Each year, five distinct books are awarded the “Keystone to Reading Book Award” by the Keystone State Literacy Association at the annual KSLA conference. Voted on by students from participating classrooms across Pennsylvania, the books are selected across two divisions: 1) the Elementary division consisting of Preschool, Primary, and Intermediate levels; and 2) the Secondary division consisting of Middle School and High School levels. This year, the 2018-2019 Keystone to Reading Book Awards winners are:

- **Bulldozer Helps Out** by Candice Fleming (Preschool)
- **Philomena’s New Glasses** by Brenna Maloney (Primary)
- **She Persisted: 13 American Women Who Changed the World** by Chelsea Clinton (Intermediate)
- **Restart** by Gordon Korman (Middle School)
- **Goodbye Days** by Jeff Zentner (High School)

Given the widespread emphasis and enthusiasm for STEM (Science, Technology, Engineering, Mathematics), we thought it would be fun in this book review column to provide not only summaries of the award-winning books, but also STEM-related activities to accompany them. In each of the winning texts, there can be found a behind-the-scenes connection or reference to a STEM-related idea. Thus, we capitalize on this connection and share with our readers an in-depth, STEM-related activity and lesson plan. Utilizing Pennsylvania Academic Standards for Science and Technology and Engineering Education, as well as New Generation Science Standards (NGSS), we developed each lesson around the 5E Instructional model for science learning involving 5 key phases: Engagement, Exploration, Explanation, Elaboration, and Evaluation.

Of course, before completing these activities, we strongly suggest that teachers read and discuss the texts with their students based on each of the text’s literary merits. We recommend using a five-stage reading model of 1) Prereading; 2) Reading; 3) Responding; 4) Exploring; and 5) Applying. The following STEM activities can be presented to students during the “Exploring” or “Applying” stage.

**Bulldozer Helps Out (PreK)**

**Summary:**

Amidst the hustle and bustle of a busy construction site, the heavy equipment trucks are hard at work. All except one. Little Bulldozer sits and watches as the other trucks lift and pull and scrape and dig. Bulldozer wants to help, but the other trucks tell him he is too little for the job. Finally, the construction trucks find a perfect job for Bulldozer--clearing the rubble atop a hill. Bulldozer is excited to help! When Bulldozer reaches the top of the hill, he begins to push the rubble but suddenly stops. The other trucks wonder why Bulldozer has stopped working. Why is he not hard at work, too? Why hasn’t he completed his job? The heavy equipment trucks soon learn there is a very different and important job for Bulldozer. Readers will delight to discover what Bulldozer’s job entails!

**STEM Lesson:**

In *Bulldozer Helps Out*, each of the heavy equipment trucks uses different types of motion to complete its job. For example, bulldozer scrapes and pushes dirt; crane lifts heavy objects. In this lesson, students will be given an opportunity to investigate the concept of motion by exploring toys and categorizing them by motion type.

**Essential Question:**
- What are the different ways that toys move?

**Lesson Objective:**
- Given a collection of toys, students will explore the different types of motion and categorize toys by motion type: bounce, roll, and spin.

**PDE Academic Standards for Science and Technology and Engineering Education: PreK**

3.2. B Physics: Force and Motion
- 3.2.PK. B1. Explore and describe motion of toys and objects

**Materials:**
- *Bulldozer Helps Out* by Candace Fleming
- Pictures or toy objects of a bulldozer, loader, dump truck, cement mixer, crane, etc.
- 1 large bin filled with various types of toys that bounce, roll, or spin (balls, trucks, cars, yo-yos, tops, robots, jacks, etc.).
- Whiteboard/chalkboard or chart paper

**Preparation:**
- Prior to teaching the lesson, set up a 3-column chart. Label the first column “Bounce,” the second column “Roll,” and the third column, “Spin.”

**Engage:**

1. After reading the story, share with students examples of different types of trucks (either through pictures or toys) and identify each type of truck by name (e.g., bulldozer, loader, dump truck, cement mixer, crane, etc.).
2. Say, “Let’s pretend to be like the trucks in our book and act out the motions they do.”

3. Show students, using your arms and hands, how each of the trucks move. For example, say: “A bulldozer scrapes and pushes dirt (show motions with your arms and hands how a bulldozer might scrape and push dirt); a loader scoops and lifts dirt (show motions) a dump truck tilts and dumps dirt (show motions); a cement truck mixes and pours concrete (show motions); a crane lifts heavy objects (show motions).

