from Kentucky stakeholders, the Kentucky Department of Education (KDE) has created the Alternate Kentucky Summative Assessment (A-KSA) Resource Guide. The purpose of this Resource Guide is to provide Kentucky teachers and administrators with a document that contains information related to content instruction and administration of the A-KSA Attainment Tasks. Based on feedback from teachers in the field, great effort has been made to further reduce the language, memory load, and complexity in the Attainment Tasks and still remain aligned to the content standards.

In this document, teachers will find information on how to make adaptations to the Attainment Tasks while remaining compliant with the testing protocol. Additionally, this document provides pictures of general terms (that **may** be used in test administration) for each content area. Teachers may begin using these pictures during instruction to familiarize students with the pictures prior to testing. Finally, for some content areas at specific grade levels, this document provides additional instructional information based on assessment protocols.

General Information

This section of the Resource Guide has two specific purposes. First, this section will discuss some basic testing procedures. When administering the assessment, the test administrator should:

* Carefully read the italicized directions that precede each question. Instructions can change from question to question.
* Emphasize words in the questions that are bolded and underlined (e.g., **not**, **most**, **likely**, **best**, etc.) when reading questions to the students.
* Determine for each student if words provided in parenthesis ( ) should be used in place of, or in addition to, the preceding word.
* Determine if the student would benefit from using the picture response options, having the test only read aloud, or if picture response options need to be adapted.
* Orient the student to the materials. Below are several examples of acceptable student orientation:
  + Prior to reading the question, draw the student’s attention to the response options. (e.g., point to and read aloud each response option)
  + Read picture captions to the student while presenting each response option.
  + Direct the student to look at supplemental materials that are needed to answer the question (e.g., graphs, maps, storyboards, sentence templates).
  + When the task calls for completing a sentence template, tell the student in advance (e.g., “I will read an incomplete sentence, and then you will pick the best word/phrase to complete the sentence.”).
  + If the question includes a cloze (fill in the blank) sentence, the test administrator may read the sentence with each response option.
* If a student needs pictorial support, present the pictures from the story board (that accompanies the passage) to the student as the passage is read aloud.
  + Each passage includes superscript numbers before sentences or groups of sentences. This superscript number corresponds to a picture on the storyboard. If using pictures, test administrators should present the corresponding picture as the passage is read.
    - Test administrators may cut apart pictures and sequence them by

paragraph.

* + - Test administrators may point to the pictures as they read aloud to the student.
    - Test administrators may cover and uncover pictures as appropriate.
* Reread any portion of the script, passage, question or response again when it is determined that the student is not focused or engaged in the assessment, as long as it does not direct the student to the correct response.
* Modify and adapt materials as needed to ensure materials are presented to the student in the student’s mode of receptive and expressive communication.

This section will also prepare teachers to make accommodations and adaptations to the Attainment Task itself. The Attainment Tasks are a scripted test, and therefore all materials can be read to the student. However, the student has the option of reading the test for him or herself. Teachers always have the option to present the question to the student and read each answer choice to the student (while pointing to the picture) prior to requesting a student response. As indicated above, it is recommended that the teacher orient the student to all materials prior to asking each question. In order for a student to receive adaptations to the test, the accommodations must be necessary for student participation and indicated on the student’s IEP. The accommodations cannot guide or lead the student to the correct answer. Therefore, any adaptation (e.g., coloring the picture) that is made for one response option for a particular question must be made to all response options in that question. Additionally, even when response options are presented in a different format, they must be presented in the same order as they are presented in the task. Examples of some common accommodations (this is not an exhaustive list; please follow testing protocol to ensure the use of appropriate accommodations):

* Enlarge the tasks – Both questions (if necessary) and pictures may be copied and enlarged to facilitate access for students with low vision.
* Put the questions, sentence templates, pictures, and other needed materials into the student’s receptive mode of communication (e.g., use tactile objects, Writing with Symbols, or other modes of communication to present questions)
* Color the pictures – To provide high contrast, pictures may be colored.
* Highlight sections of text that need to be reread (e.g., when the task indicates to reread Line 7 of a poem if needed, the teacher may highlight Line 7 of the poem to help focus the student’s attention to Line 7).
* Raise lines on graphs, maps and pictures using embosser, glue, or puff paint.
* Explain pictures to the student.
* Use pictures that students have used in instruction if they are different from those provided in the task, ensuring that all response options are changed.
* Provide manipulatives to solve math questions.

Teachers may order specialized materials for students with visual impairments. These materials are provided only when required supplemental materials can be enhanced using tactile graphics. Tactile graphics are embossed on special thermal paper. Tactile graphics of maps, charts, ecosystems and other relevant items are provided. Students should be receiving instruction on how to read tactile graphics throughout the year.

**Glossary of General Terms**

A picture glossary of general terms that may be used in the Attainment Tasks follows on pages 6-11. Based on teacher feedback across the state, beginning with the 2023-24 attainment task administration, emoji style images will be incorporated into the tasks to represent emotions. There will still be instances of characters showing emotions, but emojis will also be utilized.

## General Terms

| Plus sign |  | two squares inside of a circle with arrow |  | broken lightbulb |
| --- | --- | --- | --- | --- |
| Add, Improve, More, Increase |  | All of the above |  | Bad Idea |
|  |  |  |  |  |
|  |  |  |  |  |
| thumbs down |  | Ribbon with f#1 on it |  | Triangle sign with exclamation point |
| Bad, Harmful, Dislike/Hate, |  | Best |  | Caution, Concern, Attention, |
| Negative |  |  |  | Danger, Trouble |
|  |  |  |  |  |
| analog clock |  | two clasped hands |  | Tilde |
| Clock, Time, Hours, Minutes |  | Collaborate, Friendship |  | Compare |
|  |  |  |  |  |
|  |  |  |  |  |
| handshake |  | fist bump with starburst |  | down arrow |
| Compromise, Agree, Thank |  | Conflict, Fight |  | Decrease, Short, Down, Less, |
|  |  |  |  | Low, Not enough |

Depictions in assessments may vary.

