



SAMPLE PAGES

Main**STREAM** Science

Grades 1-2

SCIENCE

TECHNOLOGY

READING

ENGINEERING

ART

MATH



Challenging students to
create innovative solutions
to real-world problems
using a **STREAM** approach!

CHALLENGING STUDENTS TO BECOME PART OF THE SOLUTION

ECO-FRIENDLY TRANSPORTATION

In this going-green project, students will use *Balloon Cars STEM Starters* as a stepping-stone to creating a form of eco-friendly public transportation.



THE CHALLENGE: Design and build an eco-friendly form of public transportation to help decrease pollution.

WHAT DOES MainSTREAM Science REALLY OFFER?

A stress-free approach to bringing STREAM into the classroom by using a **project-based learning platform** that incorporates the **engineering design process** and establishes **clear criteria and constraints!**



FOR TEACHERS:

- guidance on how to serve as project-based learning coaches and facilitators
- step-by-step lessons that provide scaffolding for students
- suggestions for best practices regarding project-based learning
- an efficient way of connecting multiple disciplines and meeting content standards



FOR STUDENTS:

- the ability to apply STREAM-based practices to real-world solutions global issues
- the opportunity to grow intellectually and emotionally using a collaborative, problem-solving mindset
- exciting and engaging activities that enhance critical and creative-thinking skills


S-T-R-E-A-M IN ACTION



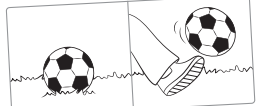
SCIENCE

MEET NEWTON AND HIS LAWS

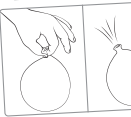
Sir Isaac Newton was a scientist. He lived a long time ago. He studied **math**. He liked to perform experiments. He taught us why things move. He had three ideas. He called them laws. Let's learn about Newton's first and third laws.



pretend there is a soccer ball. It is sitting on a flat. It does not move. It won't move until you kick it. Boom! You kick it! It moved. This is what Newton's first law is about.



pretend you blow up a balloon. Huff! Puff! Now, hold it closed. Don't let go! Keep the air inside. What happens when you let go? Whoosh! The balloon flies through the air. Look out! This happens because the air inside pushes out. Air that is outside pushes back. This is what Newton's third law is about.



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A CLOSER LOOK AT NEWTON'S LAWS

Directions: Do a close reading of the Meet Newton and His Laws text. Use the text to answer the questions.

- Who was Sir Isaac Newton?
- What did Newton teach us?
- What would you tell your friend about Newton's first law?

LOOK IT UP!
Look up the word **math** in the glossary. Find the definition. Now, write the definition in your own words.

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TECHNOLOGY

TECH TIME

Directions: Look at the checklist below. Place a check next to the things you would like to learn more about. What can you put in your presentation?

- photos
- videos
- drawings
- animation
- sound effects
- background music
- colorful backgrounds

Directions: Answer the questions. Then, talk with your team. Decide how to use tech in your presentation.

- What do you know about the items on the list?
- What do you think makes a great presentation?
- What tech skills do you have that will be helpful to your team?


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READING

ECO-FRIENDLY TRANSPORTATION

Cars are cool! We depend on cars to get around. But they cause **pollution**. Most car engines burn **fossil fuels**. This puts unsafe gas into the air. It makes the air dirty. It can make people sick. It can make it hard to breathe.





Harmful gases are changing our **climate**. It is getting warmer. Glaciers are melting. Ocean water is heating up. Weather is changing. These changes affect plants and animals. Scientists are looking for **eco-friendly** ways to fix this problem.

Car **engineers** want to help, too. They think cars need better engines. If engines don't burn so much gas, they won't cause as much pollution.

There are newer cars called **hybrids**. They run on gas and electricity. Electric cars are becoming popular. These cars run on a battery. The battery is charged with electricity. There are cars that can use water to run their engines. Others use **solar power**. This means the sun charges the car. There are even cars that run on **algae**. How cool is that?

These newer cars can help reduce harmful gas in the air. Going green when it comes to transportation can be a great way to help save Earth!