4. Provide an opportunity for students to act out the different motions of each individual truck under your guidance.

Explore:

1. Show the students a bin of toys. Say, “The toys we play with often use different types of motion, too. Some toys roll, some toys spin, and some toys bounce.”

2. Say, “Let’s explore with these toys and determine what motions the toys make.”

3. Allow an opportunity for students, with a partner, to explore the toys. Circulate around the room and ask students, “What motion does that toy make?” “How does that toy move?”

4. Encourage students to use “motion” vocabulary (e.g., spin, lift, turn, bounce, roll, etc.).

Explain:

1. Gather students in a whole group setting.

2. Select a ball from the bin and ask, “What type of motion does this ball make?”

3. Have a child come to the front of the room and show the class how a ball moves. The student may spin, bounce, or roll the ball.

4. Show the students the chart that was prepared. Explain each of the columns: Bounce, Roll, Spin.

5. Ask the students, “What column would we put the ball under?”

6. Write or draw a picture of a ball under the appropriate column.

7. Say, “Hmmm... I wonder if there is a different way we could make this ball move?”

8. Have a student show a second way that the ball can move.

9. Have another student show a third way that the ball can move.

10. Explain to the students that the ball can move in different ways, just like the construction trucks in the story and the other toys provided in the bin.

11. Write or draw a picture of a ball under the other two columns.

Elaborate:

1. Provide the students with an opportunity to describe the motion of the other toys provided in the bin.

2. As a class, decide which motions apply to each of the toys and categorize them accordingly. Remember, a toy may fit into multiple columns.

Evaluate:

1. After the toys have been categorized by type of motion, ask the students to demonstrate, through actions, how each of the different toys moves. For example, ask the students to roll like a ball, spin like a top, bounce like a basketball, etc.

References: (ideas borrowed from):

Philomena’s New Glasses (Primary: Grades K-2)

Summary:
When Philomena gets a new pair of glasses, sisters Audrey and Nora Jane must follow suit by getting their own pair, too. However, the sisters realize that being different from one another is also important. In this fun and sassy text, three sisters show their true colors by being unique. Through their actions, they show young readers the importance of being oneself and doing what makes you, you! As Philomena, Audrey, and Nora Jane reveal, you can’t pick your family, but you can definitely pick your accessories! With the right handbag, pair of glasses, and a zany outfit, these girls are ready to take on the world.

Stem Lesson:
Philomena’s New Glasses offers an opportunity for students to learn about lenses, light, and color. In this lesson, students will explore light and color using color-filtered lenses or glasses.

Essential Questions:

• How does light interact with colors?
• How is light transmitted or absorbed?

Objectives:

• Using color-filtered glasses, students will explore color and light and record whether an object is easy or difficult to see.

PDE Academic Standards for Science and Technology and Engineering Education: 1

3.2.B. Physics Nature of Waves: Sound and light

• 3.2.1.B5. Compare and contrast how light travels through different materials

NGSS: K-2 Waves: Light and Sound

• 1-PS4-3: Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.
**Materials:**
- Flashlight
- Blue, green, and red cellophane
- Old pairs of sunglasses
- Tape
- An assortment of red, blue, green, and yellow objects
- Chart (see below)

**Preparation:**
- In advance, make red, blue, and green color-filtering glasses (or ask students to make their own). To do this, you will need multiple pairs of sunglasses (or cardboard cutouts of paper glasses). Pop out the lenses of the old sunglasses. Cut lenses from colored cellophane (three layers per lens) to make a set of red lenses, blue lenses, and green lenses. Tape the lenses onto the frames of the sunglasses (or cardboard glasses) to make a red color-filtering pair of glasses; a green color-filtering pair of glasses; and a blue color-filtered pair of glasses.

**Engage:**
1. Place a piece of colored cellophane in front of a flashlight. Ask students: What color will shine through? How do you know?
2. Shine the flashlight through the colored cellophane onto a white screen. Ask students: What color do you see?
3. Demonstrate using different colors of cellophane, e.g., blue, red, green, yellow.