## General Terms

| Magnifying Glass |  | unequal sign |  | one thumbs up and one thumbs down |
| --- | --- | --- | --- | --- |
| Detail, Find, Investigate |  | Different, Not equal, |  | Disagree, Differences |
|  |  | Not the same |  |  |
|  |  |  |  |  |
| tilde, 1, 2, 3, |  | equal sign |  | star |
| Easy |  | Equal, Neutral, Balance, Same, Alike, |  | Favorite |
|  |  | No change, Identical, No effect |  |  |
|  |  | No impact, No difference, Stable |  |  |
| flower bouquet |  | thumbs up |  | Greater than sign |
| Flowers, Beauty, |  | Good, Beneficial, Great, Well, |  | Greater than |
| Pretty, Vibrant |  | Positive, Like, Cool |  |  |
|  |  |  |  |  |
| waving hands |  | one hand reaching to assist another hand |  | bright light bulb |
| Hello |  | Help, Assist |  | Idea, Main idea |
|  |  |  |  |  |

Depictions in assessments may vary.

## General Terms

| exclamation point |  | hand in a fist with a pointing index finger |  | up arrow |
| --- | --- | --- | --- | --- |
| Important, Emphasis,  Excitement |  | In conclusion, Opinion, |  | Increase, Long, Up, Tall, More, |
| Excitement |  | Persuade, Point, One |  | Grow, Thrive |
|  |  |  |  |  |
| italicized "i" |  | hand waving back |  | less than sign |
| Information, Inform |  | Invite |  | Less than |
|  |  |  |  |  |
|  |  |  |  |  |
| percentage sign |  | two piles of blocks with arrow pointing to the high pile |  | musical notes |
| Maybe, Chance, Probability |  | Most |  | Music |
|  |  |  |  |  |
|  |  |  |  |  |
| double head arrow with a circle/slash over it |  | bold "x" |  | two stacked boxes with a circl/slash over it |
| No relationship |  | No, Stop, Bad |  | None of the above |
|  |  |  |  |  |

Depictions in assessments may vary.

**General Terms**

| italacized "i" with a circle/slash over it |  | A close up of a laptop computer |  | a series of numbers with sub-bullets |
| --- | --- | --- | --- | --- |
| Not enough information |  | Online, Online source |  | Organize, Outline, Discussion |
|  |  |  |  | points (may have text) |
|  |  |  |  |  |
| paint palette |  | ribbon with star |  | shaded figures of men and women |
| Paint, Creative, Art |  | Popular |  | Population |
|  |  |  |  |  |
|  |  |  |  |  |
| boy with a stick with a thought bubble of a pirate with a sword |  | question mark |  | a slide and a merry-go-round |
| Pretend, Imagine |  | Purpose, Question, Ask, What |  | Recess, Playground |
|  |  |  |  |  |
|  |  |  |  |  |
| three arrows in a circle making the recycle sign |  | Shape, double headed arrow |  | boxes on a conveyor belt |
| Recycle |  | Relationship |  | Repetition |
|  |  |  |  |  |

Depictions in assessments may vary.

**General Terms**

| cat, bat, hat , mat |  | 1, 2, 3 |  | a hand with the thumb and index finger held parrallel |
| --- | --- | --- | --- | --- |
| Rhyme |  | Sequence |  | Somewhat, A little |
|  |  |  |  |  |
|  |  |  |  |  |
| an flexed arm showing muscle |  | minus sign |  | Paper with a question mark with a checkmark and an x with a pencil |
| Strong |  | Subtract, Less, Decrease |  | Survey |
|  |  |  |  |  |
|  |  |  |  |  |
| a hand selecting a book from teh shelve |  | calendar with up arrow |  | a gear with an up arrow |
| Topic |  | Update |  | Upgrade (technology advance) |
|  |  |  |  |  |
|  |  |  |  |  |
| beaker with liquid |  | an unmarked timeline with arrow on the right and question mark above it |  | a question mark in the center of four arrows pointing away from the question mark |
| Volume |  | When |  | Where |
|  |  |  |  |  |

Depictions in assessments may vary.

**General Terms**

| a blank face character with a question mark on the face |  | question mark in a thought bubble |  | a yearly calendar |
| --- | --- | --- | --- | --- |
| Who |  | Why |  | Year, Date, Time |
|  |  |  |  |  |
|  |  |  |
| checkmark |  | hand with finger pointing toward reader |
| Yes, Solution, True, Credible, |  | You |
| Resolution, Agree |  |  |

Depictions in assessments may vary.

**English Language Arts (Reading and Writing)**

**READING**

In reading, the passages were specifically written for the A-KSA and will not be present until materials are delivered to the district**. Instruction should focus on the concepts rather than discrete skills**. For example, students should be learning how to identify a character, setting and plot from a story, not just to identify a specific character from a particular story.

In reading, some tasks require video or audio clips as part of the assessment. When audio or video clips are needed, they will be provided for specific grades. Once a test administrator who has students in those grades has completed the AT Training and corresponding quiz, a link will appear in the OTS called “My Reading Audio and Video Files.” The audio and video clips will be accessible directly on a computer, tablet, or interactive white board with internet connectivity via this link; **DO NOT DOWNLOAD** these clips as they are secure test materials. Additionally, a thumb drive will be included in the testing materials provided during shipping. **At the end of each testing window, the thumb drive (USB drive) must be returned to the District Assessment Coordinator (DAC) for return to the Kentucky Department of Education.** Each animation clip will be narrated and have closed captioning. Additionally, a script will be provided for teachers to reread sections as needed. If needed, it is necessary to read the script exactly as written. There will be a script provided for the audio clip for students who have hearing impairments.