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A CLOSER LOOK AT ECO-FRIENDLY TRANSPORTATION

Directions: Do a close reading of the Eco-Friendly Transportation text. Use the text to answer the questions.

- What is the main idea of the text?
- What is a hybrid car?
- How can newer cars help the planet?

LOOK IT UP!
Look up climate change on the internet. Write three facts about climate change below.

- _____
- _____
- _____


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ENGINEERING

THE MISSION

Directions: Work with your team to read and discuss the text below.



Have you ever seen what looks like smoke coming from a car? Or even smelled it? This gas is bad for our health and our planet. It is called **exhaust**. It is bad news! Your **mission** is to design a public transportation that is good for the planet. Follow the rules and achieve the goals.

Your mission is to work with your team, and your handy helper to design a form of public transportation that is good for the planet. Follow the rules and achieve the goals.


The Rules	The Goals
1) Only the handy helper can blow air into the balloon during testing.	1) Design and build a public-transportation vehicle powered only by air.
2) You can only use one public-transportation vehicle.	2) Your vehicle must hold 10 people. The people must stay in your vehicle while it is moving. They can't fall out.
3) You can only use materials approved by your teacher.	3) Your vehicle must travel at least one foot (12 inches).

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THE PROTOTYPE

Directions: Answer the questions about your team's prototype. Then, draw a picture of the prototype. Be sure to label your drawing.

- What are some of the materials you used?
- What was the hardest part about building the prototype?
- What do you think is the coolest part of the prototype? Why?



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ART

ART ASPECTS

Do you know how many moons the planet Jupiter has? It has 79 moons! Could there be life on these moons? NASA wants to find out!

NASA wants to send a robot to a moon named Europa. The robot would have cameras and tools. It would explore the moon. Look at the picture below. An artist has created a **reading**. This is a picture of what the robot will look like.

What will your public transportation vehicle look like? Draw a drawing through your neighborhood. Draw the outside and the inside of the **prototype**. Include lots of detail! Make it look as real as possible.



Directions: Answer the questions. Then, talk with your team.

- What are tools do you think will work best (scissors, pens, crayons, paper)?
- What artistic skills do you have that will help your team?
- Can you think of other artistic things to include in your presentation? Music, a song, or a skit? List your thoughts below.



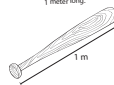

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MATH

UNITS OF MEASUREMENT

We use different units of measurement to measure different things.





centimeters (cm) Think about your fingernail. 1 centimeter is about the width of your fingernail.  1 cm	inches (in.) Think about a paper clip. 1 inch is about the length of a small paper clip.  1 in.
meters (m) Think about a baseball bat. A baseball bat is about 1 meter long.  1 m	feet (ft) Think about a ruler. 1 foot is 12 inches, which is the length of a ruler.  1 ft.

We use different units to measure different objects. We can use rulers, yardsticks, materials, or measuring tapes.

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LET'S PRACTICE


Directions: Which unit of measurement would be the best one to use? Draw a line connecting the picture to the best unit of measurement in each section.

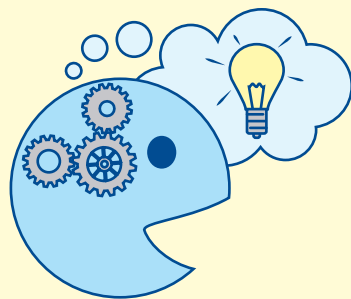
	centimeters (cm)
	meters (m)
	inches (in.)
	feet (ft)

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USING THE RIGHT TOOLS TO ENSURE SUCCESS

The Teacher's Guide

 A project-based learning method organized into 8 easy-to-follow steps!



1. Building a Team
2. Learning the Facts
3. Making Real-World Connections
4. Conducting Investigations
5. Building Prototypes
6. Preparing Presentations
7. Presenting to Peers
8. Reflecting

ECO-FRIENDLY TRANSPORTATION

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ECO-FRIENDLY TRANSPORTATION

IMPLEMENTATION (cont.)

TEACHER'S GUIDE (cont.)

