

FULL STEAM AHEAD

3D SHAPE RECORDING SHEET
Directions: Select a tool to measure your shape. Measure the length and width of your shape. Record the measurements. Use a ruler to measure the distance your shape traveled. Use a string to measure the circumference of your shape. Record the measurements.

PAPER AIRPLANE RECORDING SHEET
Directions: Select a tool to measure, then answer the questions.
Ruler Meter Stick
1. Measure the length of your airplane. Record the measurement.
2. Measure the width of your airplane. Record the measurement.
3. Measure the distance your airplane traveled. Record the measurement.

CUP TOWER RECORDING SHEET
Directions: Select a tool to measure your tower. Then answer the questions.
Ruler Meter Stick
1. Measure the height of my tower. I will use _____.
2. Measure the width of my tower. I will use _____.
3. Measure the distance my tower traveled. I will use _____.

RACECAR RAMP RECORDING SHEET
Directions: Select a tool to measure, then answer the questions.
Ruler Meter Stick Hand Stick
1. Measure the length of my ramp. I will use _____.
2. Measure the width of my ramp. I will use _____.
3. Measure the distance my car traveled. I will use _____.

PAPER AIRPLANE
THE CHALLENGE:
You will work independently for this challenge, competing against the other members of your team. Using just one piece of paper, create a paper airplane. Your goal is to make the plane that goes the farthest.

TIPS:
What might make the airplane go the farthest? Test and adjust as you work for maximum distance. (You may use up to 3 sheets of paper for your testing.)

3D SHAPE
THE CHALLENGE:
Using the materials provided, create a 3D shape such as a sphere, cube, or pyramid. Your shape does not necessarily need to stand on its own, but it should hold together.

TIPS:
Think about what your 3D shape looks like—how many vertices does it have? How will you need that many measurements? How many edges does it have? You need that many tools too. If making a sphere, it will not be perfectly round (and that's ok!).

RACECAR RAMP
THE CHALLENGE:
Using the materials provided, work together with your team to create a ramp. Your goal is creating the ramp is to make your racecar go as far as possible. The ramp should be able to stand on its own.

TIPS:
What might make the racecar go the farthest? Test and adjust as you work for maximum distance.

CUP TOWER
THE CHALLENGE:
Using the cups provided, work with your partner to build the tallest tower you can in the time allotted. When the timer goes off, your tower must be able to stand on its own. Your goal is to make your tower taller than the other team's.

TIPS:
Tall towers need strong bases. How can you use cups to create a strong base? Remember that cups can be turned in different directions.

STEAM MEASUREMENT BOOK
NAME: _____

FULL STEAM AHEAD
HANDS-ON MEASUREMENT REVIEW ACTIVITY

PAPER AIRPLANE
THE CHALLENGE:
You will work independently for this challenge, competing against the other members of your team. Using just one piece of paper, create a paper airplane. Your goal is to make the plane that goes the farthest.

TIPS:
What might make the airplane go the farthest? Test and adjust as you work for maximum distance. (You may use up to 3 sheets of paper for your testing.)

3D SHAPE
THE CHALLENGE:
Using the materials provided, create a 3D shape such as a sphere, cube, or pyramid. Your shape does not necessarily need to stand on its own, but it should hold together.

TIPS:
Think about what your 3D shape looks like—how many vertices does it have? How will you need that many measurements? How many edges does it have? You need that many tools too. If making a sphere, it will not be perfectly round (and that's ok!).

RACECAR RAMP
THE CHALLENGE:
Using the materials provided, work together with your team to create a ramp. Your goal is creating the ramp is to make your racecar go as far as possible. The ramp should be able to stand on its own.

TIPS:
What might make the racecar go the farthest? Test and adjust as you work for maximum distance.

CUP TOWER
THE CHALLENGE:
Using the cups provided, work with your partner to build the tallest tower you possibly can in the time allotted. When the timer goes off, your tower must be able to stand on its own. Your goal is to make your tower taller than the other team's.

TIPS:
Tall towers need strong bases. How can you use cups to create a strong base? Remember that cups can be turned in different directions.

STEAM MEASUREMENT BOOK
NAME: _____

RACECAR RAMP RECORDING SHEET
Directions: Select a tool to measure, then answer the questions.
Ruler Meter Stick Hand Stick
1. Measure the length of my ramp. I will use _____.
2. Measure the width of my ramp. I will use _____.
3. Measure the distance my car traveled. I will use _____.

