

DESIGN AN OBSTACLE RACE COURSE

name _____

DESIGN AN OBSTACLE RACE COURSE

The city council needs to find a way to draw in more tourists into your town. They have seen how popular obstacle races are and would like to try to make one. They are asking that students design and create models of their own that have the entire course mapped out, including obstacles. They are looking for ideas that showcase creativity and imagination, while meeting the requirements listed below.

REQUIREMENTS

- The course must have an **ENTRANCE**. This must be at least 500 units squared.
- You need at least 8 **OBSTACLES**. These must be at least 1,000 units squared.
- The **COURSE** must go through all obstacles. You will find the area/perimeter of the course once the entire race area is complete.
- One **STARTING LINE**. It must be at least 800 units squared.
- One **FINISH LINE**. It must be at least 800 units squared.
- WARM UP AREA. It must be at least 1,000 units squared.
- The **RACE** must have at least one **REGISTRATION CENTER**. It must be at least 900 units squared.
- One **HEALTH AID** station. It must be at least 1,000 units squared.
- Three **HYDRATION STANDS** along the course. They must be at least 300 units squared.
- There must be at least four (4) **BATHROOMS** located on the property.
- You need at least two **GIFT SHOPS**. They must be at least 400 units squared each.
- You must create a map/legend on a separate page.

You will have 50,000 units of land to build your amazing obstacle race course

OBSTACLE RACE COURSE BLUEPRINTS

example page

1 square = 100 units squared 1 side of a square = 10 units of distance

STARTING LINE

MUD PIT

BARB WIRE CRAWL

LOG ROLL

FINISH LINE

The **MUD PIT** is 4 squares in length and 2 wide. This means it is a 10 units by 10 units.

The **BARB WIRE CRAWL** is 4 squares by 2 squares.

What are the dimensions of the **LOG ROLL**?

What is the Perimeter?

What is the Area?

It has a perimeter of 60 UNITS

It has an area of 100 UNITS squared

Create a race name, logo, tagline, and finisher medal.

RACE NAME

SLOGAN A slogan is a motto or memorable phrase.

LOGO

FINISHER MEDAL

A logo is a symbol or design to identify products or businesses.

Many times a logo is part of the medals.

Obstacle & Course Running the Numbers

Find total AREA of space the course took up.
Only include the 1000 portions on course.

How much space did you have left to use on your course?

DESIGN AN OBSTACLE RACE COURSE

Show your work.

OBSTACLE RACE COURSE To-Do List

First	Create an official name, design a logo, and tagline for your race. Then draw the logo on the flag on the first page and design the cover.
Second	Use your CHECKLIST and OBSTACLE pages to prepare creating your rough draft.
Third	Design a rough draft of your race.
Fourth	Find area and perimeter of each item on the race course and field. Make sure they meet requirements.
Fifth	Create the final version of your race. Make sure you add color and details.
Sixth	Develop a Map Key/Legend.
Seventh	OPTIONAL: Design and build your obstacles in a three dimensional format.
Eighth	OPTIONAL: Complete UP CLOSE in-class.
Ninth	Turn into your TEACHER (the city council) for final approval.

RACE COURSE: Rough Draft

1 square = 100 square units 1 side of a square = 10 units of distance

OBSTACLE RACE COURSE LOCATIONS

List the area and perimeter for the locations on the course below.

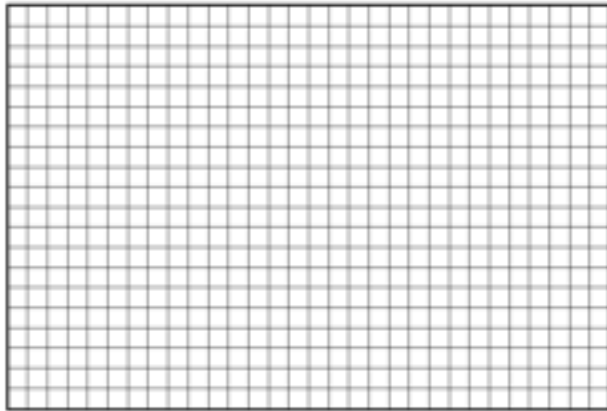
Race Course Locations	AREA	PERIMETER
Race Entrance		
Starting Line		
Race Line		
Warm Up Area		
Health Aid Station		
3 Hydration Stands		
2 Gift Shops		
4 Bathrooms		
Registration Center		
Race Course		

RACE COURSE OBSTACLES

List the area and perimeter for each obstacle on the race course.

Obstacle Name	AREA	PERIMETER
1		
2		
3		
4		
5		
6		
7		
8		

OBSTACLE RACE COURSE FINAL VERSION



The Obstacles

As you create your race course you will need to think of some obstacles that participants will need to complete. Below are 20 to choose from, or you can make up your own.

barb wire crawl	wall climb	sandbag carry	balance beam
fire jump	mud crawl	jump ropes	over the hay bales
rope climb	monkey bars	canoe bridge walk	over/under beams
fire drag	hurdles	mud hill	spider web crawl
sandbag carry	arctic water pit	rope climb/swing	log carry

It's okay if some of your obstacles are fun and funny. That's what makes a good race. Just make sure that the obstacles can be conquered. You don't want to make something that NO ONE would be able to pass.

After you choose 8 obstacles, list them on the checklist. Then add them to your race course on your rough draft.

Obstacle & Course UP CLOSE

Create final version.



CUT along dark line. FOLD along thin black line to help it stand.

OBSTACLE RACE COURSE Checklist

RACE OBSTACLES

Obstacle Name	Plot line at least 1,000 sq. units
1	
2	
3	
4	
5	
6	
7	
8	

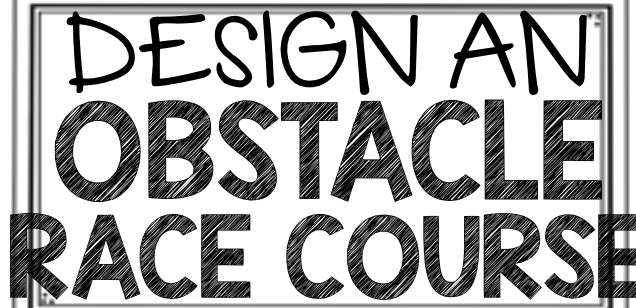
CITY COUNCIL REQUIREMENTS

EXTRAS	area minimum size	Once when completed
Race Entrance	500 square units	
Starting Line	800 square units	
Finish Line	800 square units	
Warm-Up Area	1,000 square units	
Health Aid Station	900 square units	
1 Hydration Station	300 square units	
2 Bath Stalls	300 square units	
1 Restroom	200 square units	
Registration Center	1,000 square units	
Race Course		
Map Key/Legend		

RACE COURSE: Map Key & Legend Rough Draft

When making a legend use symbols and colors to identify the location on your map.

Example: Use a black box to identify the aid station.



Use a variety of colors, symbols, and shapes to create your map key. For a more detailed look, try and create designs that look realistic.

Obstacle & Course Running the Numbers

What part of this project did you find to be the most difficult? Why?

After seeing completing this project, what would you do differently next time. Why?

OBSTACLE RACE COURSE Extras

List the area and perimeter for any extra items you added on the course.

Location	AREA	PERIMETER

Running the Numbers

Create area or perimeter word problems based on the your course. Then give your problems to another student for them to solve.

1. _____

SOLVE

2. _____

SOLVE

3. _____

SOLVE

4. _____

SOLVE

Obstacle & Course UP CLOSE

Take this time and highlight some of your favorite obstacles on the course. Using this 3-frame layout, highlight a single obstacle (or more) with specific details. Once you have completed it, cut it out and lightly fold on the lines to showcase it with your race course.

If you don't want to focus on the individual obstacles, you may highlight the race. Think about including the logo and race name to create a pamphlet or gigantic poster that could be seen on the race.

Examples could include...

<ul style="list-style-type: none"> -Close Up Photo -Stats -Logo -Quote -Sponsors 	<ul style="list-style-type: none"> -Obstacle Name -Race Name -Established -Race Location 	<ul style="list-style-type: none"> -Number of Participants -Inspirational Quotes -Drawing of Obstacle -Picture of the Medal
---	--	---

Obstacle Race Course

When you have completed step 1-5, this is what your race course could look like. Just remember that your version might look completely different. There are unlimited ideas.



It's important that you take your time designing and creating the race.

Obstacle Race Course

You can make more than just the obstacles!



Design the entrance or another part of the race. Flags, bleachers, and fences are just a couple of options.

Obstacle Race Course

Overview



This is a completed version of an obstacle course.

Obstacle Race Course

You can make more than just the obstacles!



Can you find the fences? They just add an extra touch or realism.

DESIGN AN OBSTACLE RACE COURSE

Obstacle Race Course

After you have completed the first six steps, you may begin to build the 3D portions. Below are some examples.



Obstacle Race Course

See how the 3D obstacles match the sizes on the paper? Try to match those as best as you can.



Using the provided graph paper will help you with your design.

Obstacle Race Course



Obstacle Race Course



Design An Obstacle Course

Students will be creating and designing an obstacle course while applying their knowledge of area and perimeter. This project based learning activity applies many academic skill areas to create a unique learning opportunity that will completely vary between each student. No single project will be the same.

Students will be required to follow checklists, create blue prints, incorporate map skills, reflect/edit, and apply a multitude of skills to complete this activity.

Even after students have finished designing their courses they will be able to incorporate STEM skills by developing three dimensional designs of their course and obstacles.

There are TWO versions of this project to fit the multiple levels of learners for classrooms. The key difference is the amount of multiplication and size of the unit numbers in each project (50,000 to 500). No matter which version you choose for your students (or if you mix and match), the PBLs look almost identical.

Each student can have their own packet and work at their own rate (or they can do this in groups). Packets can be stapled or bound to create a design booklet. On the following page is a list of pages and how they can be divided up.

Design An Obstacle Course focuses on many aspects of math (area, perimeter, fact fluency), along with collaborating with peers, evaluating and reflecting their own work, problem solving, and even presenting their finding at the end of the project.

Table Of Contents

Pages 7-23	Regular Version	50,000 square units used. Each unit equals 10. Course has specific requirements (size) that must be met. More multiplication required.
Pages 24-41	Differentiated Version (lower)	500 square units used. Each unit equals 1. Course has requirements (items, not size) that must be met. Then they find the area and perimeter AFTER they have created it.
Pages 42-45	Building Obstacles	This includes instructions and ideas for creating three-dimensional obstacles from your course.
Pages 46-48	Up Close	Create miniaturized posters that promote the course or obstacles.
Pages 49-54	Running the Numbers	These take the numbers a little bit farther. Students find total A&P of obstacles, how much free space, and answer other questions to maximize their course. This can be used for both versions.
Pages 55-57	Rubrics	Included are two versions of rubrics. There is the traditional and a single-point. These can be applied to either project version that you choose.
Pages 58-66	Images	Photos of a finished race course with images of 3D creations that have been put on the course. This can be projected for students to see.

DESIGN AN OBSTACLE RACE COURSE

Climbing over rope walls, crawling through the mud, and jumping over burning flames. These are just some of the obstacles people face when they sign up for races. These days, people don't just want to run a 5K or go for a jog, they want to blast through an obstacle race course! Racers want to face challenges they can conquer.

These races and courses don't just happen over night. They take months to plan and design. Most courses need to be big enough to hold thousands of participants and have a course that challenges everyone.

In this project, you will be designing your own OBSTACLE RACE COURSE. You are the creator that decides the route, obstacles, and incredible challenges that participants will face.

You will work carefully through each section designing blueprints, working out the kinks, and making sure your entire course is perfect. Oh yeah--you'll also be using area and perimeter to create it all--because math is everywhere!

Are you ready for the ultimate challenge?



DESIGN AN **OBSTACLE RACE COURSE**

«—————»
name

DESIGN AN OBSTACLE RACE COURSE

The city council needs to find a way to draw in more tourists into your town. They have seen how popular obstacle races are and would like one. They are asking that students design race courses of their own, including all the obstacles. It's time to showcase your math skills with a little creativity and imagination. Just make sure you are meeting the requirements listed below.