UNIT 1	Getting Started	Students are introduced to the content and structure of the project. They are placed into their teams and will get to know their team members through various activities and exercises.
UNIT 2	Learning the Facts	Teams learn about the science behind the topic as well as the topic itself. They will learn about Newton and his laws. Teams will observe and analyze a brief science demonstration to stir up excitement for the project.
UNIT 3	In the Real World	Teams connect the challenge to the real world. Through real-life examples, they come to understand how and why eco-friendly cars are used today and what lies ahead for transportation in the future.
UNIT 4	Practice Makes Perfect	Teams delve into the engineering aspects of the project as they work with the STEM Starters packs to build an air-powered car. They will learn the importance of trial and error, and will come to see that there is often more than one way to solve a problem. They will make educated guesses and come to understand why taking risks can be a good thing.
UNIT 5	Here We Go!	Teams brainstorm and develop their proposed solutions to the problem. They will plan, test, retest, and problem-solve as they build their eco-friendly public transportation prototypes.
UNIT 6	Preparing for the Show	Teams plan and create their presentations. This includes slide-show presentations, which may also involve videos, diagrams, animations, etc. Encourage teams to be creative and employ the technology that is available to them.
UNIT 7	Showtime!	Teams present their proposed solutions to the class, receive feedback, make modifications, and then present once more to a larger audience.
UNIT 8	Let's Reflect	The class comes together to debrief and discuss the project and its takeaways. Students write about and discuss their personal growth during the project, the pros and cons of the project, and how what they have learned along the way will help them in the years to come.

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Teachers as Coaches—A Guided Plan for Every Unit

GETTING STARTED ECO-FRIENDLY TRANSPORTATION

UNIT 1: GETTING STARTED

THE PLAN

SUMMARY

In this unit, an entry event will kick off the project to help spark students' interest. Students will then learn the content and structure of the project and be placed in teams. Once in their teams, students will be given roles and learn the rules for this project. They will get to know their team members through various team-building activities and begin completing activity sheets together.

TEAM GOALS	CONTENT OBJECTIVES	MATERIALS
<ul style="list-style-type: none"> understand the objectives and steps of the project learn the team roles and rules get to know team members 	<ul style="list-style-type: none"> Students will participate in collaborative conversations. Students will follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). 	<ul style="list-style-type: none"> guest speaker or video (see Step 1, page 15) bag of toothpicks, 50 mini marshmallows (per group, see Step 8, page 16) chart paper, marker, and a picture of an object (per group, see Step 8, page 16) 20–30 plastic cups (per group, see Step 8, page 16) colorful markers or colored pencils

SUPPORTIVE SUGGESTIONS

When introducing and explaining the project, be enthusiastic. Speak with gusto! This project is a big undertaking. You want your students to feel eager and excited rather than overwhelmed and apprehensive.

Encourage questions, and be available to answer them. You may choose to set aside class time to answer group questions.

Monitor group interactions as much as possible to ensure that everyone is participating and fulfilling their individual roles.

DRIVING QUESTION

How can we design a form of public transportation that is good for the environment?

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ECO-FRIENDLY TRANSPORTATION GETTING STARTED

THE PLAN (cont.)

STEP-BY-STEP

ENTRY EVENT

- Launch the eco-friendly public transportation project-based learning challenge by engaging students in the topic. A great way to do this is to have a guest speaker (an engineer, scientist, or automotive designer) talk to the class about their job. If no such speakers are available, consider showing a video of different eco-friendly cars followed by a lively class discussion on the topic. (Note: There are numerous videos available on YouTube. One great example is Pat Boone presenting an air-powered car on "Shark Tank." Be sure to watch any video in its entirety to check for grade-level appropriateness before sharing it with the class.)

PROJECT NOTEBOOKS

- Distribute a Project Notebook to each student. Have students write their names on the first page. Explain that they need to keep careful track of their notebooks. They should be with students at all times in class (unless they are with the teacher to check work). Stress the importance of not losing or damaging the Project Notebooks because these will contain all their notes, thoughts, and assignments pertaining to the project.