**WRITING**

In writing, only grades 5, 8 and 11 will be administered. Writing tasks are written in the same format as other content areas of the AT, using multiple-choice questions. Examples of some questions may include asking students to complete a cloze sentence, identifying the purpose or audience, or selecting the word that would be the best transition, closing, introduction, or sensory word. The test administrator will record the student’s response for each item. Students should be familiar with how to use graphic organizers.

For the purposes of this assessment, editing mechanics will be assessed in window one and window two will focus on composition.

The use of technology is included in the writing standards. Ensure students are familiar with accessing the Internet, using computer programs such as word processing applications and PowerPoint and know the purpose of other technologies such as cell phones.

**Glossary of ELA Terms**

A picture glossary of ELA terms that may be used in the Attainment Tasks follows on pages 13-20.

**English Language Arts**

| journal and graduation cap |  | ball, bin, biscuit |  | a witten paper with double up/down arrow |
| --- | --- | --- | --- | --- |
| Academic / Scholarly journal |  | Alliteration |  | Anywhere |
|  |  |  |  |  |
|  |  |  |  |  |
| screenshot of a written blog |  | middle secion of written paper |  | open book |
| Blog (may be on screen) |  | Body (of a paper) |  | Book, Fact, Novel, Educational, |
|  |  |  |  | Learned, Reading |
|  |  |  |  |  |
| side view of brain with a storm cloud in a thought bubble |  | sun with rays |  | computer, book, journal |
| Brainstorm |  | Bright, Summer, Day |  | Broaden inquiry, Research, |
|  |  |  |  | Find out about |
|  |  |  |  |  |
| trinagle sign with exclamation point |  | written paper with arrows wrapping acorss and down the paper with a light bulb over it |  | a blank face person |
| Caution, Concern, Attention |  | Central idea |  | Character |
| Dangerous, Trouble |  |  |  |  |

Depictions in assessments may vary.

**English Language Arts**

| girl with words tall, skinny, mean |  | girl with long blond hair, guy with short light hair, guy with medium black hair |  | two blank faced people |
| --- | --- | --- | --- | --- |
| Characterization |  | Characters, Characteristics |  | Characters |
|  |  | (describing different) |  |  |
|  |  |  |  |  |
| a written paper with thought bubble to another written paper |  | a ball with an arrow circle around the ball/point |  | a talk bubble with an electronic devices, hands making ASL sign, and paper with pencil |
| Cite |  | Climax (turning point) |  | Communicate |
|  |  |  |  |  |
|  |  |  |  |  |
| an equal and unequal sign |  | tilde |  | a written paper with a box around the last sentence |
| Compare and contrast |  | Comparison |  | Concluding sentence, |
|  |  |  |  | End (of the paper) |
|  |  |  |  |  |
| a written paper with a box around the last paragraph |  | a branch, an equal sign, a tree |  | a written paper and a second identical written paper with pencil |
| Conclusion |  | Connotative language |  | Copy, Plagiarize |
|  |  |  |  |  |

Depictions in assessments may vary.

**English Language Arts**

| desktop calender with a day/date posted |  | girl with 3 levels of thought bubbles |  | a box with words old, small, wooden |
| --- | --- | --- | --- | --- |
| Day |  | Deeper perspective |  | Descriptive, Description, |
|  |  |  |  | Descriptive detail |
|  |  |  |  |  |
| a written paper with a magnifying glass making words bigger |  | two people facing each other with word bubbles |  | drama masks for comedy and tradegy |
| Detail, Supporting details, |  | Dialogue |  | Drama, Comedy / Tragedy |
|  |  |  |  |  |
|  |  |  |  |  |
| a written paper with a mark up of things to consider changing |  | screen shot of an email screen |  | Icon for play |
| Edit, Make suggestions for |  | Email |  | Entertain, Video, Movie |
| improvement, Correct errors |  | (may be on screen) |  |  |
|  |  |  |  |  |
| word bubble with an italacized "i" |  | a foreign symbol, equal sign, and a tree |  | two clasped hands |
| Expository |  | Foreign language |  | Friend |
|  |  |  |  |  |

Depictions in assessments may vary.

**English Language Arts**

| hand grabbing a book |  | picture of George Washington |  | small elepahant less than sign with larger elephant in a talk bubble |
| --- | --- | --- | --- | --- |
| Gather information, Find another |  | George Washington, History |  | Hyperbole |
| source |  |  |  |  |
|  |  |  |  |  |
| written idea on a clipboard with a lightbulb |  | lit light bulb |  | pencil drawing a tree |
| Hypothesis |  | Idea, Main idea |  | Illustrate, Draw, Make a picture |
|  |  |  |  | (may be on or off paper) |
|  |  |  |  |  |
| written paper with thought bubble of a cake and people |  | italacized "i" |  | a written paper with first paragraph in a box |
| Imagery |  | Inform, Information |  | Introduction, Introduce, |
|  |  |  |  | Beginning |
|  |  |  |  |  |
| the word "tree" with an equal sign and a tree |  | Pythagorean theorem |  | a short written piece with a down arrow |
| Literal text, Explicit language |  | Logic |  | Make project or story longer, Add |
|  |  |  |  | length, Use as many words as possible |

Depictions in assessments may vary.