REQUIREMENTS

- The course must have an ENTRANCE. This must be at least 500 units squared.
- You need at least 8 OBSTACLES. These must be at least 1,000 units squared.
- The COURSE must go through all obstacles. You will find the area/perimeter of the course once the entire race area is complete.
- One STARTING LINE. It must be at least 800 units squared.
- One FINISH LINE. It must be at least 800 units squared.
- WARM UP AREA. It must be at least 1,000 units squared.
- The race must have at least one REGISTRATION CENTER. It must be at least 900 units squared.
- One HEALTH AID station. It must be at least 1,000 units squared.
- Three HYDRATION STANDS along the course. They must be at least 300 units squared.
- There must be four (4) BATHROOMS located on the property. They must be 200 units squared each.
- You need at least two GIFT SHOPS. They must be at least 400 units squared each.
- You must create a map key/legend on a separate paper.

You will have 50,000 units of land to build your amazing obstacle race course

OBSTACLE RACE OBJECTIVES

1. Understand and apply area and perimeter accurately and explain how it is was used in the project.
2. Provide the area and perimeter for everything included on your course.
-You will be using UNITS (perimeter) and SQUARE UNITS (area). It could also be called UNITS SQUARED.
3. Follow the provided checklist to complete steps one through six. The rest of the steps are up to you!
4. Describe how math is used in real-world situations (example: this race course).
5. Increase collaboration with peers. This could be working with a partner, asking others to give feedback, or comparing ideas.

Questions to ask yourself as you create...

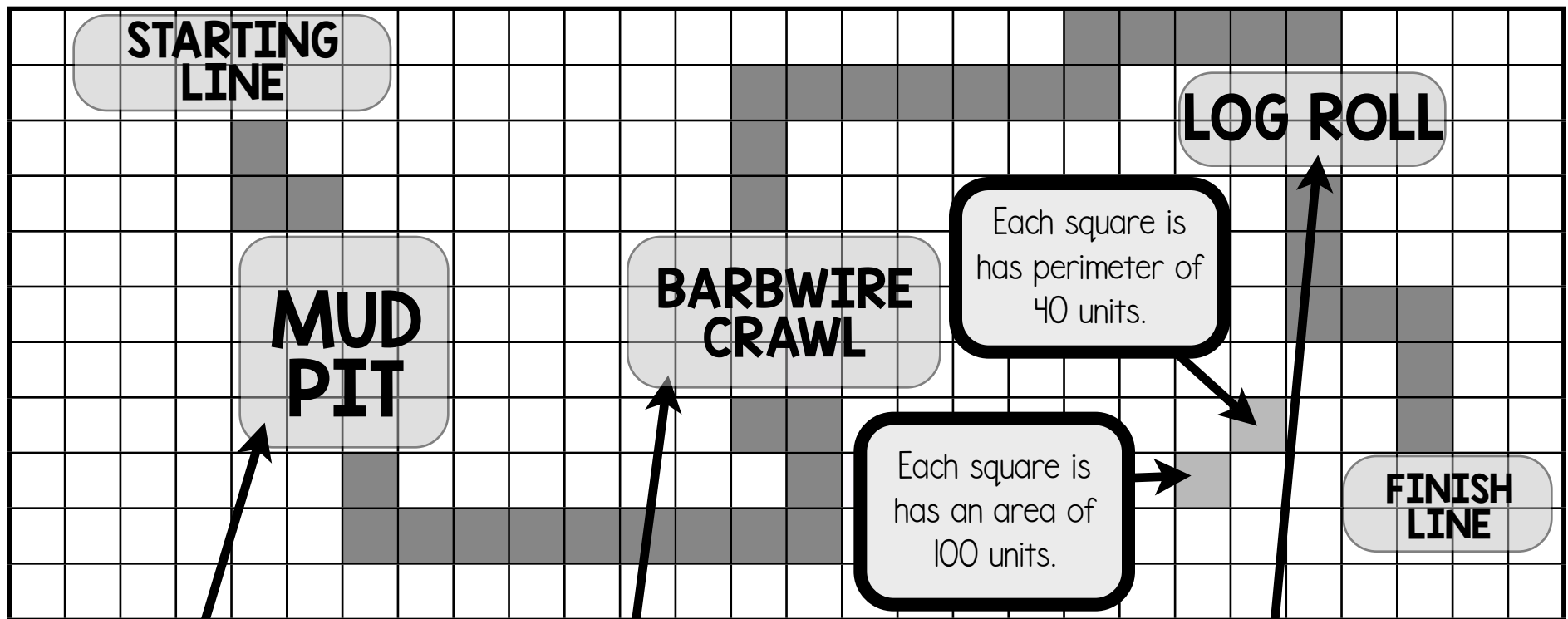
- Is this a safe idea?** Jumping over alligators is pretty cool...but what happens if someone falls.
- Is this realistic?** Just because it is awesome, doesn't mean it will work. Think it out.
- Does this make sense?** Ideas might seem great...and then they're not. Work them out in the rough draft.

OBSTACLE RACE COURSE BLUEPRINTS

example page

1 square = 100 units squared

1 side of a square = 10 units of distance



The MUD PIT is 4 squares in length and width (4x4). This means it is 40 units by 40 units.

It has a perimeter of 160 UNITS

It has an area of 1,600 UNITS squared.

The BARBWIRE CRAWL is 6 squares by 3 squares.

What is the Perimeter?

What is the Area?

What are the dimensions of the LOG ROLL?

What is the Perimeter?

What is the Area?

OBSTACLE RACE COURSE

To-Do List

		completed
First:	Create an official race name. Design a logo and slogan. Then draw the logo on the flag on the first page and design the cover.	
Second:	Use your CHECKLIST and OBSTACLE pages to prepare creating your rough draft.	
Third:	Design the rough draft of your race course.	
Fourth:	Find area and perimeter of each item on the race course and field. Make sure they meet requirements.	
Fifth:	Create the final version of your race. Make sure you add color and details!	
Sixth:	Develop a Map Key/Legend.	
Seventh:	OPTIONAL: Design and build your obstacles in a three dimensional format.	
Eighth:	OPTIONAL: Complete UP CLOSE and RUNNING THE NUMBERS.	
Ninth:	Turn in to your TEACHER (the city council) for final approval!	

Create a race name, logo, slogan, and finisher medal.

RACE NAME

SLOGAN A slogan is a motto or memorable phrase.

Design the official race logo.

LOGO

Many times a logo is part of the medals.

FINISHER MEDAL

A logo is a symbol or design to identify products or businesses.

The Obstacles

As you create your race course you will need to think of some obstacles that participants will need to complete. Below are 20 to choose from or you can make up your own.

barb wire crawl	wall climb	maze	balance beam
fire jump	mud crawl	jump ropes	over the hay bales
rope climb	monkey bars	cargo bridge walk	over-under beams
tire drag	hurdles	mud hill	spider web crawl
sandbag carry	arctic water pit	rope climb/swing	log carry

It's okay if some of your obstacles are fun and funny, that's what makes a good race. Just make sure that the obstacles can be conquered. You don't want to make something that NO ONE would be able to pass.

After you choose 8 obstacles, list them on the checklist.
Then add them to your race course on your rough draft.

OBSTACLE RACE COURSE Checklist

RACE OBSTACLES

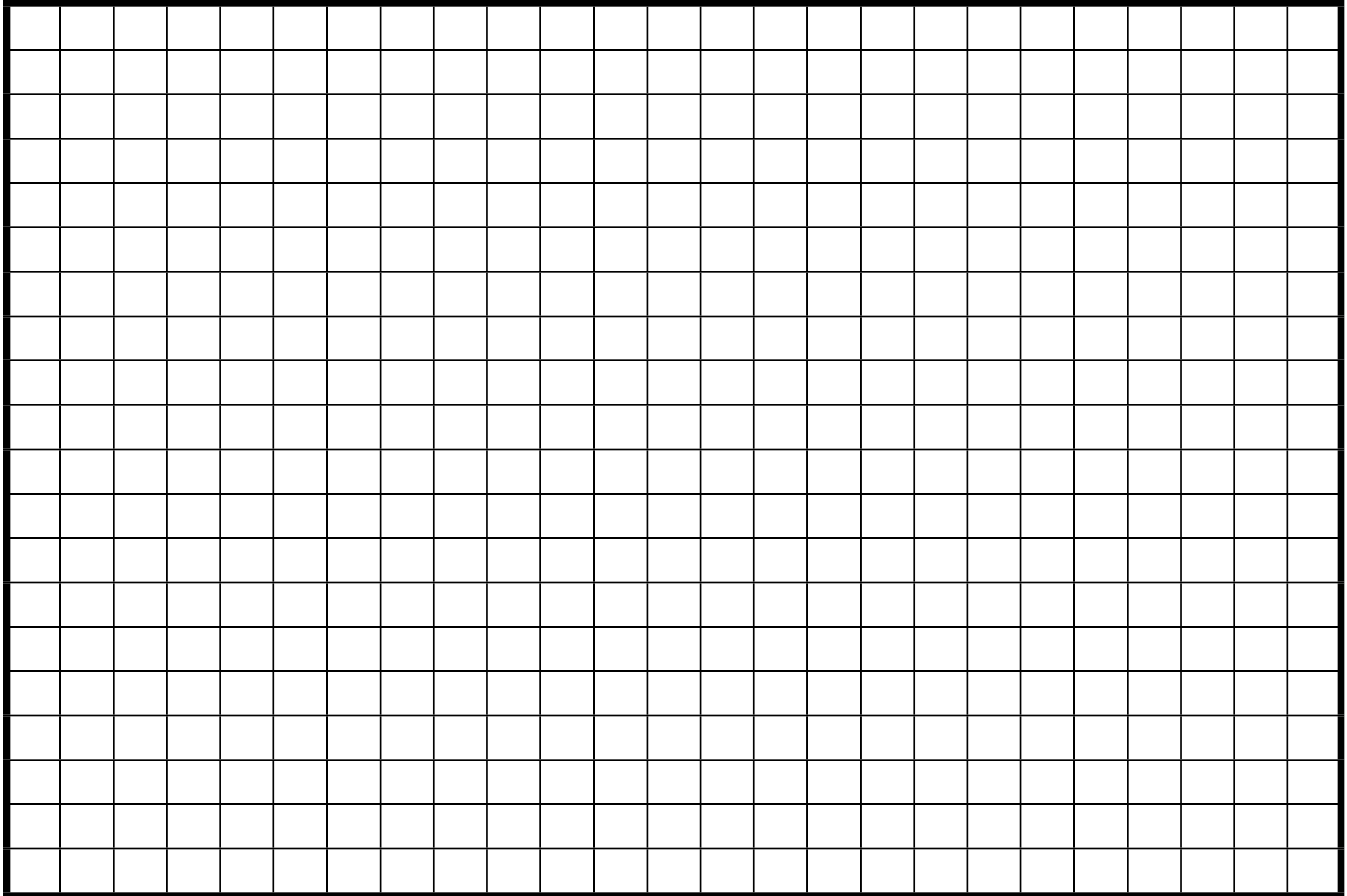
Obstacle Name	Must be at least 1,000 Sq. UNITS
1	
2	
3	
4	
5	
6	
7	
8	

CITY COUNCIL REQUIREMENTS

EXTRAS and minimum size	Check when completed.
Race Entrance: 500 square units	
Starting Line: 800 square units	
Finish Line: 800 square units	
Warm Up Area: 1,000 square units	
Health Aid Station: 900 square units	
3 Hydration Stands: 300 square units	
2 Gift Shops: 500 square units	
4 Bathrooms: 200 square units	
Registration Center: 1,100 square units	
Race Course	
Map Key/Legend	

RACE COURSE: Rough Draft

1 square = 100 square units 1 side of a square = 10 units of distance



RACE COURSE OBSTACLES

Find and list the area and perimeter for each obstacle on the race course.

Obstacle Name	AREA	PERIMETER
1		
2		
3		
4		
5		
6		
7		
8		

OBSTACLE RACE COURSE LOCATIONS

Find and list the area and perimeter for the locations on the course below.