OVERVIEW

- Before explaining the project they are about to embark on, begin by giving students a couple of tips on how to take notes in a journal. The notes and journaling pages in the Project Notebooks vary in style. The goal of the journals is to give students a place to record their notes and thoughts in creative and fun ways. Share some of the images and ideas from the *Taking Notes* sheet (page 18) with students to help get them excited about taking notes.
- Have students turn to pages 3 and 4 in their Project Notebooks. Tell them you will be going over the *Project Overview* sheet (page 19) with them and you would like them to take some notes on the notes page as you speak. Explain to students that they will be placed into teams and will need to work with their team members, over an extended period of time, to design an eco-friendly form of public transportation. Read the driving question out loud to students. Tell them that during the course of the project, they will read, research, conduct experiments, build models, create tech-driven presentations, and much, much more. You may wish to share with the class the PBL diagram included in the introduction on page 7. Ask the class if they have any initial questions or concerns regarding the project.

Note: You may wish to go over each rubric in the appendix with the class (pages 91–93). It is important that students understand exactly what is expected of them throughout the course of the project. Refer back to the rubrics repeatedly to help set goals for students and help guide them toward those goals.

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Step-by-step guidance for both teachers and students!

GETTING STARTED ECO-FRIENDLY TRANSPORTATION

THE PLAN (cont.)

STEP-BY-STEP (cont.)

GETTING IN TEAMS

- You have enough STEM Starters materials and Project Notebooks for six teams of five students. When placing students into teams, take into consideration students' social-awareness skills, personalities, work ethics, and leadership abilities. After students have been placed into their teams, go over the *Team Roles and Rules* sheet (page 21). Ask a volunteer to read the rules written on the gears. Ask a different volunteer to read the roles and descriptions. You can either assign students roles or let the teams decide amongst themselves.

GETTING TO KNOW ONE ANOTHER

- Have students fill out the *Meet Me* activity sheet (page 22). You may consider filling out one yourself to help students get to know you a little better and to serve as an example to students. Allow students time to complete the sheet either in class or at home. Next, have students take turns sharing the information from their sheets with their team members. Have them record notes about their team members on the *Meet My Team Notes* activity sheet (page 23). Encourage teams to have a friendly discussion about likes, dislikes, and things they have in common with one another. At this time, have the team reporters share a little bit about each team member with the rest of the class.
- Once the roles have been decided and students have gotten to know one another, ask each team to brainstorm ideas for a team name, a team motto, and a team logo. Have them work together to complete the *Team Talk* activity sheet (page 24). Have team reporters present their team's name, motto, and logo to the class.

TEAM BUILDING

- Have teams engage in one or more of the following team-building activities.

Build It!	Draw It!	Stack It!
Distribute to each team a bag of toothpicks and 50 mini marshmallows. Each team must build a self-standing tower using all the marshmallows. The tallest tower that remains standing wins!	Distribute one sheet of chart paper and a marker to each team's recorder. Provide each team's reporter with a picture to draw. The reporter must describe the picture to the recorder without naming it. As the team recorder draws, the other team members try to guess the picture. The first team to guess correctly wins.	Distribute 20–30 plastic cups to each team. Challenge them to create the tallest tower they can without it tipping over. The team with the tallest tower wins!

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ECO-FRIENDLY TRANSPORTATION GETTING STARTED

THE PLAN (cont.)

STEP-BY-STEP (cont.)

WORKING AS A TEAM

- Following the team-building activities, have students complete the *Working Together* sheet (page 25) independently. Then, have them share their sheets and discuss their answers with one another. If time permits, have each team's reporter provide a quick summary of what their team discussed with the class.
- Have students complete the *Pre-Project Questions* (page 26) independently. This is a great opportunity to assess group dynamics and catch any early signs of problems within the groups. When students have finished, have them meet with their groups to talk about how they feel about embarking on this team project together.

THINK, WRITE, TALK

Have students complete the *Think, Write, Talk* sheet for this unit (page 27). Have them think about all activities and assignments they completed in this unit.

How do they feel about this project (nervous, excited)? What do they like about this project? How do they feel about working with a team?

In the "Think" section, have students generate a few doodles and drawings to help get their thoughts down on paper. In the "Write" section, have them put those thoughts into words. And for the "Talk" section, have them discuss their thoughts and feelings with their team in one final team discussion for the unit. Ask them to write one thing they talked about in this section.