**Explore:**
1. Instruct the students to put on a pair of glasses.
2. Allow them a chance to explore the room. What do they notice? What do they see?
3. Specifically, have them look at a red object, a blue object, a green object, and a yellow object.
4. Ask them to record (on the chart below) which colored objects are easy to see and which colors are difficult to see.
5. Allow time for students to experiment with each color of the color-filtered glasses.
6. Discuss the chart in a large group setting.

**EXPLAIN:**
1. When light shines through a transparent object (e.g., the lens in our eye or a regular pair of glasses) all of the colors are transmitted (i.e., let through). However, when light shines through a filtered object (e.g., sunglasses or filter-colored glasses/lenses), some of the colors are absorbed and others are transmitted. When light shines through a red filter, for example, only red light is transmitted, making it easy to see red colors (because the other colors are absorbed).

**Elaborate:**
1. Define primary colors — a set of colors that can be combined in varying amounts to produce a gamut of other colors. Explain: Most of the colors we see are a combination of three primary colors: red, blue, and green.
2. Define filter — to pass (a liquid, gas, light, or sound) through a device to remove unwanted materials. Explain: Colored lenses change our perception of colors by acting as filters. The filter absorbs (or takes in) all colors of light except the color of the lens. This explains why things look red through a red filter, blue through a blue filter, and green through a green filter. Thus, when we look through colored lenses, we’re actually seeing what objects would look like with some of the primary colors of light removed.

**Evaluate:**
1. In their journals, ask students to explain the following: 1) How does light interact with colors? 2) How does a filter absorb or transmit light?

**References:** (ideas borrowed from):

**Summary:**
Women have influenced our society in countless ways. Many influential women who have stood up for what they believed and who have worked hard to improve their own lives have impacted how we live our lives today. Clinton highlights thirteen amazing women who have changed the world. From Harriet Tubman to Oprah Winfrey to
Sally Ride, Clinton spans hundreds of years of history and selects powerful women who serve as role models for the young women of today. Throughout these stories, readers discover how each of these women persisted in chasing their dreams and making those dreams a reality. This book demonstrates to any reader who has been told they cannot do something, that they certainly can!

**STEM Lesson:**
One of the influential women presented in this book is Sally Ride. Sally Ride is the first American woman to have traveled into space. Students can learn more about Dr. Ride and carry on her work by practicing persistence in a balloon rocket experiment. In this lesson, students will design, test, and refine a balloon rocket in an attempt to build a rocket that shoots the farthest. In the process, students will not only learn about Newton’s Second and Third Laws of Motion but also the meaning of “persistence” and how it can be applied to our everyday lives.

**Essential Question:**
- What are Newton’s Second and Third Laws of Motion?
- How can we apply Newton’s Laws to our balloon rockets?
- Why is testing and redesigning essential in a science experiment?

**Objectives:**
- Given materials for a balloon rocket, students will design and build a rocket they will attempt to shoot.
- Using the balloon rocket students make, students will apply Newton’s Laws of Motion to test and redesign their rockets after adding cargo.

PDE Academic Standards for Science and Technology and Engineering Education: 3

**3.4.C: Technology and Engineering Design**
- 3.4.3.C 1: Recognize design is a creative process and everyone can design solutions to problems

**NGSS: 3-5 Motion and Stability: Forces and Interactions**
- 3-PS2-2: Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion.

**Materials:**
- Sally Ride: Breaking the Highest Glass Ceiling video (link below)
- Balloons (big and small)
- Straws
- String
- Permanent marker
- Cargo bags for each group (3 paper clips, 1 bottle cap, and 2 mints)
- Cereal boxes
- Construction paper or other materials to make lightweight cargo containers
- Tape
- Glue
- Scissors
- Measuring tape

**Preparation:**
- Before teaching the lesson, prepare “rocket kits” for each group of students. Each kit should contain 1 big balloon, 1 small balloon, one straw, one glue stick, tape, and scissors. Have an assortment of cargo container options laid out for students to browse.
- Prepare one sample rocket to show the students.
- Prepare a launching string in the classroom. Tie one end of a string to a chair or support piece. Put the other end of the string on a wall or other support piece that can be easily removed.

**Engage:**
1. After reading She Persisted to the class, write the word “Persistence” on the board in big letters.
2. Ask the students to consider what this word might mean.
3. Discuss the meaning of the word and write keywords or phrases provided by the students on the board. Form a word web.
5. Ask students: How did Sally Ride show persistence? What did she do that warranted the author’s decision to include her in the book, She Persisted?