Race Course Locations	AREA	PERIMETER
Race Entrance		
Starting Line		
Finish Line		
Warm Up Area		
Health Aid Station		
3 Hydration Stands		
2 Gift Shops		
4 Bathrooms		
Registration Center		
Race Course		

OBSTACLE RACE COURSE

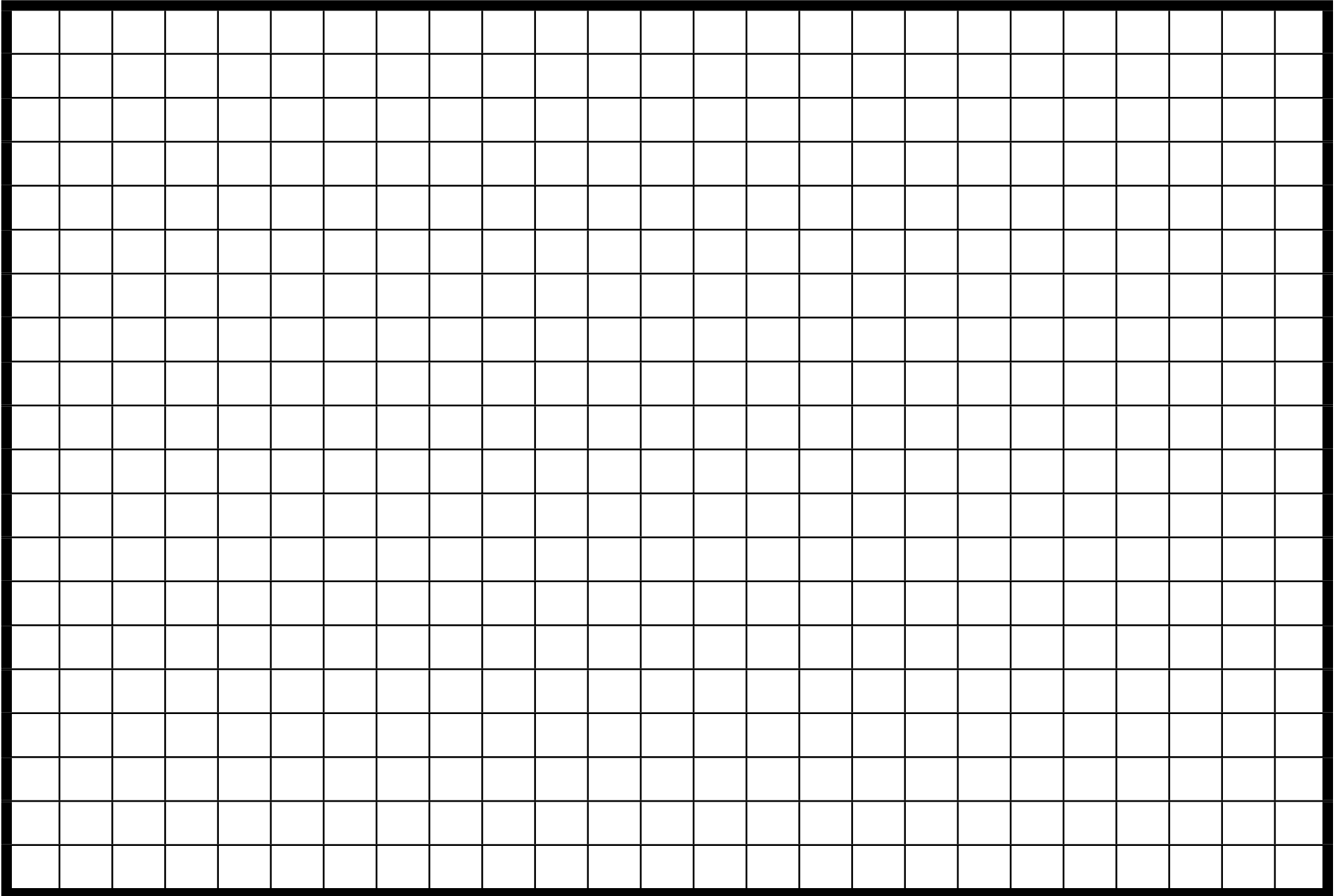
Extras

Find and list the area and perimeter for any extra items you added on the course.

Location	AREA	PERIMETER

OBSTACLE RACE COURSE

FINAL VERSION

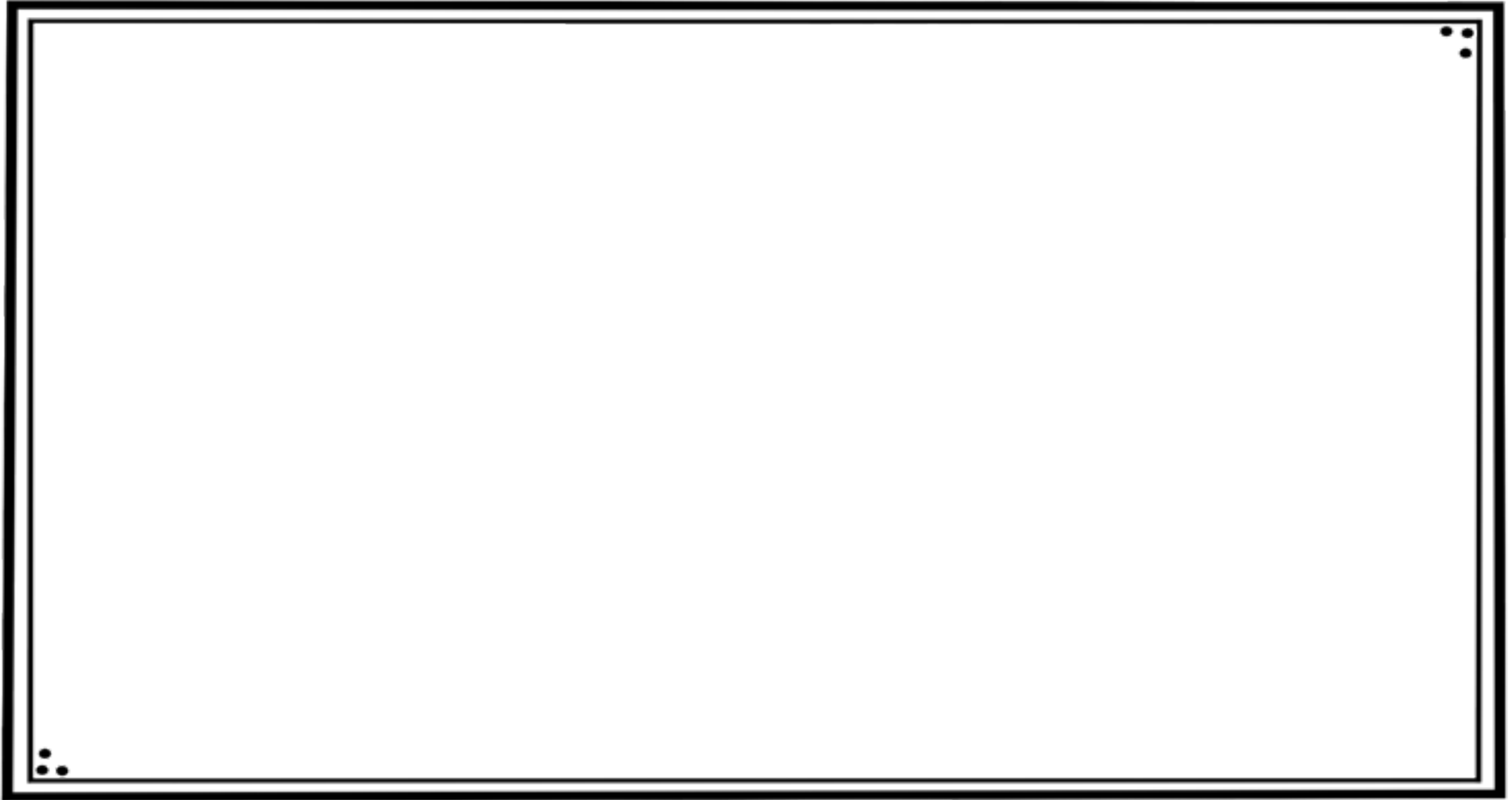


RACE COURSE: Map Key & Legend

Rough Draft

When making a legend use symbols and colors to identify the location on your map.

Example: You could use a star ★ to identify the AID STATION.

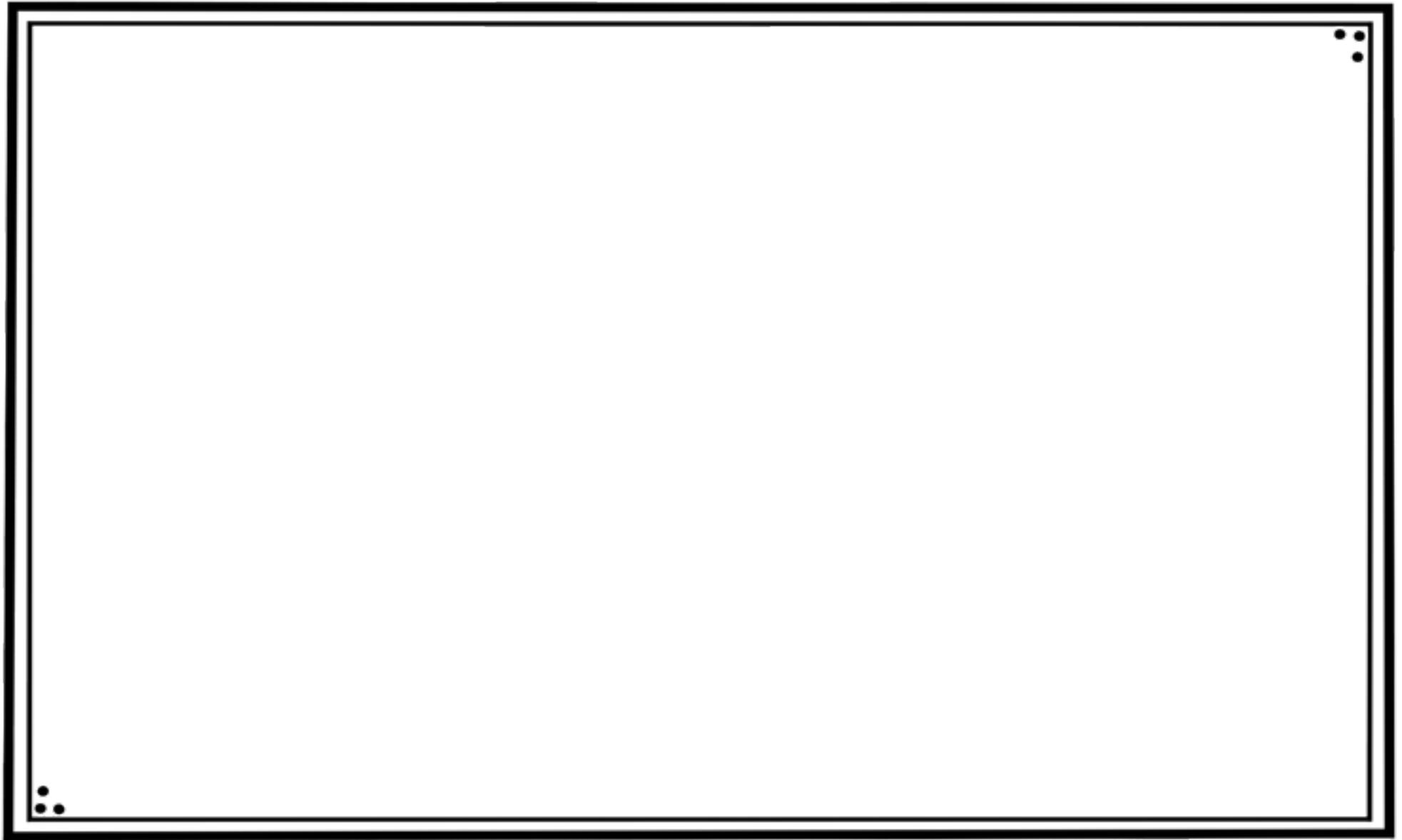


Use a variety of colors, symbols, and shapes to create your map key.