ODDS & ENDS

Timeline: Create a rough timeline for the project. Have a firm end date so you can schedule and prepare for the presentations. Would you like this project to be completed in a few months? A semester? A school year? Take into consideration how much class time can be devoted to the project. Once you have a timeline, share important dates with students and parents.

Tech Tip: Consider creating a Google Calendar for the project. Share it with your students and their parents. Add important due dates, project goals, and reminders to the calendar. This will help keep everyone informed and on the same page.

Note: If your school does not already have Google Classroom, consider looking into it. It is free and is excellent for projects such as this.

"Classroom helps students and teachers organize assignments, boost collaboration, and foster better communication."

<https://edu.google.com/products/classroom/>

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Students as Collaborative Learners and Problem Solvers

Collaboration • Cooperation • Communication • Creative and Critical Thinking

Project-Based Learning at its BEST!

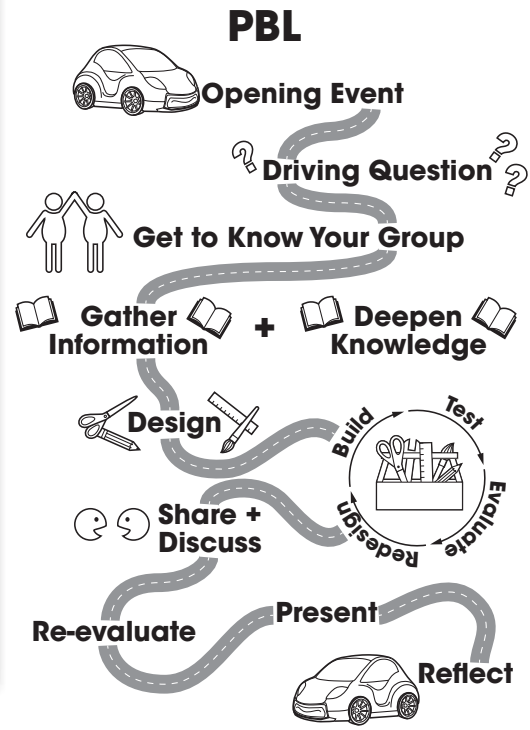
PROJECT OVERVIEW

? **DRIVING QUESTION**

How can we design a form of public transportation that is good for the environment?

MISSION BREAKDOWN

<p>1 Meet Your Team</p> <p>Get to know your team!</p>	<p>2 Find the Facts</p> <p>Learn about Newton's laws.</p>	<p>3 Make Real-World Connections</p> <p>Read about cars and pollution.</p>	<p>4 Balloon Cars</p> <p>Design, build, test, and rebuild an air-powered car.</p>
<p>5 Apply Your Knowledge</p> <p>Show what you know! Make a model.</p>	<p>6 Perfect Your Presentation</p> <p>Make a presentation. Wow your audience!</p>	<p>7 Present Your Ideas</p> <p>Present your model. Share your ideas!</p>	<p>8 Pause for Reflection</p> <p>Think about what you have learned and how you have grown.</p>



SUCCESS through TEAMWORK!

Team-building activities support Social-Emotional Learning throughout the program!

TEAM ROLES AND RULES

ROLES

Leader

The leader keeps the team on task.

Reporter

The reporter presents ideas to the class and the teacher.

Timekeeper

The timekeeper watches the clock and reminds the team of all due dates.

Be positive.

Include everyone.

Participate.

RESPECT

show respect.

Stay on task.

Wild Card

The wild card fills any role needed each day. The wild card cheers on the team and reminds them to do their best.

Recorder

The recorder takes notes.

WORKING TOGETHER

Directions: Think about the activity you completed with your team. Fill in the chart below. Then, share with your team.

is:

says:

sounds like:

looks like:
(Draw a picture.)

A GOOD TEAM

Resources for Writing and Assessments

Reflective, research, and observational writing opportunities are provided for all levels.

PRE-PROJECT QUESTIONS

Directions: Think about this team project. Answer the questions below.