HANDS-ON MATH REVIEW
ACTIVITIES FOR 2ND GRADE



HANDS-ON MEASUREMENT REVIEW

3D SHAPE RECORDING SHEET
Directions: Select a tool to measure your shape, then answer the questions.

PAPER AIRPLANE RECORDING SHEET
Directions: Select a tool to measure, then answer the questions.
1. To measure the **DISTANCE** my airplane traveled, I will use a _____.
Meter Stick Yard Stick

PAPER AIRPLANE
THE CHALLENGE:
Using one piece of paper, create an airplane that goes the farthest.


CUP TOWER RECORDING SHEET
Directions: Select a tool to measure your tower, then answer the questions.
1. To measure the **HEIGHT** of my tower, I will use a _____.
Meter Stick Yard Stick
Ruler
I chose this tool because _____.

RACECAR RAMP RECORDING SHEET
Directions: Select a tool to measure, then answer the questions.
1. To measure the **DISTANCE** my car traveled, I will use a _____.
Ruler Meter Stick Yard Stick

RACECAR RAMP
THE CHALLENGE:
Using the materials provided, build a ramp for a toy car.

3D SHAPE
THE CHALLENGE:
Using materials provided, create a 3D shape such as a sphere, cube, or cylinder. You will need to sketch your shape together.

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NAME: _____

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FULL STEAM AHEAD

HANDS-ON MEASUREMENT REVIEW ACTIVITY



CUP TOWER

THE CHALLENGE:
Using 3 cups provided, work with your team to build the tallest tower you can in the time allotted. When the timer goes off, your tower must be able to stand on its own. Your goal is to make your tower taller than the other team's.

TIPS:
• Need strong bases. How can you use the cups to create a strong base?
• Remember that cups can be turned in different directions.

CUP TOWER

THE CHALLENGE:
Using 3 cups provided, work with your team to build the tallest tower you can in the time allotted. When the timer goes off, your tower must be able to stand on its own. Your goal is to make your tower taller than the other team's.

TIPS:
• Need strong bases. How can you use the cups to create a strong base?
• Remember that cups can be turned in different directions.

4 LOW-PREP STEM CHALLENGES

PAPER AIRPLANE

THE CHALLENGE:

You will work independently for this challenge, competing against the other members of your team. Using just one piece of paper, create a paper airplane. Your goal is to make the plane that goes the farthest.



TIPS:

What might make the airplane go the farthest? Test and adjust as you work for maximum distance. (You may use up to 3 sheets of paper for your testing).

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3D SHAPE

THE CHALLENGE:

Using the materials provided, create a 3D shape such as a sphere, cube, or pyramid. Your shape does not necessarily need to stand on its own, but it should hold together.



TIPS:

Think about what your 3D shape looks like – how many vertices does it have? You will need that many marshmallows. How many edges does it have? You need that many toothpicks. If making a sphere, it will not be perfectly round. (and that's ok!).

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RACECAR RAMP

THE CHALLENGE:

Using the materials provided, work together with your team to create a ramp. Your goal in creating the ramp is to make your racecar go as far as possible. The ramp should be able to stand on its own.

TIPS:

What might make the racecar go the farthest? Test and adjust as you work for maximum distance.



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CUP TOWER

THE CHALLENGE:

Using the cups provided, work with your partner to build the tallest tower you possibly can in the time allotted. When the timer goes off, your tower must be able to stand on its own. Your goal is to make your tower taller than the other team's.

TIPS:

Tall towers need strong bases. How can you use cups to create a strong base? Remember that cups can be turned in different directions.



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STEAM

MEASUREMENT BOOK



NAME: _____

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RACECAR RAMP RECORDING SHEET

Directions: Select a tool to measure, then answer the questions.

1. To measure the DISTANCE my car traveled, I will use a... (circle one)

Ruler Meter Stick Yard Stick Measuring Tape

2. I chose this tool because...

3. Measure the distance using both inches and feet. Record the measurement.

_____ inches _____ feet

4. To measure the HEIGHT of my ramp, I will use a... (circle one)

Ruler Meter Stick Yard Stick Measuring Tape

5. I chose this tool because...

6. Measure the height using both inches and feet. Record the measurement.

_____ inches _____ feet

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**INCLUDES A WORKBOOK FOR
STUDENTS TO ANSWER
MEASUREMENT QUESTIONS FOR
EACH CHALLENGE**