**Explore:**
1. Distribute rocket kits to each group of students. Share with students that they will be given an opportunity to build and test a balloon rocket.
2. Demonstrate how to build the balloon rocket. (Slide a straw onto the string and tape an inflated balloon to the straw. Release the air to demonstrate how the rocket shoots forward.)
3. Encourage students to begin by building their rockets without cargo. Each group should test their rockets on the string and record how far it goes, using the measuring tape.
4. Ask: What will happen when we add cargo to our rockets?
5. Hand out cargo bags to each group of students. Explain that each rocket must carry cargo.
6. Allow students to create a cargo container and then launch their rockets again on the string. Record the distance the rocket travels.
Explain:

1. Introduce Newton’s second law of motion. Explain that the second law of motion states that the more force added to an object, the more acceleration will occur.
2. Ask: How does the second law of motion apply to our balloon rockets? What did you notice in your experiment that helps to demonstrate this law?
3. Discuss Newton’s third law of motion. Explain that the third law of motion states that every action has an equal and opposite reaction.
4. Ask: How does the gas being let out of the balloon demonstrate the third law of motion?
5. After a class discussion, help students to understand that the more air that is added to the balloon, the greater the push will be to propel the rocket forward. This is Newton’s second law of motion in action. The gases being released from the balloon push the air outside of the balloon against the balloon, launching it forward. This is Newton’s third law of motion in action.

Elaborate:

1. Allow students the opportunity to experiment again with their balloon rockets.
2. Announce to the class that they will compete in a competition to see who can get their balloon rocket to go the farthest. Explain that they must use all the cargo objects.
3. Remind students to use Newton’s laws of motion and consider how these laws can be applied to make their rockets go farther.
4. Allow time for students to continually (re)build and (re)design. Make sure students keep track of the changes they make to their rockets.

Evaluate:

1. Allow time for the groups to test their rockets.
2. Once each group launches their rocket, mark the stopping point with tape and write the group’s name on the tape.
3. Announce the winning group who launches their rocket the farthest.
4. In their journals, ask students to answer the following questions: What did you do to improve your rocket design so that it would travel the farthest? How did you know what to change in your design? What laws of motion did you apply in your design? How did you persist in this activity?
5. Allow time for groups to share their journal entries.

References: (ideas borrowed from):

Restart (Middle School Grades: 6-8)

Summary:
Chase, an 8th-grade bully, has awakened from a coma with amnesia, remembering nothing about his family, his friends, or his life. An all-star football player, he is hopeful to regain his memory, get his life back on track, and play football once again. Upon his return to school, however, Chase discovers new interests and new friends. He also learns of his past hurtful actions toward others. Who exactly was he before he lost his memory? Why did he choose to do the things that he did? And who does he want to be? Chase has been given a second chance — a restart — on life. Will he right his wrongs and choose a better path for himself in the future? Only Chase can decide.

STEM Lesson:
When Chase falls from the roof of his home and is rushed to the hospital with a concussion, it is quite probable that the medical doctors performed an MRI (magnetic resonance imaging) or CAT scan of his brain to look for bruising or bleeding. In this lesson, students will examine MRI images (e.g., cross-sectional pictures) showing the structure of the brain. To help students better understand MRI images, students will conduct their own investigation of an internal structure using a cross-sectional analysis.

Essential Questions:
- What is the structure and function of the brain?
- How do MRI images allow us to examine the brain?
- How can we examine the internal structure of an organism using a cross-sectional analysis?

Objectives:
- Given a ball of clay (with a letter embedded inside), students will conduct a cross-sectional analysis to examine its internal structure and correctly identify the letter.

PDE Academic Standards for Science and Technology and Engineering Education; 7

Biological Sciences: Organisms and Cells
- Standard: 3.1.7.1. Describe the similarities and differences of physical characteristics in diverse organisms

PDE Academic Standards for Health, Safety and Physical Education: 6

Concepts of Health
- 10.1.6 B. Identify and describe the structure and function of the major body systems
NGSS: MS: From Molecules to Organisms: Structures and Processes

- LS1-A: In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissue and organs that are specialized for particular body functions. (e.g., the brain).