1 How do you feel about this project? Color the face that shows how you feel.

2 How do you feel about working with a team? Color the face that shows how you feel.

3 What part of the project are you most excited about?

4 What do you want to learn?

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KNOWING NEWTON

Know

Want to Know

Learned

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FIRST JOURNAL

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NAME: _____

LET'S ASSESS #1

Directions: Think about all that you have learned and accomplished since starting this project. Use that knowledge and those experiences to complete the 3-2-1 countdown below. Write your answers in complete sentences.

3 Write 3 new things you learned during this project.

2 Write 2 things that surprised you.

1 Write 1 thing that you want to start doing with what you have learned.

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PRACTICE MAKES PERFECT ECO-FRIENDLY TRANSPORTATION

LET'S ASSESS #2

Teacher Directions: Play a game of Four Corners. Label pieces of chart paper "A," "B," "C," and "D" and hang one paper in each corner of the classroom. Have students gather together in the center of the classroom. Tell them that you will be asking them questions relating to what they have learned so far. For each question, you will provide a series of possible answers. Students will move to the corner of the room that has the letter matching the answer they think is correct. Here are some sample questions and answers:

1 Who was Sir Isaac Newton?
A. a scientist and mathematician C. a racecar driver
B. a poet D. a president

2 Why are gas engines bad for the planet?
A. They are too loud. C. They cause air pollution.
B. They cost too much money to make. D. They leak water.

3 True or False? Smog is good for us.
A. True B. False

4 The earliest form of transportation was:
A. boats C. carts pulled by horses
B. planes D. walking

5 True or False? Electric engines are better for the environment than gas engines.
A. True B. False

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On-going formative assessments allow both teachers and students to check progress.

NAME: _____

LET'S ASSESS #3

Directions: This activity is called "two roses and a thorn." Think about all the things you have learned so far. List two things you liked. These are the roses. Then, list one thing you did not like or that you still have a question about. This is the thorn. Include as many details as possible.

1 rose #1:

2 rose #2:

3 thorn:

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Rubrics—Defining Expectations

ECO-FRIENDLY TRANSPORTATION APPENDIX

COLLABORATION RUBRIC

	3 (exceeds standard)	2 (meets standard)	1 (approaching standard)	0 (below standard)
Takes Responsibility for Self	<ul style="list-style-type: none"> does more than is asked to do consistently stays focused and completes tasks 	<ul style="list-style-type: none"> does what is required often stays focused and completes tasks 	<ul style="list-style-type: none"> does some of what is required stays somewhat focused and completes most of the tasks when reminded 	<ul style="list-style-type: none"> rarely does what is required does not stay focused and cannot complete tasks
Participates and Contributes	<ul style="list-style-type: none"> encourages team members to share ideas is a team leader and helps manage conflicts that arise 	<ul style="list-style-type: none"> willingly shares ideas with team members actively helps the team solve problems 	<ul style="list-style-type: none"> sometimes shares ideas helps the team when asked to do so 	<ul style="list-style-type: none"> does not share ideas rarely helps the team
Works Well with Others	<ul style="list-style-type: none"> encourages team members to be respectful reminds team members to listen is consistently kind and sympathetic 	<ul style="list-style-type: none"> is respectful of team members' ideas and feelings listens attentively is often kind and sympathetic 	<ul style="list-style-type: none"> is respectful most of the time listens to team members is sometimes kind and sympathetic 	<ul style="list-style-type: none"> shows little respect for team members rarely listens and repeatedly interrupts hurts others' feelings

Three types of rubrics provide teachers and students with specific expectations.