**English Language Arts**

| outline of the US, an equal sign and a pot |  | the word tree, an unequal sign and a picture of a tree |  | the information (italacized) "i" with a circle/slash over it |
| --- | --- | --- | --- | --- |
| Metaphor |  | Non-literal text, Figurative |  | Not enough information |
| (America is a melting pot) |  |  |  |  |
|  |  |  |  |  |
| A close up of a laptop computer |  | hand in a fist with an index finger pointed up |  | one person reading a paper and another person waiting for feedback |
| Online, Online source (may be |  | Opinion, One, Persuade |  | Peer review |
| on or off computer screen) |  |  |  |  |
|  |  |  |  |  |
| a broom with arms and eyes |  | sotry plot line to include introduction, rising action, climax, falling action and conclusion |  | A screenshot of an electronic post with a submit button |
| Personification |  | Plot, Narrative |  | Post a comment |
|  |  |  |  | (may be on screen) |
|  |  |  |  |  |
| a laptop with an arrow to a newspaper, book, journal, and DVD |  | a person writing and a question mark |  | a question mark |
| Publish |  | Purpose for writing, Author’s |  | Purpose, Question, Ask, What |
|  |  | purpose |  |  |

Depictions in assessments may vary.

**English Language Arts**

| a variety of words written in different styles |  | a written paper with an index finger pointing to the papere |  | boxes on a conveyor belt |
| --- | --- | --- | --- | --- |
| Random words, Different fonts |  | Read the paper, Find or Check for |  | Repetition |
|  |  | errors |  |  |
|  |  |  |  |  |
| written paper with body paragraph missing |  | written paper with conclusion paragraph missing |  | blank lined paper with pencil |
| Rewrite body |  | Rewrite conclusion |  | Rewrite entire paper |
|  |  |  |  |  |
|  |  |  |  |  |
| written paper with introduction paragraph missing |  | A close up of a mans face at a podium with a thought bubble of a raised hand with index finger pointing |  | words cat, bat, hat , mat |
| Rewrite introduction |  | Rhetoric |  | Rhyme |
|  |  |  |  |  |
|  |  |  |  |  |
| eye with sight lines, pie with wafting smell, music note with vibration |  | 1, 2, 3 |  | calendar, map and question mark with arrows (when and where) |
| Sensory language |  | Sequence, Order, Word count |  | Setting |
|  |  |  |  |  |

Depictions in assessments may vary.

**English Language Arts**

| four one cent coins equal sign pile of dirt |  | book |  | stack of books |
| --- | --- | --- | --- | --- |
| Simile |  | Source, Resource (one) |  | Sources, Resources |
| (cheap as dirt) |  |  |  |  |
|  |  |  |  |  |
| word misspelled with options for correct spelling |  | a long written paper pointing toward a smaller written paper |  | 3 small lighbulbs with arrow point up to larger arrow |
| Spell check |  | Summary |  | Supporting idea |
| (may be on or off-screen) |  |  |  |  |
|  |  |  |  |  |
| dark room with staircase to open door |  | microscope |  | storyline with theme ribbon |
| Suspense |  | Technical language |  | Theme |
|  |  |  |  |  |
|  |  |  |  |  |
| book with "title" written on it |  | a paper with "title" written on it |  | a hand selecting a book from teh shelve |
| Title of book |  | Title of paper |  | Topic |
|  |  |  |  |  |

Depictions in assessments may vary.

**English Language Arts**

| series of words used as transitions in writing pieces |  | a written paper with flow arrows wrapping around the paper |  | an unmarked timeline with arrow on the right and question mark above it |
| --- | --- | --- | --- | --- |
| Transition words |  | Transitional sentence, Create |  | When |
|  |  | flow |  |  |
|  |  |  |  |  |
| a question mark in the center of four arrows pointing away from the question mark |  | a blank face character with a question mark on the face |  | a question mark in a though bubble |
| Where |  | Who |  | Why |
|  |  |  |  |  |
|  |
| checkmark |
| Yes, Solution, True, Credible, |
| Resolution, Agree |

Depictions in assessments may vary.

**Mathematics**

In mathematics, the incorporation of the eight mathematical practices is essential to student learning. Instruction should focus on understanding concepts and the ability to apply mathematics.

In mathematics, **illustrations are used to express numbers at the elementary school level only**. Because pictures of apples, dollars, rulers and/or thermometers are not always easy to read when large numbers are involved, the Attainment Tasks will use consistent representations across all content, regardless of the unit being measured. Below is a list of these representations:

* **Whole numbers** (when standing alone) are illustrated using base ten block system, using single blocks for tens, a flat or hundred squares, and thousand cubes (see glossary below for examples).
* **Fractions** are illustrated using a circle or pie chart. The numerator is the shaded section of the whole. When the response is a mixed number (e.g., one and one half), the whole numbers in that item will also be represented with a whole, shaded circle. The whole numbers used in this section are small enough to make this possible (see glossary below for examples).
* **Decimals (including money)** will always be represented by the number (as described above with base ten blocks), a decimal point, and the flat or hundred squares with the corresponding decimal portion shaded (see glossary below for examples).
* **Negative integers** are represented by base ten blocks that are completely shaded.

Middle school and high school mathematics tasks will **not** have illustrations for numbers, but teachers can still use manipulatives and pictures if the student needs these materials. Remember, adaptations and accommodations just need to be consistent across the response options of each question.

**Glossary of Mathematics Terms**

A picture glossary of Mathematics terms that may be used in the Attainment Tasks follows on pages 22-26.