RACE COURSE

Final Version

Map Key & Legend



Show Your Work

Use this area to show any scratch work you've completed.

OBSTACLE RACE COURSE

Second Version

The following packet is a differentiated version that can be used in place of the original one. It looks almost completely the same, but does not have the set rules and expectations regarding area and perimeter (where buildings must be a certain area). This version could be used for students just learning about area and perimeter, but might not have the math/multiplication skills needed.

Instead, this asks students to design the race course by: FIRST, including the requirements --and THEN figure out the area and perimeter of shapes/buildings that they made at the end.

On the graphing paper each square is only worth 1 square unit (as opposed to 10 square units on the other version). This allows for students to still understand and apply the concept of area and perimeter.

This version LOOKS ALMOST THE EXACT SAME as the standard version. Students next to each other might not even realize they have different versions.

DESIGN AN OBSTACLE RACE COURSE

Climbing over rope walls, crawling through the mud, and jumping over burning flames. These are just some of the obstacles people face when they sign up for races. These days, people don't just want to run a 5K or go for a jog, they want to blast through an obstacle race course! Racers want to face challenges they can conquer.

These races and courses don't just happen over night. They take months to plan and design. Most courses need to be big enough to hold thousands of participants and have a course that challenges everyone.

In this project, you will be designing your own OBSTACLE RACE COURSE. You are the creator that decides the route, obstacles, and incredible challenges that participants will face.

You will work carefully through each section designing blueprints, working out the kinks, and making sure your entire course is perfect. Oh yeah--you'll also be using area and perimeter to create it all--because math is everywhere!

Are you ready for the ultimate challenge?



DESIGN AN **OBSTACLE RACE COURSE**

«————»
name

DESIGN AN OBSTACLE RACE COURSE

The city council needs to find a way to draw in more tourists into your town. They have seen how popular obstacle races are and would like one. They are asking that students design race courses of their own, including all the obstacles. It's time to showcase your math skills with a little creativity and imagination. Just make sure you are meeting the requirements listed below.

Other REQUIREMENTS

- The course must have an ENTRANCE.
- You need at least SIX (6) OBSTACLES.
- The RACE COURSE must go through all obstacles.
- One STARTING LINE.
- One FINISH LINE.
- You must have a WARM UP AREA.
- The race must have at least one REGISTRATION CENTER.
- One HEALTH AID station.
- Three HYDRATION STANDS along the course.
- There must be at least TWO (2) BATHROOMS located on the property.
- You need at least TWO (2) GIFT SHOPS.
- You must create a map key/legend on a separate paper.

You will have **500 square units** of land to build your amazing obstacle race course

OBSTACLE RACE OBJECTIVES

1. Understand and apply area and perimeter accurately.
2. Explain how area and perimeter is used in the project.
3. Complete checklist (Steps 1-6). The rest of the steps are up to you.
4. Describe how math is used in real-world situations (such as obstacles courses).
5. Collaborate with peers to solve problems, come up with ideas, and get feedback on your work.

Questions to ask yourself as you create-

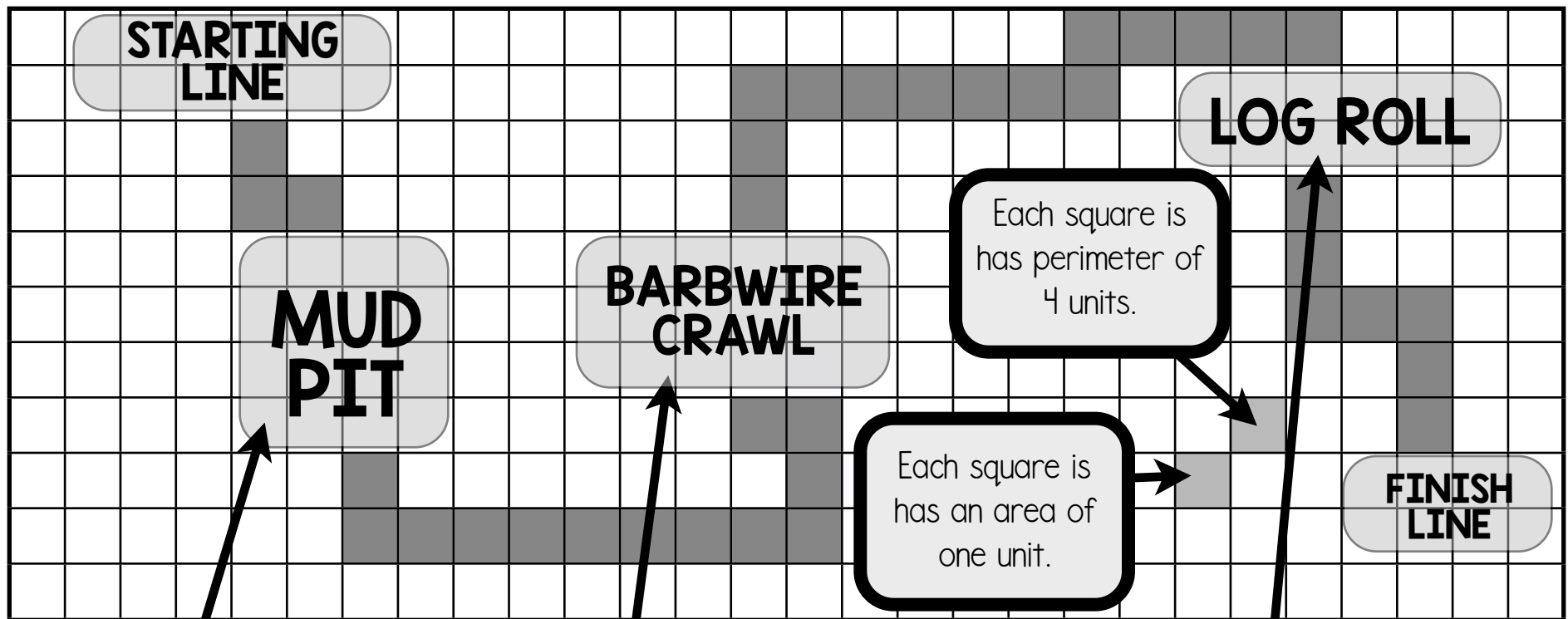
- Is this a safe idea?** Jumping over alligators is pretty cool...but what happens if someone falls?
- Is this realistic?** Just because it is awesome, doesn't mean it will work. Think it out.
- Does this make sense?** Ideas might seem great...and then they're not. Work them out in the rough draft.

OBSTACLE RACE COURSE BLUEPRINTS

Example Page

1 square = 1 unit squared

1 side of a square = 1 units of distance



The MUD PIT is 4 squares in length and width . This means it is 4 units by 4 units or 4×4 .

It has a perimeter of 16 UNITS

It has an area of 16 UNITS squared.

The BARBWIRE CRAWL is 6 squares by 3 squares.

What is the Perimeter?

What is the Area?

What are the dimensions of the LOG ROLL?

What is the Perimeter?

What is the Area?

OBSTACLE RACE COURSE

To-Do List

		completed
First:	Create an official race name. Design a logo and slogan. Then draw the logo on the flag on the first page and design the cover.	
Second:	Use your CHECKLIST and OBSTACLE pages to prepare as you begin the rough draft.	
Third:	Design a rough draft of your race.	
Fourth:	Find the area and perimeter of each item on the race course using the provided sheets. Don't forget to name all of your obstacles.	
Fifth:	Create the final version of your race.	
Sixth:	Develop a Map Key/Legend.	
Seventh:	OPTIONAL: Design and build your obstacles in a three dimensional format.	
Eighth:	OPTIONAL: Complete UP CLOSE and RUNNING THE NUMBERS.	
Ninth:	Turn in final project to your TEACHER (the city council) for final approval!	

Create a race name, logo, slogan, and finisher medal.

RACE NAME

SLOGAN A slogan is a motto or memorable phrase.

Design the official race logo.

LOGO

Many times the logo is part of the medal.

FINISHER MEDAL

A logo is a symbol or design to identify products or businesses.

The Obstacles

As you create your race course you will need to think of some obstacles that participants will need to complete. Below are 20 to pick from or you can make up your own.

barb wire crawl	wall climb	maze	balance beam
fire jump	mud crawl	jump ropes	over the hay bales
rope climb	monkey bars	cargo bridge walk	over-under beams
tire drag	hurdles	mud hill	spider web crawl
sandbag carry	arctic water pit	rope climb/swing	log carry

It's okay if some of your obstacles are fun or funny. That's what makes a good race. Just make sure that the obstacles can be conquered. You don't want to make something that NO ONE would be able to pass.

After you choose 6 obstacles, list them on the checklist.
Then add them to your race course on your rough draft.

OBSTACLE RACE COURSE Checklist

Use this checklist to create your race course rough draft on the following page.

RACE OBSTACLES

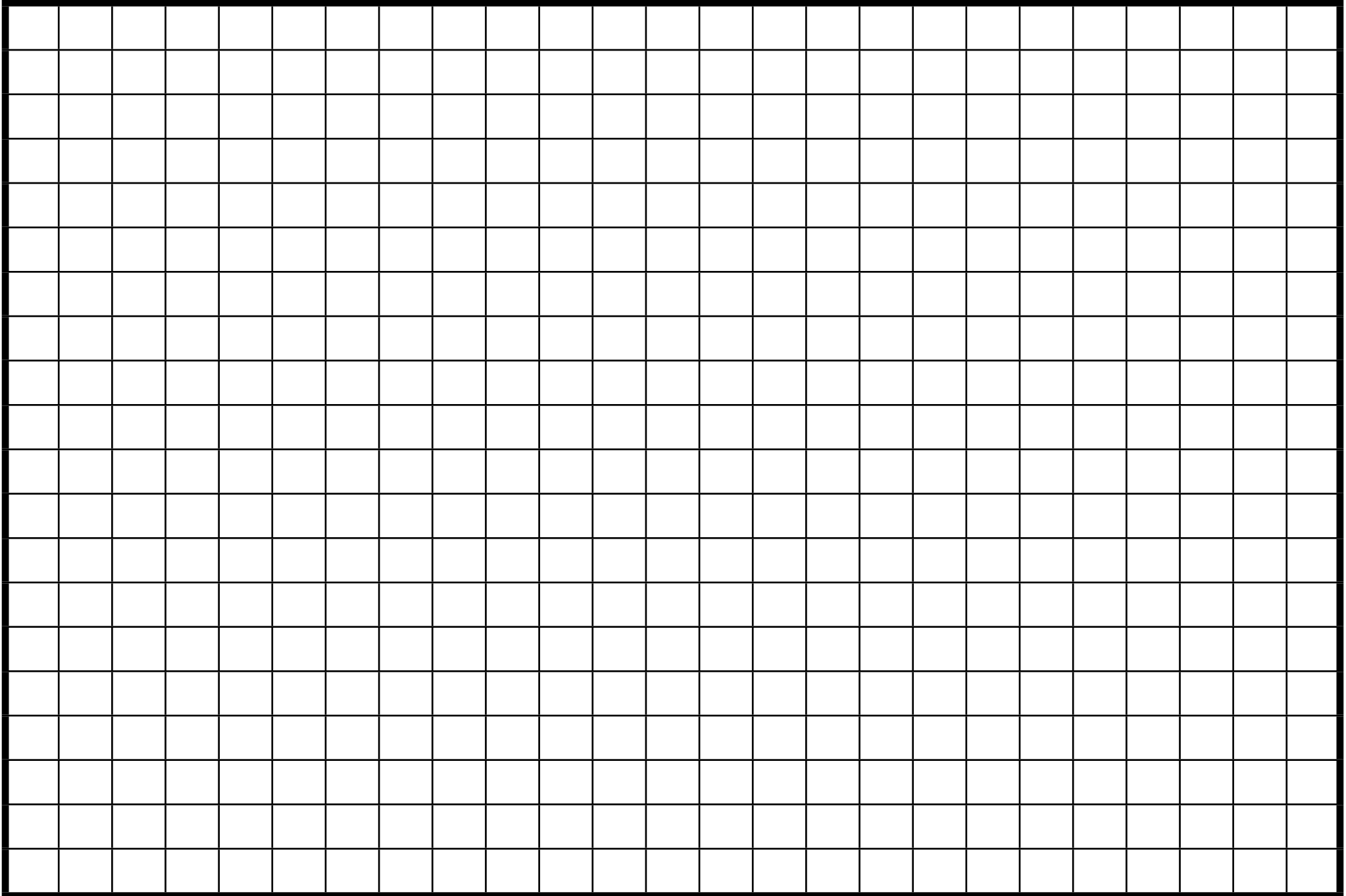
Obstacle Name	Check off when completed.
1	
2	
3	
4	
5	
6	

CITY COUNCIL REQUIREMENTS

EXTRAS and minimum size	Check when completed.
Race Entrance	
Starting Line	
Finish Line	
Warm Up Area	
Health Aid Station	
Three Hydration Stands	
Two Gift Shops	
Two Bathrooms	
Registration Center	
Race Course	

RACE COURSE: Rough Draft

1 square = 1 square units 1 side of a square = 1 units of distance



RACE COURSE OBSTACLES

Find the area and perimeter for each obstacle on the race course that you created.