APPENDIX ECO-FRIENDLY TRANSPORTATION

CRITICAL & CREATIVE THINKING RUBRIC

	3 (exceeds standard)	2 (meets standard)	1 (approaching standard)	0 (below standard)
Inquire & Evaluate	<ul style="list-style-type: none"> consistently seeks out new information to help solve the problem is successful at analyzing and evaluating arguments and evidence 	<ul style="list-style-type: none"> often seeks out new information to help solve the problem is effective in analyzing and evaluating arguments and evidence 	<ul style="list-style-type: none"> sometimes seeks out new information to help solve the problem is not comprehensive when analyzing and evaluating arguments and evidence 	<ul style="list-style-type: none"> rarely seeks out new information to help solve the problem does not analyze or evaluate arguments or evidence
Logic & Reasoning	<ul style="list-style-type: none"> consistently uses sound logic employs various types of reasoning that are appropriate for the given situation 	<ul style="list-style-type: none"> often uses sound logic uses reasoning skills that are suitable for the given situation 	<ul style="list-style-type: none"> sometimes uses sound logic uses reasoning skills that may or may not be fitting for the given situation 	<ul style="list-style-type: none"> rarely uses logic attempts to use some reasoning skills
Curiosity & Risk Taking	<ul style="list-style-type: none"> actively seeks out new and untested ways of solving a problem is not constrained or fearful of the risk of failure 	<ul style="list-style-type: none"> willingly considers new and untested ways of solving a problem is somewhat apprehensive and slightly fearful of the risk of failure 	<ul style="list-style-type: none"> hesitantly considers new and untested ways of solving a problem is apprehensive and fearful of the risk of failure 	<ul style="list-style-type: none"> is unwilling to try new and untested ways of solving a problem prefers an option with little to no risk of failure

ECO-FRIENDLY TRANSPORTATION APPENDIX

GROUP PRESENTATION RUBRIC

	3 (exceeds standard)	2 (meets standard)	1 (approaching standard)	0 (below standard)
Preparedness	<ul style="list-style-type: none"> extremely well prepared, showing signs of multiple rehearsals presentation stays within the time constraints 	<ul style="list-style-type: none"> well prepared, shows signs of rehearsal presentation is very close to meeting the time constraints 	<ul style="list-style-type: none"> somewhat prepared but could have used more rehearsal time presentation is roughly within the time constraints 	<ul style="list-style-type: none"> not prepared, showing obvious signs of little rehearsal presentation is noticeably too short or clearly exceeds time constraints
Content	<ul style="list-style-type: none"> skillfully addresses all components proficiently explains the story, engineering, and science behind the prototype 	<ul style="list-style-type: none"> includes all components explains the story, engineering, and science behind the prototype 	<ul style="list-style-type: none"> includes almost all components attempts to explain the story, engineering, and science behind the prototype 	<ul style="list-style-type: none"> includes few or none of the components does not attempt to explain the story, engineering, or science behind the prototype
Performance	<ul style="list-style-type: none"> speaks very clearly and confidently for most of the presentation is enthusiastic and at ease with being in front of a crowd consistently maintains eye contact and holds the audience's attention 	<ul style="list-style-type: none"> speaks clearly and confidently for most of the presentation is mostly cheerful and relaxed establishes eye contact often and holds the audience's attention most of the time 	<ul style="list-style-type: none"> speaks somewhat clearly and confidently shows signs of uneasiness attempts to make eye contact with the audience 	<ul style="list-style-type: none"> does not speak clearly appears restless and distracted does not attempt to make eye contact with the audience

Project Notebooks

BALLOON CAR DATA

Directions: Record the test track data for each team.

Team Name:		Team Name:	
Trial Run #1	inches	Trial Run #1	inches
Trial Run #2	inches	Trial Run #2	inches

Team Name:		Team Name:	
Trial Run #1	inches	Trial Run #1	inches
Trial Run #2	inches	Trial Run #2	inches

Team Name:		Team Name:	
Trial Run #1	inches	Trial Run #1	inches
Trial Run #2	inches	Trial Run #2	inches

THINK

WRITE

TALK

We talked about _____

MISSION NOTES

Directions: Draw sketches, write down ideas, and make materials lists so you don't forget anything important.

Project Notebooks help keep information organized and in one place by offering students a place to record their notes and thoughts throughout the learning process.

STEM Starters

With *STEM Starters*, students are given essential pieces of a much larger puzzle. They decide on additional materials to include in their build—a build that is limited only by their imaginations! Instructions are purposely left out of the building activity to create an entirely new and rewarding experience in which students learn the value of failure and risk-taking. Students will learn that there is often more than one way to solve a problem.