**Math**

| plus sign |  | an open box with an arrow pointing into it |  | acute angle |
| --- | --- | --- | --- | --- |
| Add, Improve, More, Increase |  | Amount of space in a closed |  | Angle, Acute angle |
|  |  | figure |  |  |
|  |  |  |  |  |
| a shaded rectangle |  | a circle with an arrow around the center |  | analog clock |
| Area |  | Circumference |  | Clock, Time, Hours, Minutes |
|  |  |  |  |  |
|  |  |  |  |  |
| 2 congruent lines |  | congruent (symbol) |  | Cube faces with numbers 1, 2 nnd 3 with arrows pointing to the faces |
| Congruent |  | Congruent |  | Count cube faces |
| (sides) |  | (symbol) |  |  |
|  |  |  |  |  |
| decimal representation of 3.1 with base 10 block system |  | down arrow |  | division side |
| Decimals (e.g. “3.1”) |  | Decrease, Down, Less |  | Division |
| ELEMENTARY ONLY |  |  |  |  |

Depictions in assessments may vary.

**Math**

| equal sign |  | Equations with base twn blocks (5x2=10 , ELEMENTARY ONLY) |  | ruler |
| --- | --- | --- | --- | --- |
| Equals, Does not change, Same |  | Equation (e.g., “5×2=10”) |  | Foot |
|  |  | ELEMENTARY ONLY |  |  |
|  |  |  |  |  |
| Circle pie pieces  2 of 8 pieces shaded (part of a whole, two eighths, ELEMENTARY ONLY) |  | greater than sign |  | measurement on right of rectangle |
| Fraction (e.g., “2/8”) |  | Greater than |  | Height, Length |
| ELEMENTARY ONLY |  |  |  |  |
|  |  |  |  |  |
| up arrow |  | 3 Irregular shapes |  | less than sign |
| Increase, Up, More |  | Irregular shapes, Irregular |  | Less than |
|  |  |  |  |  |
|  |  |  |  |  |
| double headed arrow |  | two circles and a half circle (two and a half, ELEMENTARY ONLY) |  | Multiplication sign |
| Line |  | Mixed number ( e.g.,“2 and1/2”) ) |  | Multiplication |
|  |  | ELEMENTARY ONLY |  |  |

Depictions in assessments may vary.

**Math**

| shaded base 10 blocks  (10, ELEMENTARY ONLY) |  | Angle with circle/slash over it |  | double headed arrow with circle/slash over it |
| --- | --- | --- | --- | --- |
| Negative numbers ( e.g., “-10” ) |  | No angle |  | No relationship |
| ELEMENTARY ONLY |  |  |  |  |
|  |  |  |  |  |
| obtuse angle |  | 2 parallel lines |  | a rectangle with a dotted line around the outside |
| Obtuse angle |  | Parallel |  | Perimeter |
|  |  |  |  |  |
|  |  |  |  |  |
| 2 perpendicular lines |  | 2 sets of Proportional sides |  | circle with radius marked |
| Perpendicular |  | Proportional sides |  | Radius |
|  |  |  |  |  |
|  |  |  |  |  |
| a dot with a line and arrow to the right |  | 3 Regular shapes |  | Right angle |
| Ray |  | Regular shapes, Regular |  | Right angle, 90° angle |
|  |  |  |  |  |

Depictions in assessments may vary.

**Math**

| stopwatch |  | 3 lines of same length |  | 3 lines of different lengths |
| --- | --- | --- | --- | --- |
| Seconds |  | Sides |  | Sides |
|  |  | (e.g., “3 of equal length”) |  | (e.g., “3”) |
|  |  |  |  |  |
| Lines of 4 equal lengths |  | lines of 4 different sizes |  | tilde |
| Sides |  | Sides |  | Similar, Approximate |
| (e.g., “4 of equal length”) |  | (e.g., “4”) |  |  |
|  |  |  |  |  |
| Square |  | cube with numbers 1, 2, 3 and arrows pointing to the surfaces |  | minus sign |
| Square |  | Square units on a surface |  | Subtract, Less |
| (shape example) |  |  |  |  |
|  |  |  |  |  |
| cube with shaded surface |  | cube with an arrow around box |  | beaker with a liquid |
| Surface area |  | The distance around an object |  | Volume |
|  |  |  |  |  |

Depictions in assessments may vary.

**Math**

| box with lb on it |  | 1 cube of base 10 block system (1, ELEMENTARY ONLY) |  | stack of 10 base ten blocks (10, ELEMENTARY ONLY) |
| --- | --- | --- | --- | --- |
| Weight |  | Whole number (e.g., “1”) |  | Whole number (e.g., “10”) |
|  |  | ELEMENTARY ONLY |  | ELEMENTARY ONLY |
|  |  |  |  |  |
| 100 face of base 10 cubes  (100, ELEMENTARY ONLY) |  | 1000 cube of base 10 cubes (1000, ELEMENTARY ONLY) |  | shaded circle (1, ELEMENTARY ONLY) |
| Whole number (e.g., “100”) |  | Whole number (e.g., “1000”) |  | Whole number with fractions (e.g.,“1”) |
| ELEMENTARY ONLY |  | ELEMENTARY ONLY |  | ELEMENTARY ONLY |
|  |  |  |  |  |
| rectangle with measurement at bottom |  | yardstick |  |  |
| Width |  | Yard |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Depictions in assessments may vary.

**Science**

In science, the focus of the assessment is on the application of skills or knowledge across scientific concepts. Students will be asked to answer five multiple-choice questions per standard at each grade level. Students may be asked to use information, data, or evidence to:

* Support a claim
* Make predictions
* Compare models
* Evaluate or analyze information (including design)

Tasks may include supplemental materials to facilitate the application of knowledge. Examples of supplemental materials that may be included are charts, tables, models, objects for classification, and animation clips.