Materials:
- Hard-boiled egg
- Egg slicer
- MRI images of the brain (downloaded from the internet)
- Ball of blue clay
- Ball of yellow clay

Preparation:
- Before the lesson, prepare enough mystery balls for students in your class (e.g., if 26 students, make 26 letters of the alphabet). First, roll the yellow clay (like a snake) to form a letter of the alphabet. Second, cut the blue ball of clay in half and embed the yellow clay letter into one of the halves. Third, put the two halves back together. Last, make a face on one side of the blue ball so that students know the correct orientation of the mystery letter inside. Distribute clay balls to students during the Elaborate phase of the lesson, described below.

Engage:
1. Show students a hard-boiled egg (with the shell peeled off). Ask: What does the inside of a hard-boiled egg look like? How do you know? If I were to cut into the egg, what would the individual slices look like? Would the slices look the same or different?
2. Using an egg slicer, slice the hard-boiled egg into eight cross-sectional slices. Arrange the slices in the exact order as you cut them. While you are doing this, ask the students to draw what they think the slices will look like. Have them draw eight slices of the egg in order.

Explore:
1. Distribute hard-boiled eggs to students (in small groups).
2. Using an egg slicer (or plastic knife), ask students to carefully slice the egg into 8 cross-sectional slices, arranging them in order.
3. Ask: What do you notice about the slices?
4. Compare the egg slices to the students’ drawing of the egg slices. Are they similar? Different? If so, how?
5. Discuss the importance of the proper ordering of the egg slices. Discuss the order: First, the yolk (brain) starts out very small. Next, it gets bigger. Then, it gets smaller again. And last, it disappears.
6. Ask: What would happen in the slices were not ordered properly?
7. Ask: How do each of the slices help us to understand the inside of the egg?

Explain:
1. Explain the concept of a cross-sectional or axial cut. A cross-sectional cut is a cut made at a right angle to the axis.
2. Explain the concept of an MRI. An MRI is a cross-sectional image of a body part (e.g., the brain).
3. Show MRI images of the brain. Explain that Chase from the novel, Restart, probably had an MRI or brain scan performed on his brain to determine if there was any bleeding or bruising after his fall from the roof.
4. Explain how an MRI image is one cross-section of a larger 3-dimensional structure (e.g., brain), much like one slice of the egg. Often, many images (or slices) must be looked at together to understand what the whole looks like. This is what doctors or brain researchers do to study the structure of the brain.

Elaborate:
1. Tell students they will conduct their own investigation of an internal structure (ball of clay) through a cross-sectional analysis. Remind students that the reason for the investigation is to figure out what is inside something by looking at cross-sections.
2. Give each student a ball of clay with a mystery letter embedded inside. (See preparations above).
3. Have the students carefully slice the ball of clay into 8 cross-sectional slices with an egg slicer. Make sure the students arrange the slices in order (from top to bottom, across the back of the ball of clay).
4. Challenge the students to draw each cross-sectional image to discover the mystery letter embedded inside.
5. Allow time for students to reconstruct the mystery letter.

Evaluate:
1. In their journals, ask students to answer the following question: How are the mystery letter slices (images) like MRI images? How do these images help us to understand the internal structure of the ball of clay?

References: (ideas borrowed from):
**Goodbye Days (High School Grades 9-12)**

**Summary:**
For Carver Briggs, senior year was supposed to be a time to write and spend time with his friends Mars, Eli, and Blake, playfully known as the Sauce Crew. They were supposed to be creating memories and saying temporary goodbyes for college. He did not expect to send a fatal text that killed three of his best friends in a car crash. Now, Carver must navigate his senior year around loneliness, grief, and possible criminal charges. Carver, like many, believes that he is responsible for this accident. However, he finds support through friends and family. As a final farewell to her grandson Blake, Nana Betsy creates a “Goodbye Day” with Carver to have the final day for her grandson that she never had. After this, Carver finds himself participating in multiple “Goodbye Days” to make peace, but the question still stands: Will he ever find peace with this tragedy?

**STEM Lesson:**
In the novel, Carver relays stories to Dr. Mendez, his therapist, during his therapy about the various ways the car accident could have been prevented. In one story, Carver describes a proposal for a self-driving car. In this lesson, students will assess the feasibility of self-driving cars through the observation of a robot’s engineering design and operations.