Obstacle Name	AREA	PERIMETER
1		
2		
3		
4		
5		
6		
7		
8		

OBSTACLE RACE COURSE LOCATIONS

Find the area and perimeter for the locations on your course. Enter the answers below.

Race Course Locations	AREA	PERIMETER
Race Entrance		
Starting Line		
Finish Line		
Warm Up Area		
Health Aid Station		
3 Hydration Stands		
2 Gift Shops		
4 Bathrooms		
Registration Center		
Race Course		

OBSTACLE RACE COURSE

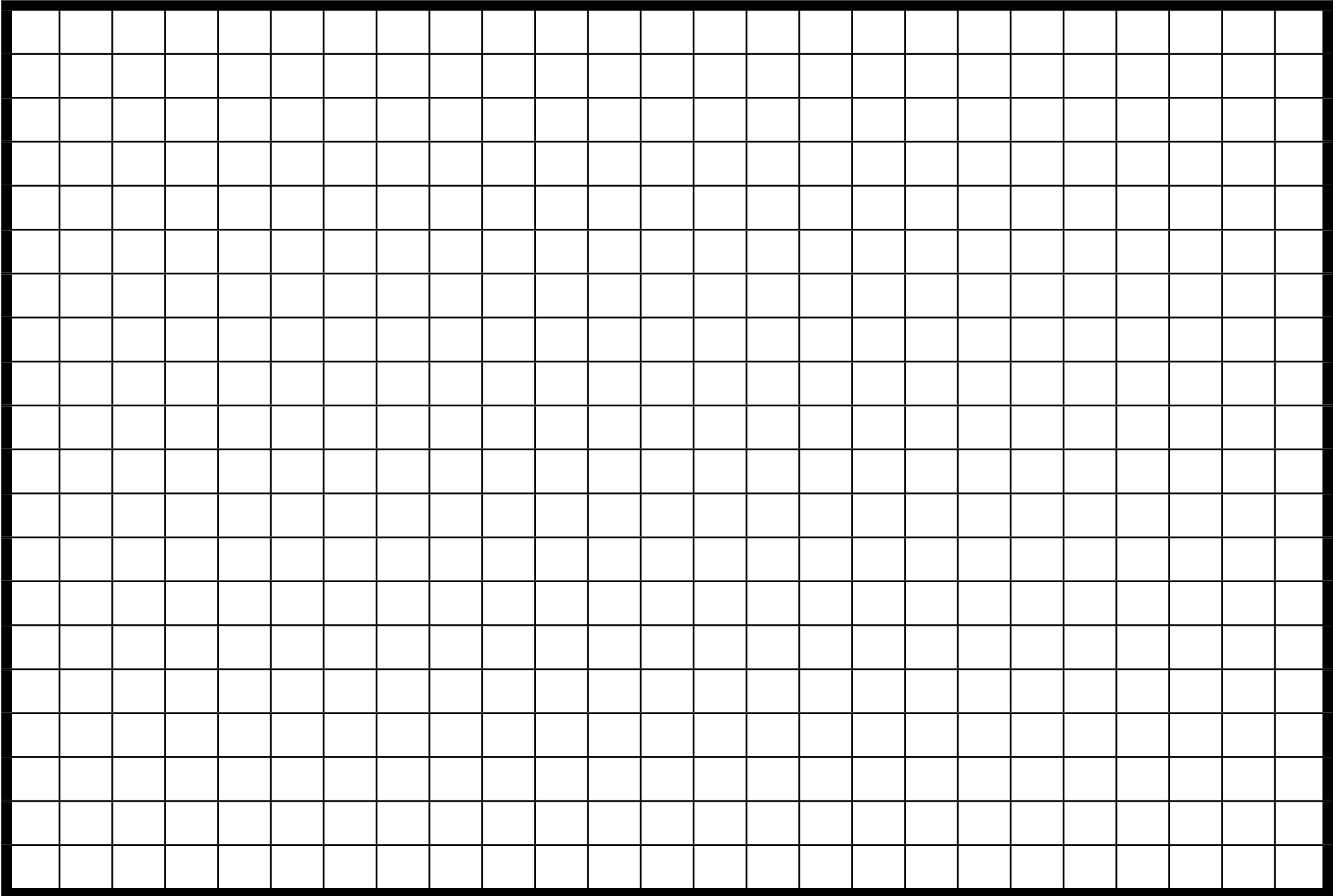
Extras

List the area and perimeter for any extra items you added on the course.

Location	AREA	PERIMETER

OBSTACLE RACE COURSE

FINAL VERSION

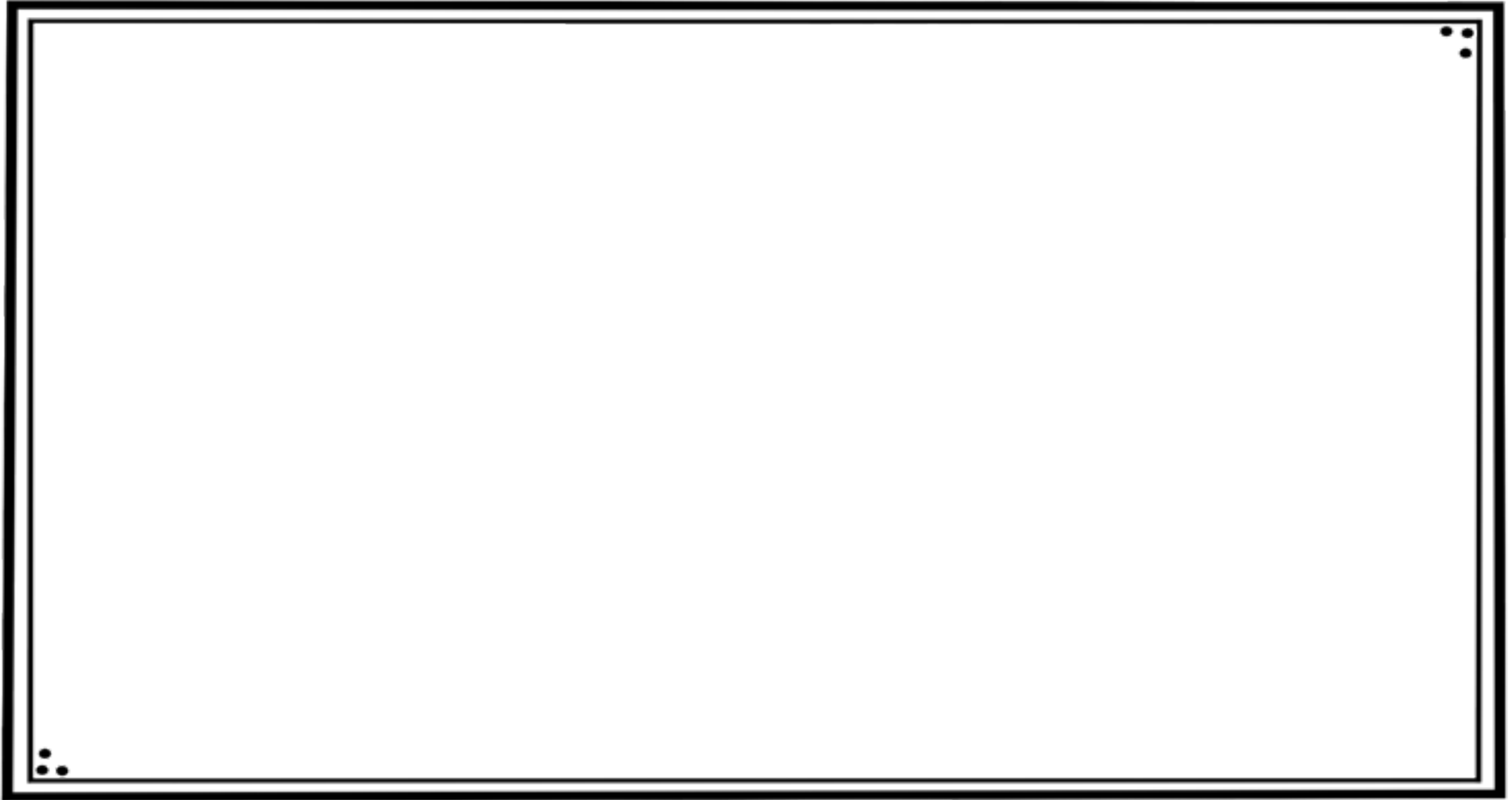


RACE COURSE: Map Key & Legend

Rough Draft

When making a legend use symbols and colors to identify the location on your map.

Example: You could use a star  to identify the AID STATION.

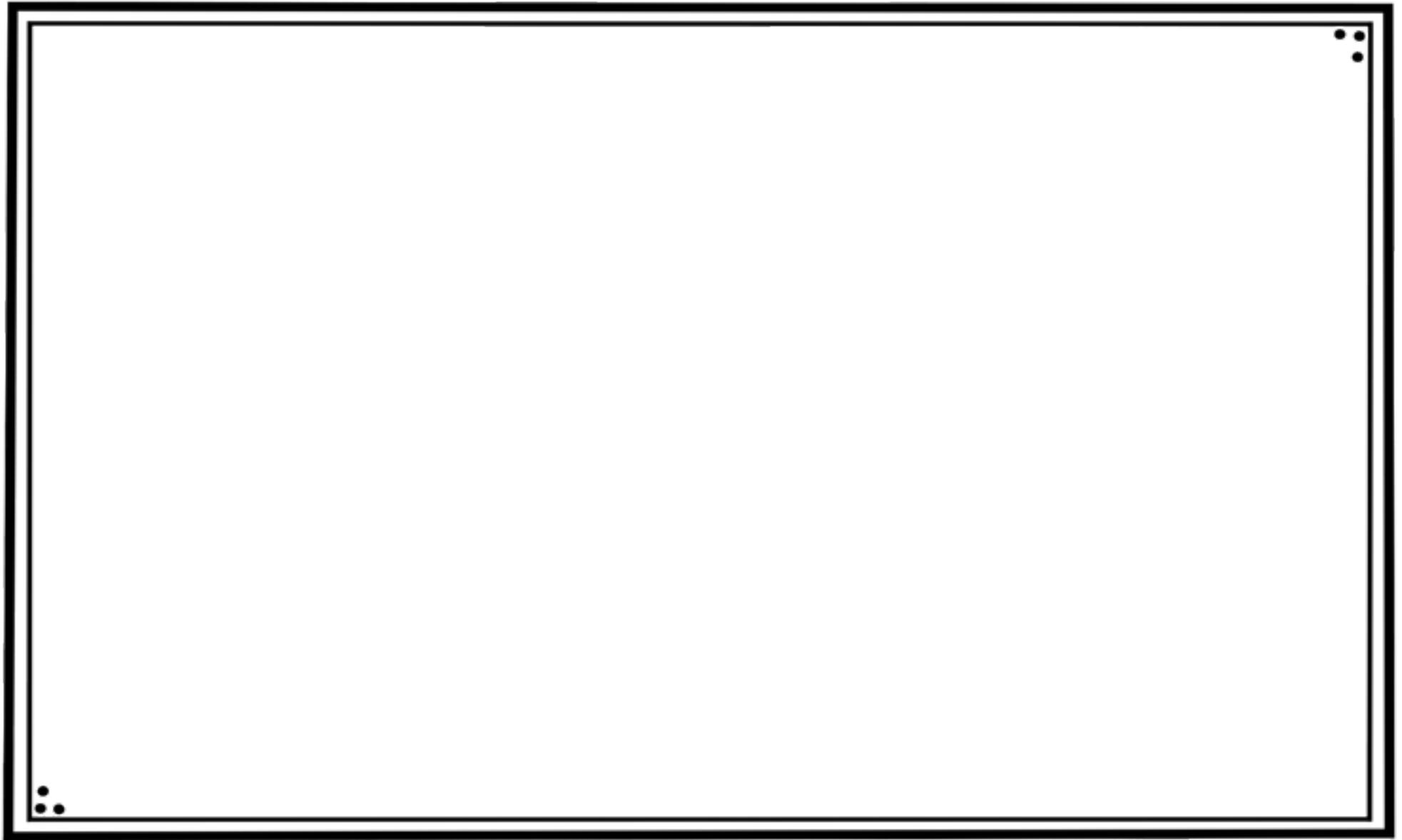


Use a variety of colors, symbols, and shapes to create your map key.