When animation clips are needed, they will be provided for specific grades. Once a test administrator at grades 4, 7, or 11 has completed the AT Training and corresponding quiz, a link will appear in the OTS called “My AT Science Videos,” enabling access to the grade-appropriate videos. The video clips will be accessible directly on a computer, tablet or interactive white board with internet connectivity; **DO NOT DOWNLOAD** these videos as they are secure test materials. Additionally, a thumb drive will be included in the testing materials provided during shipping. **At the end of each testing window, the thumb drive (USB drive) must be returned to the District Assessment Coordinator (DAC) for return to the Kentucky Department of Education.** For students with visual impairments, **some** animation clips will be provided, in part, as tactile graphics. Each animation clip will have a scripted description of what is occurring in the clip; for students with visual impairments or other difficulty following animation clips. Please read the script exactly as written and provide any accompanying tactile graphic. The scripts **must** be read as written.

Students should be familiar with (and have available to them for use) appropriate grade level science tools which are needed for scientific inquiry and used in experiments; this includes, but is not limited to: ruler, scale, magnifying glass, magnet, clock, periodic table (as indicated by grade).

For the **Engineering and Technology** progression, it is important to focus on teaching students how to identify: a problem (e.g., the pencil keeps rolling off of the desk), what constraints (limits) the student has for fixing the problem (e.g., time, money, materials) and then given the constraints, deciding what the best solution to the problem is (e.g., put a book on the desk to stop the pencil, or place something under the short leg of the desk to make the desk level). This progression is about everyday problem solving that involves asking and answering questions:

1. What is wrong (or what is the problem)?
2. How can the problem be fixed?
3. What is needed to fix the problem (or for the solution)?
4. Is there enough time, money, space, materials, etc. to use this solution?
5. What else could be done?
6. How are society and the environment impacted?

Identifying problems and working through how different constraints will impact possible solutions is a very important life lesson.

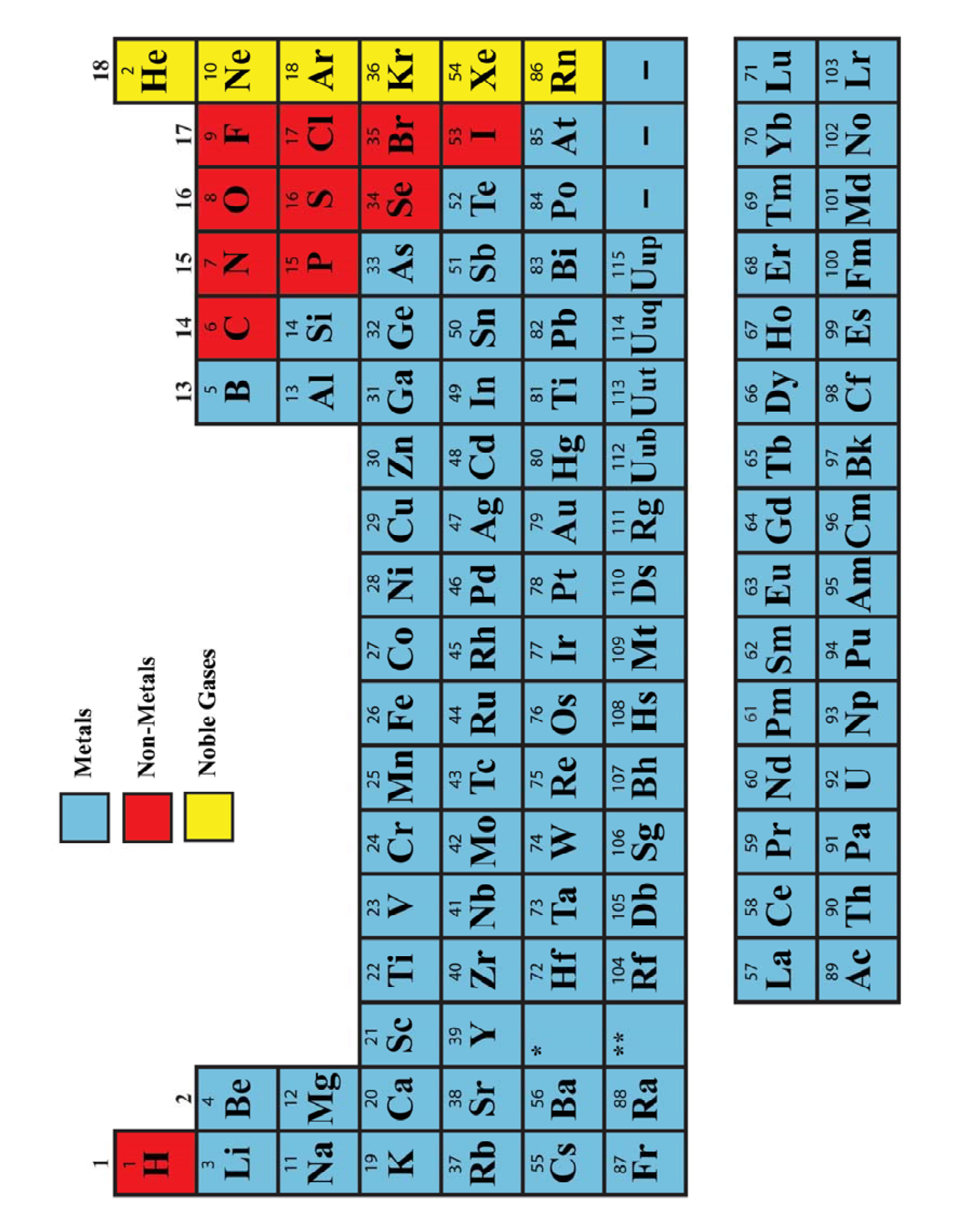
**High School**

A full-color copy of the periodic table that will be used during the assessment is included (Figure 1) in this resource guide for instructional purposes.

For instructional purposes, it may be helpful to use the color-coding on the Periodic Table. When utilizing the periodic table, students should understand it is ***likely*** that Non-metals will react with other Non-metals and ***likely*** that Non-metals will react with Metals. Generally speaking, Noble Gases are non-reactive; meaning they do not easily combine with other elements to form compound elements.