**Essential Questions:**
- How do self-driving cars provide a safer method of travel?
- How does the engineering design of a simple robot help us to understand the potential design of a self-driving car?
- How do robots with sensors move through a maze?

**Objectives:**
- Students will examine scientific devices and their functions by observing a maze experiment.
- Students will identify aspects of mechanical engineering for simple self-driving devices, such as Coding Robots, through analytical thinking and class discussion.
- Students will create a design for a self-driving car (including the mechanics and tools necessary for the creation of the device) after examining the mechanical functions of a simple robot.

**PDE Academic Standards for Science and Technology and Engineering**

**Technology and Engineering Design**
- 3.4.10.C1: Apply the components of the technological design process.
- 3.4.10.C2: Analyze a prototype and/or create a working model to test a design concept by making actual observations and necessary adjustments.

**NGSS: HS: Engineering Design**
- ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

**Materials:**
- Goodbye Days by Jeff Zentner
- Youtube Video: Self Driving Car-Automation and the Future of Transportation [https://www.youtube.com/watch?v=sVkzLVkmcV8](https://www.youtube.com/watch?v=sVkzLVkmcV8)
- Robotics Kit: Rookie Coding Robot [https://www.woirobot.com/robot-kits](https://www.woirobot.com/robot-kits) Note: This item must be purchased in advance. The number of kits will vary with class size; ideally, enough kits should be purchased for students to work in groups of four.
- Promotional video on coding robot kits [http://www.youtube.com/watch?v=u6QV1BT6QP8](http://www.youtube.com/watch?v=u6QV1BT6QP8)

**Preparation:**
- Before the lesson, build a Rookie Coding Robot to share with your students. Have available additional Rooking Coding Robot kits for students to build later in the lesson.

**Engage:**
1. Share with students the goal of this lesson: To examine the functions and operations of a robot to better understand the design of a self-driving car.
2. To begin the lesson, reference the fatal car accident in Goodbye Days. Engage students in a class discussion on their feelings towards this tragedy. Brainstorm ways the fatal car accident could have been prevented.
3. Remind students of Carver’s stories that theorize for Dr. Mendez during therapy the ways the accident was not his fault. In one of his stories, Carver describes a proposal for a self-driving car.
4. Ask students: What are your thoughts about self-driving cars?
5. Display the YouTube Video, “Self-Driving Car-Automation and the Future of Transportation” and instruct students to take notes on the video.
6. After the video, encourage students to share what they have learned and ask any questions they might have.

**Explore:**
1. Present the Rookie Coding Robot to the class.
2. Have students create a maze on the classroom floor using objects (e.g., books and chairs) for the robot to navigate.
3. Encourage students to explore how the robot carries out the following functions: moving, stopping, turning, facing an object, and making decisions about where to turn.
4. Ask students to observe the “tools” the robot uses to carry out these functions and relate those
tools to mathematical and scientific concepts: e.g., coding, programming, circuits, and sensors.

5. Ask students to explore the following questions:
   • How is a robot programmed to perform sequential movements move through a maze?
   • How is a robot programmed to perform random movements move through a maze?
   • Does a robot always need sensors to avoid obstacles?

Explain:
1. Present a promotional video on coding robot kits, which explains the operations of a self-driving robot. (http://www.youtube.com/watch?v=u6QV1BT6QP8)
2. Emphasize to students the main functions and purposes of a robot.

Elaborate:
1. Present the Rookie Coding Robot kits to students. In small groups, allow time for the students to build their own robots.
2. Provide time for students to program their robots to navigate a simple maze created on the classroom floor.
3. Encourage students to test their programmed robot's ability to navigate a maze by conducting numerous trials.
4. Have students record and document their findings including the number of errors and amount of time it takes for the robot to navigate the maze.
5. Encourage students to analyze their findings and make a claim based on the evidence they observed.

Evaluate:
1. Ask students to compare and contrast their understanding of robots to self-driving cars by referencing at least five similarities and five differences.
2. In small groups, have students create a design for a self-driving car which includes the mechanics and tools necessary for the creation of the device. Ask students to present their innovations to the class in a graded proposal format.

References: (ideas borrowed from):


References

Children's Books

Websites & Resources
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