RACE COURSE

Final Version

Map Key & Legend



Show Your Work

Use this area to show any scratch work you've completed.

Building Obstacles

Designing the race course is only part of the plan.

Create miniature versions of the race obstacles and other locations.

Below are some ideas to help you get started.

GRAPH PAPER

Included are two sheets of graph paper. You can cut out and design shapes to create the obstacles.

Before you cut out, create a rough draft of your ideas to make sure it will work.

RECYCLE BIN

Check the recycle bin for extra paper and supplies to build obstacles.

You won't need tons of supplies. Just small pieces that will work well for the small obstacles.

String, cardboard, and pipe cleaners work well.

COLLABORATE

Building 3D versions of obstacles can be tough. Use your classmates to help you out OR help your classmates out.

This is a good chance to solve problems and work together. You will have your own unique course to show off your hard work.

Don't limit yourself to just the obstacles! Create 3D items for as many portions of the race course as you want.

Building Obstacles

Build your obstacle by creating three dimensional shapes.
Use two provided graphing sheets with furniture included or create your own.

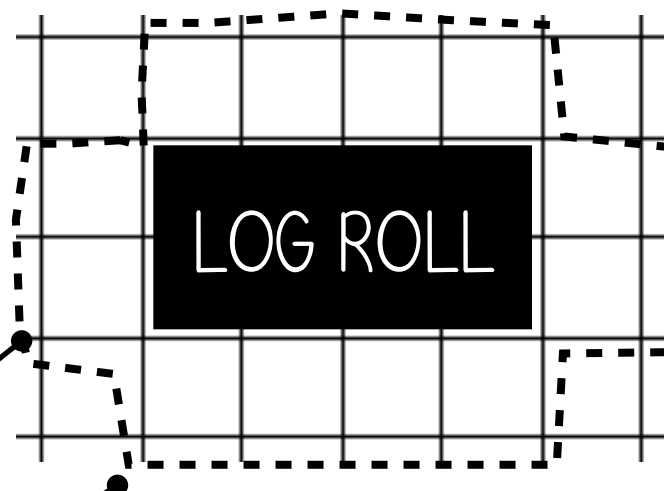
FIRST: Make sure your obstacle size matches what you put on the course. You don't want it to be too big.

SECOND: 3D (three dimensional) means you'll have to design on all the sides. Minecraft and LEGOS are good examples.

THIRD: Don't cut out the net until you are sure you have enough. Map out what you need.

FOURTH: Tape your shapes together OR just fold down the sides. You shouldn't have to use glue--but you can.

FIFTH: DON'T get discouraged! This is a very difficult element of design. It will take you a while to master it...but you can do it!

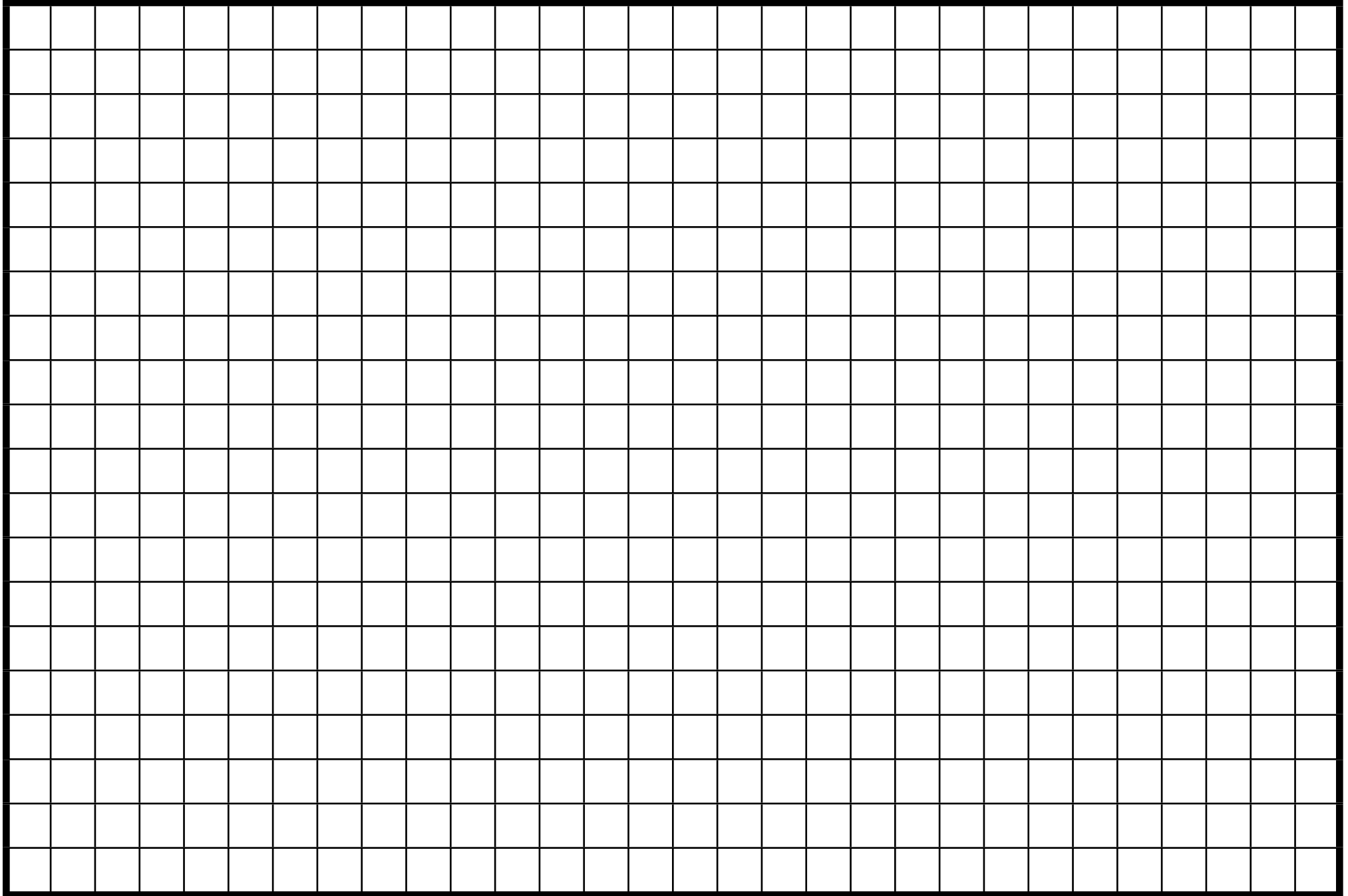


For this LOG ROLL Obstacle, I would cut out around the dotted line. After that, color it and tape/fold down the sides. Now, you have a three dimensional shape that could go on the course.

REMEMBER: Not every obstacle needs to be a perfect net. You might choose to make you own design using recycled scraps or more.

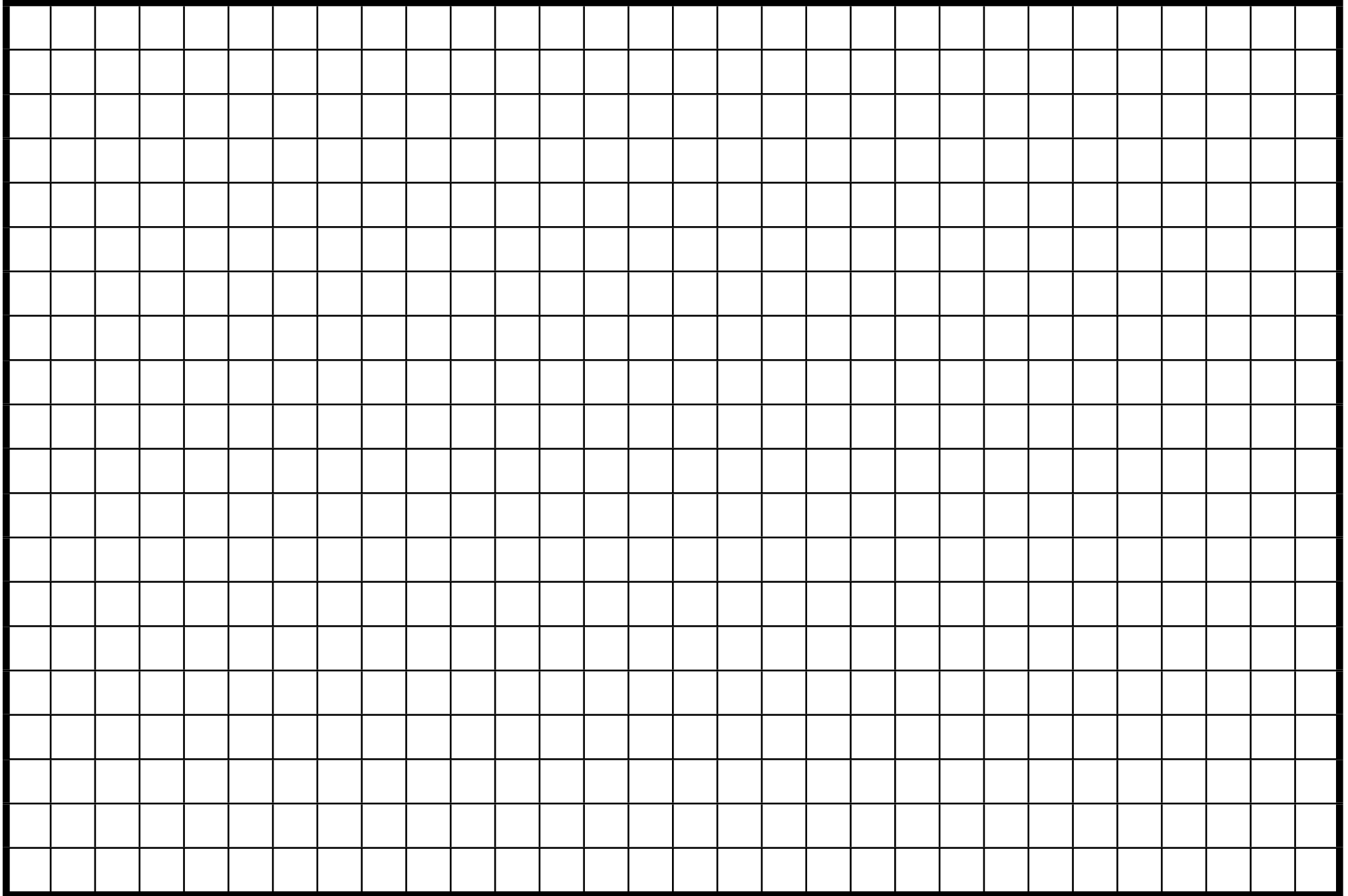
Building Obstacles

3D VERSION



Building Obstacles

3D VERSION



Obstacle & Course

UP CLOSE

Take this time and highlight some of your favorite obstacles on the course. Using this 3-frame layout, highlight a single obstacle (or more) with specific details. Once you have completed it, cut it out and lightly fold on the lines to showcase it with your race course.