**Glossary of Science Terms**

A picture glossary of science terms that may be used in the Attainment Tasks follows on pages 29-33.



**Science**

| a down arrow with a feather over wind arrows |  | atoms |  | a baby |
| --- | --- | --- | --- | --- |
| Air resistance |  | Atoms |  | Birth |
|  |  |  |  |  |
|  |  |  |  |  |
| water bubbling and a thermometer at the top |  | a test tube pouring liquid into a bubbling beaker |  | a circle with an arrow around the center |
| Boiling point |  | Chemical change |  | Circumference |
|  |  |  |  |  |
|  |  |  |  |  |
| three rectangles; one grey, one black and one white |  | molecular model |  | leaf with beads of water and arrow pointing to water |
| Color (property) |  | Compound |  | Condensation |
|  |  |  |  |  |
|  |  |  |  |  |
| a person visiting a grave site |  | two rectangles; the first with lots of circles touching one another, the second with just a few spaced out circles |  | magnifying glass |
| Death |  | Density |  | Detail, Find, |
|  |  |  |  | Investigation |

Depictions in assessments may vary.

**Science**

| periodic table |  | battery with thunderbold |  | water source with arrows flowing up to clouds |
| --- | --- | --- | --- | --- |
| Element (periodic table) |  | Energy |  | Evaporation |
|  |  |  |  |  |
|  |  |  |  |  |
| a running rabbit |  | a rectangle in a fire |  | a frozen rectangle and a thermometer at the bottom |
| Fast |  | Flammability |  | Freezing point |
|  |  |  |  |  |
|  |  |  |  |  |
| two hands rubbing together |  | three wavy lines |  | an apple with a down arrow |
| Friction |  | Gas |  | Gravity |
|  |  |  |  |  |
|  |  |  |  |  |
| A child beside a measuring stick with an up arrow over his head |  | written idea on a clipboard with a lightbulb |  | a water drop |
| Growth |  | Hypothesis |  | Liquid |
|  |  |  |  |  |

Depictions in assessments may vary.

**Science**

| a weight with kg written on it |  | a melting rectangle with a thermometer halfway |  | stacked gold bars |
| --- | --- | --- | --- | --- |
| Mass |  | Melting point |  | Metal |
|  |  |  |  |  |
|  |  |  |  |  |
| a mixing bowl with batter and a spoon |  | a double headed arrow with a circle/slash over it |  | a cut log |
| Mixture |  | No Relationship |  | Nonmetal |
|  |  |  |  |  |
|  |  |  |  |  |
| a rectangle in water |  | melting ice |  | male and female people icons |
| Non-reactive |  | Physical change |  | Population |
|  |  |  |  |  |
|  |  |  |  |  |
| Lightning bolt in hand |  | clouds with rain |  | a rectangle in water with bubbles forming |
| Power |  | Precipitation |  | Reactivity |
|  |  |  |  |  |

Depictions in assessments may vary.

**Science**

| a pregnant woman |  | circle blow up showing small pieces |  | snail |
| --- | --- | --- | --- | --- |
| Reproduction |  | Sediment |  | Slow |
|  |  |  |  |  |
|  |  |  |  |  |
| a cube |  | a rectangle dissolving in water |  | a beaker with liquid |
| Solid |  | Solubility |  | Volume |
|  |  |  |  |  |
|  |  |  |  |  |
| a rock with a crack and a smaller piece of rock falling off |  |  |  |  |
| Weathering |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Depictions in assessments may vary.

**Social Studies**

In Social Studies, students will often have supplemental materials to support the questions being asked in the Attainment Tasks. Depending on the grade level or the content standard, students will be provided with maps, short reading passages, and/or tables and charts.

Social studies is a complex integration of content standards and inquiry practices in regards to specific phenomena. Social studies goes beyond the acquisition of discrete skills and knowledge across the four domains of history, civics, geography and economics. Students must use the four inquiry practices of communicating claims, questioning, using evidence and investigating using disciplinary concepts to evaluate phenomena. Students must investigate the interrelatedness of factors of all domains for a complete understanding of the phenomena. For instance, when considering the historical impact of war, one must also consider the geographical features of the area (geography), the role of the government of the nations involved in that war (civics), and the financial implications (economics).

**Glossary of Social Studies Terms**

A picture glossary of social studies terms that may be used in the Attainment Tasks follows on pages 35-41.

**Social Studies**

| chair with arrow pointing to it |  | money in hand |  | justice scale with legislative branch on left and executive branch on right |
| --- | --- | --- | --- | --- |
| Appointment |  | Bought, Paid, Demand |  | Checks and balances |
|  |  | (as in supply and demand) |  | (e.g., Federal) |
|  |  |  |  |  |
| a US Flag with people icons |  | two clasped hands |  | a talk bubble with an electronic devices, hands making ASL sign, and paper with pencil |
| Citizen(s) |  | Collaboration, Friendship |  | Communicate |
|  |  |  |  |  |
|  |  |  |  |  |
| a group of diverse people |  | handshake |  | a fist bump with a star burst with circle slash over it |
| Community |  | Compromise, Agree, Thank |  | Conflict resolution |
|  |  |  |  |  |
|  |  |  |  |  |
| a fist bump with a star burst |  | hand reaching for one product and leaving another product behind |  | two arms arm wrestling |
| Conflict, Fighting |  | Consumer preference |  | Contest |
|  |  |  |  |  |

Depictions in assessments may vary.