If you don't want to focus on the individual obstacles, you may highlight the race. Think about including the logo and race name to create a pamphlet or gigantic poster that could be seen at the race.

Examples could include...

- Close Up Photo**
- Stats**
- Logo**
- Quote**
- Sponsors**

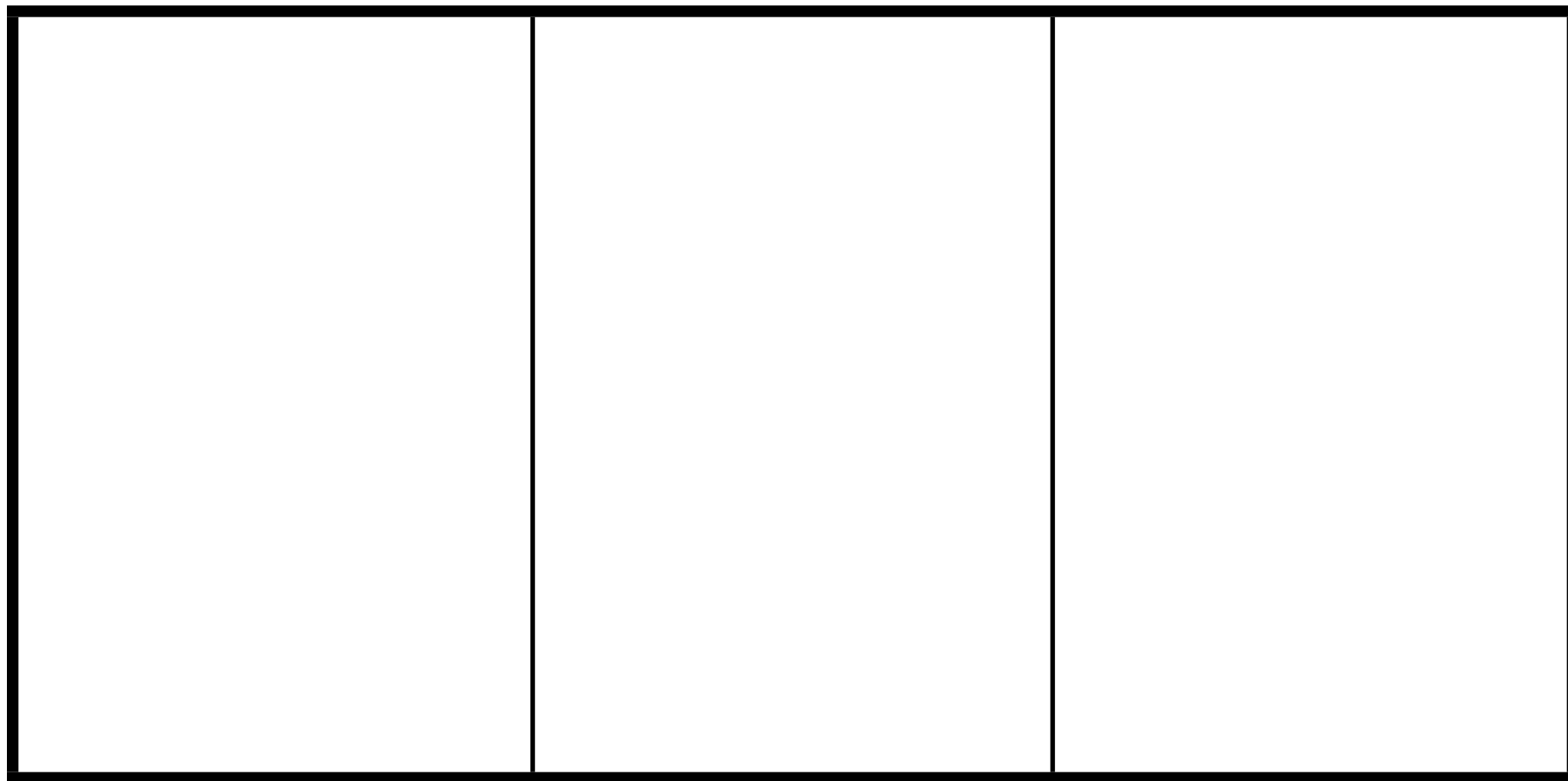
- Obstacle Name**
- Race Name**
- Established**
- Race Location**

- Number of Participants**
- Inspirational Quotes**
- Drawing of Obstacle**
- Picture of the Medal**

Obstacle & Course

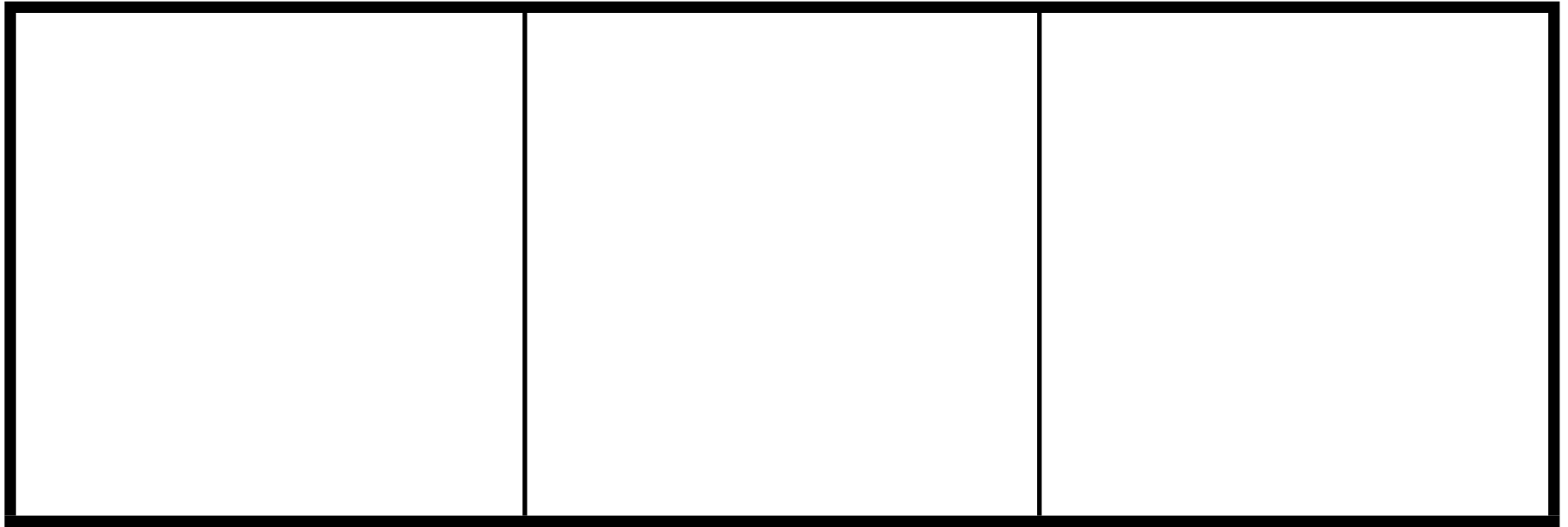
UP CLOSE

Create final version.

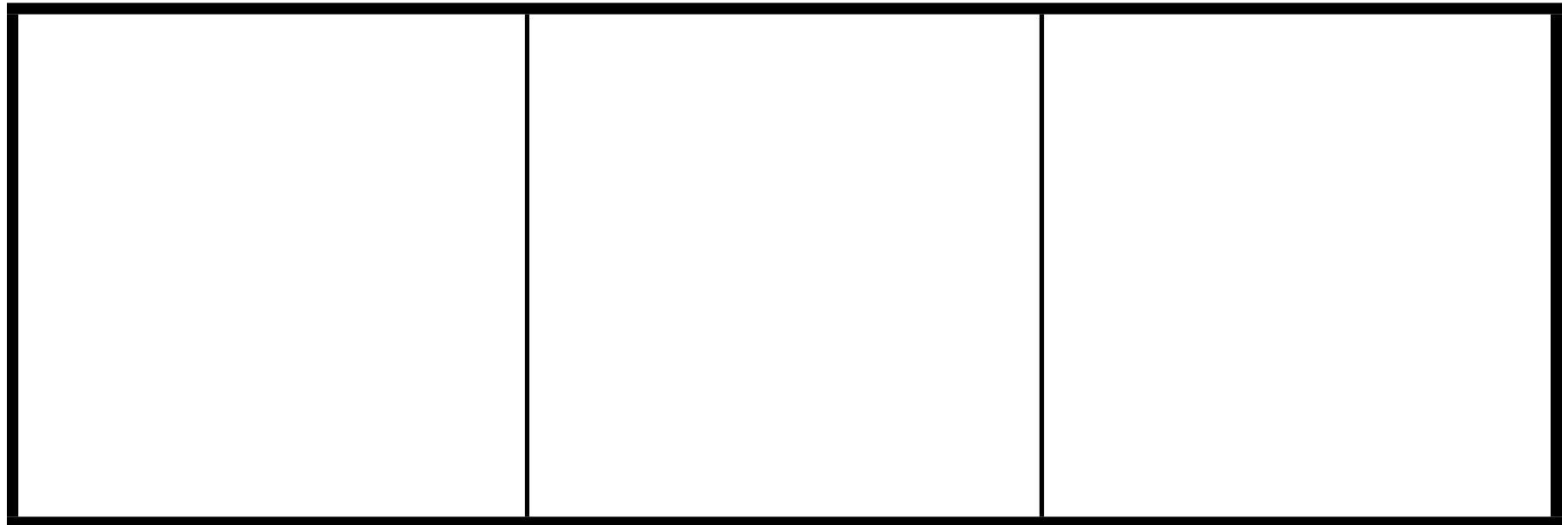


CUT along dark line. **FOLD** along thin black line to help it stand.

Obstacle & Course UP CLOSE



CUT along dark line. **FOLD** along thin black line to help it stand.



Obstacle & Course

Running the Numbers

What is the total area for ONLY
the obstacles on your course?

What is the total perimeter for ONLY
the obstacles on your course?

Is there a big difference
between the totals?

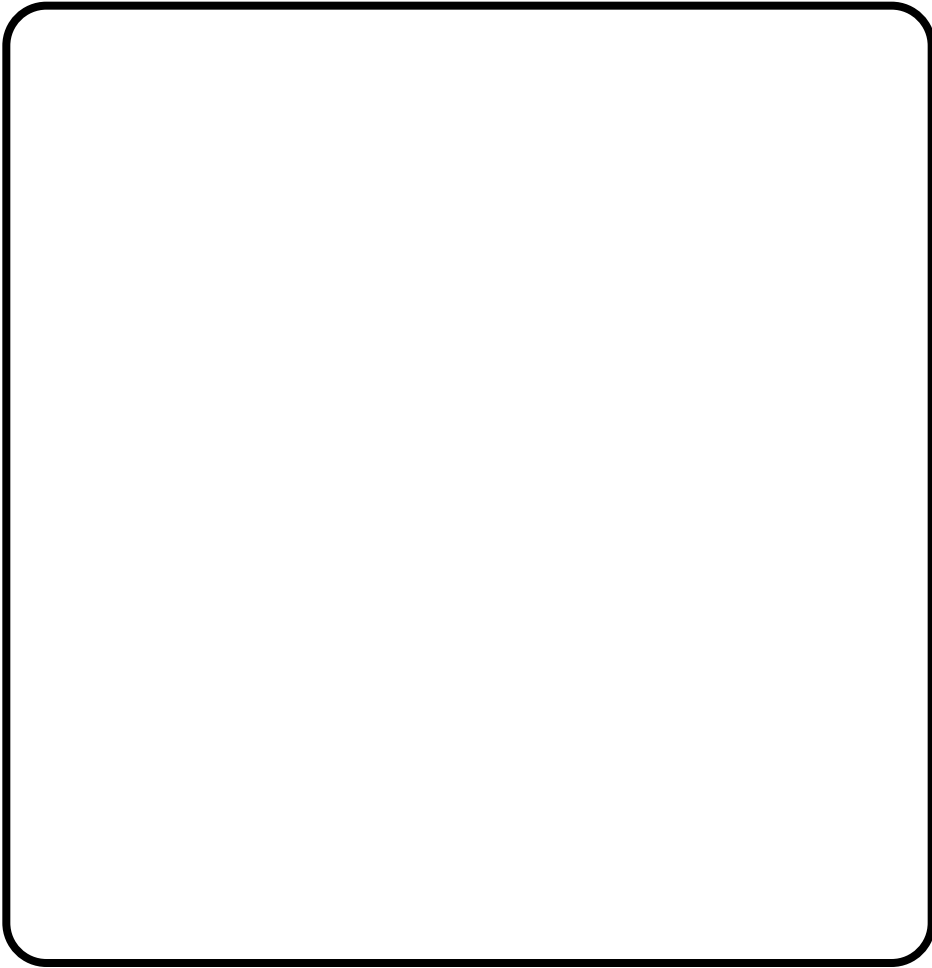
Why or Why Not? Explain

Show your work.