**Social Studies**

| hands of two different people lifting a box |  | a price tag with a dollar sign on it |  | quill pen and scroll with writing |
| --- | --- | --- | --- | --- |
| Cooperate |  | Cost, Price, Expense |  | Create laws |
|  |  |  |  |  |
|  |  |  |  |  |
| person with face covered and walking away with a bag |  | handcuffs |  | person in military uniform |
| Crime |  | Crime |  | Dictator |
|  |  |  |  |  |
|  |  |  |  |  |
| thumbs down and thumbs up |  | money, globe and arrow from money around glob |  | money (bills) |
| Disagreement, Differences |  | Economic globalization |  | Economy |
|  |  |  |  |  |
|  |  |  |  |  |
| open shackles |  | a tree |  | a tree and star burst |
| Emancipation |  | Environment |  | Environmental impact |
|  |  |  |  |  |

Depictions in assessments may vary.

**Social Studies**

| a desk, with a quill and a chair. US flag on wall behind desk |  | a person talking at a podium |  | a man in a suit at a podium |
| --- | --- | --- | --- | --- |
| Executive branch |  | Free Speech |  | Governor |
| (example - Federal), President |  |  |  |  |
|  |  |  |  |  |
| a group of diverse people with arrow pointing at the captitol building |  | arrows into the country of Brazil |  | Harbor with boat and statue of liberty |
| House of representatives |  | Immigration |  | Immigration |
| (example - Federal) |  | (e.g., to Brazil) |  |  |
|  |  |  |  |  |
| a hand putting a coin into a slot |  | a pyramid with a missing triangle piece fitting into it |  | a judge |
| Input costs |  | Integration |  | Judge, Justice, Supreme Court, |
|  |  |  |  | Decide if it is legal |
|  |  |  |  |  |
| a gavel |  | a diverse group of people in a jury box |  | a scroll with writtin on it |
| Judicial branch, Supreme Court, |  | Jury |  | Law, Bill, Constitution, |
| Punishment |  |  |  | Declaration of Independence |

Depictions in assessments may vary.

**Social Studies**

| capitol building |  | a four leaf clover and a hand with index and middle finger crossed |  | a king and queen |
| --- | --- | --- | --- | --- |
| Legislative branch |  | Luck, Four-leaf clover, |  | Monarchy |
| (example - Federal) |  | Crossed fingers |  |  |
|  |  |  |  |  |
| a tree, a rock or mineral, water, and an oil well |  | a starburst with a circle/slash over it |  | police officer in front of car |
| Natural Resources |  | No impact |  | Obey the law, Enforce law or |
|  |  |  |  | legislation (may or may not have police |
|  |  |  |  | car in the background) |
| hand knocking on the door with money bags on each side of the door |  | a scroll with a person in front of the capitol buidling |  | people icon inside an arrow circle |
| Opportunity cost |  | Passing law |  | People as a whole |
|  |  | (e.g., federal) |  |  |
|  |  |  |  |  |
| two peole picking up trash with bags and a trash can |  | an elephant and a donkey |  | an x and a talk bubble with an electronic devices, hands making ASL sign, and paper with pencil |
| Picking up trash, Community |  | Political parties |  | Poor communication |
| service |  |  |  |  |

Depictions in assessments may vary.

**Social Studies**

| four one cent coins |  | a hand holding a lightning  bolt |  | a jagged arrow going up to a dollar sign |
| --- | --- | --- | --- | --- |
| Poverty |  | Power |  | Profit |
|  |  |  |  |  |
|  |  |  |  |  |
| Jug with three Xs on it with a circle slash over it |  | a justice scale with a white people icon on left and a black people icon on right |  | a man in a uniform behind a desk another man filling in a paper on the other side of the desk |
| Prohibition |  | Racial equality |  | Registering for the military |
|  |  |  |  |  |
|  |  |  |  |  |
| various religious symbols |  | diverse people around the capitol buidling |  | two thumbs up |
| Religion |  | Representative government |  | Resolution |
|  |  |  |  |  |
|  |  |  |  |  |
| two people with arrow pointing to capitol building |  | a woman and a man |  | a capitol buidling, a gavel, a desk with an American flag behind it |
| Senate, Senators |  | Senators, Representatives |  | Separate power, |
| (e.g., Federal) |  |  |  | Separation of powers |

Depictions in assessments may vary.

**Social Studies**

| two men shaking hands |  | a man in a field hat looking in a basket |  | two hands clasped in begging hands |
| --- | --- | --- | --- | --- |
| Settle disagreements |  | Slavery |  | Sorry, Plead |
|  |  |  |  |  |
|  |  |  |  |  |
| bar graph with decreasing bars and an arrow that follows |  | three boxes of products with an arrow to money with an arrow back to products |  | three boxes of products |
| Stock market crash, |  | Supply and demand |  | Supply |
| Poor economy |  |  |  |  |
|  |  |  |  |  |
| a bag with a dollar sign on it and coins besided it |  | a gear with an up arrow |  | a hand in top left hand corner of box with arrow to hand in middle of the box with arrow to hand in bottom right corner |
| Tax |  | Technology advance |  | Tradition |
|  |  |  |  |  |
|  |  |  |  |  |
| scroll with writing with "X" on it |  | a box with a slot in the top with a ballot sticking out of box |  | a man standing at a partioned table marking a ballot |
| Veto bill |  | Voting |  | Voting |
|  |  |  |  |  |

Depictions in assessments may vary.

**Social Studies**

| British and French flags crossed with starburst behind it |  | northern and southern states of America shaded differently with a starburst |  | bow and arrow and musket |
| --- | --- | --- | --- | --- |
| War (British v French) |  | War (Civil War) |  | War (French and Indian) |
|  |  |  |  |  |
|  |  |  |  |  |
| British and US flags crossed with starburst |  | Earth icon with starburst on it |  | syringe and face mask |
| War (Revolutionary) |  | War (WWII) |  | Widespread disease |
|  |  |  |  |  |
|  |
| money and globe |
| World economy |
|  |

Depictions in assessments may vary.