Obstacle & Course

Running the Numbers

Find total AREA of space the course took up.
Only include the USED portions on course.



How much space did you have left to use on your course?



Could you have added more? Why? Explain.



Show your work.

Running the Numbers

Create area or perimeter word problems based on your course.
Then give your problems to another student for them to solve.

1.

SOLVE

2.

SOLVE

3.

SOLVE

4.

SOLVE

Running the Numbers

Create area or perimeter word problems based on your course.
Then give your problems to another student for them to solve.

1.

SOLVE

2.

SOLVE

3.

SOLVE

Obstacle & Course

Running the Numbers

What part of this project did you find to be the most difficult? Why?

After completing this, what would you do differently next time. Why?

Obstacle & Course

Running the Numbers

What was the best thing you saw a classmate create? Why?

What tips did you learn or share with your classmates?

How did you collaborate and problem solve with your classmates?

What is one change you would make to this project?

TEACHER RUBRICS

Included are two versions of rubrics.
Choose the version that works best for your class.

The first is a **single-point rubric**. If students are proficient in each category (running down the middle) you can circle the criteria. If they exceed or need more work with each criteria, there is space for you to give a specific example. This version requires more writing (from the teacher), but works well if your school is not using traditional grading systems.

The second rubric is more **traditional using a 5-point scale**. Teachers determine the scoring based on how they performed with the project, which is totaled at 25 points. The two final criteria options are based on problem-solving and collaboration. Those do not have a score. Students either exceed, meet, or need more work. Extra space is provided to write in.

SCORING RUBRIC

STUDENT NAME: _____

AREA NEEDS MORE WORK	PROFICIENT	EVIDENCE OF EXCEEDING STANDARD
	Student completed steps 1-6 on the Checklist.	
	Demonstrates an understanding of finding area and applying it correctly.	
	Demonstrated an understanding of finding perimeter and applying it correctly.	
	Connected the concepts of area, perimeter to real-world settings (creating a race course).	
	Applied problem-solving skills to complete the activity.	
	Applied collaboration skills to complete the activity	

SCORING RUBRIC

STUDENT NAME: _____

CRITERIA	MET STANDARD				AREA NEEDS MORE WORK
Student completed steps 1-6 on the Checklist.	5	4	3	2	1
Demonstrates an understanding of finding area and applying it correctly.	5	4	3	2	1
Demonstrates an understanding of finding perimeter and applying it correctly.	5	4	3	2	1
Connected the concepts of area, perimeter to real-world settings (creating a race course).	5	4	3	2	1
Applies problem-solving skills to complete the activity.	EVIDENCE OF EXCEEDING		MET		
Applies collaboration skills to complete the activity	EVIDENCE OF EXCEEDING		MET		

[illegible]

©DIGITAL: DIVIDE & CONQUER 2016 ■

Obstacle Race Course

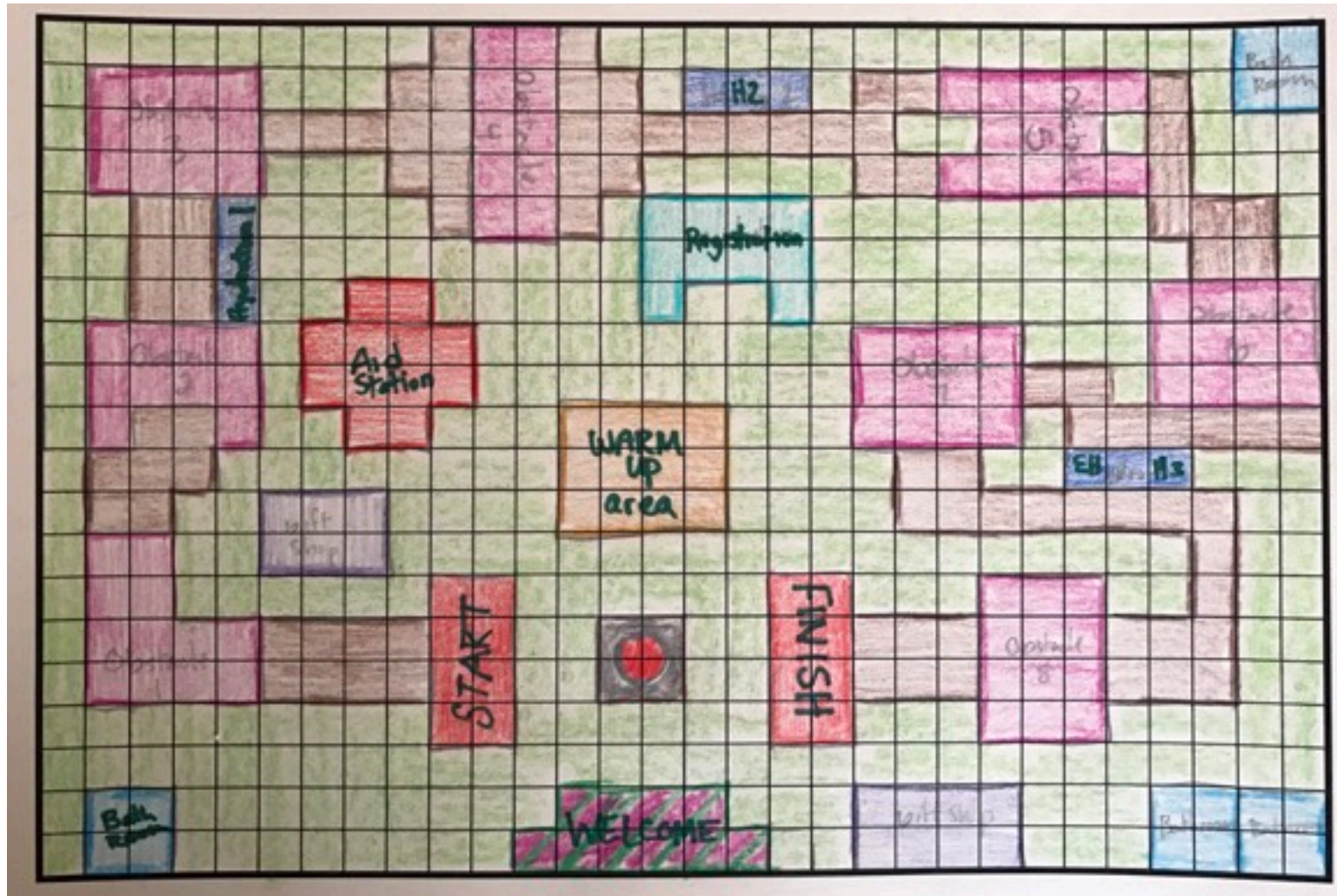
When you have completed step 1-5, this is what your race course could look like. Just remember that your version might look completely different. There are unlimited ideas.

The image shows a hand-drawn obstacle race course on a grid. The course is marked with numbers 1 through 8. Key features include a START line, a WARM UP area, a FINISH line, a water station, a jump, and a wall. The course is designed to be a continuous loop.

It's important that you take your time designing and creating the race.

©DIGITAL: DIVIDE & CONQUER 2016

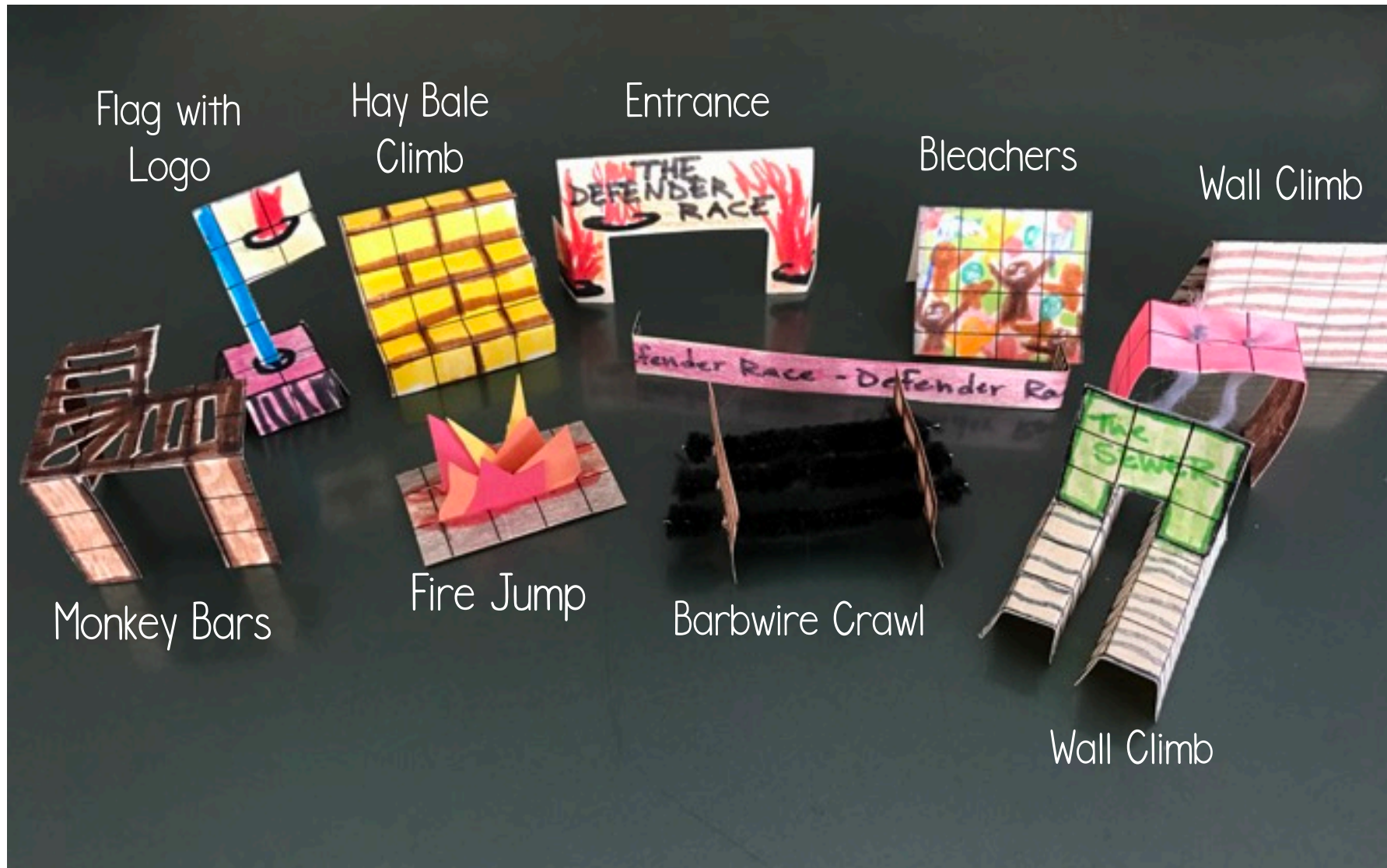
When you have completed step 1-5, this is what your race course could look like. Just remember that your version might look completely different. There are unlimited ideas.



It's important that you take your time designing and creating the race.

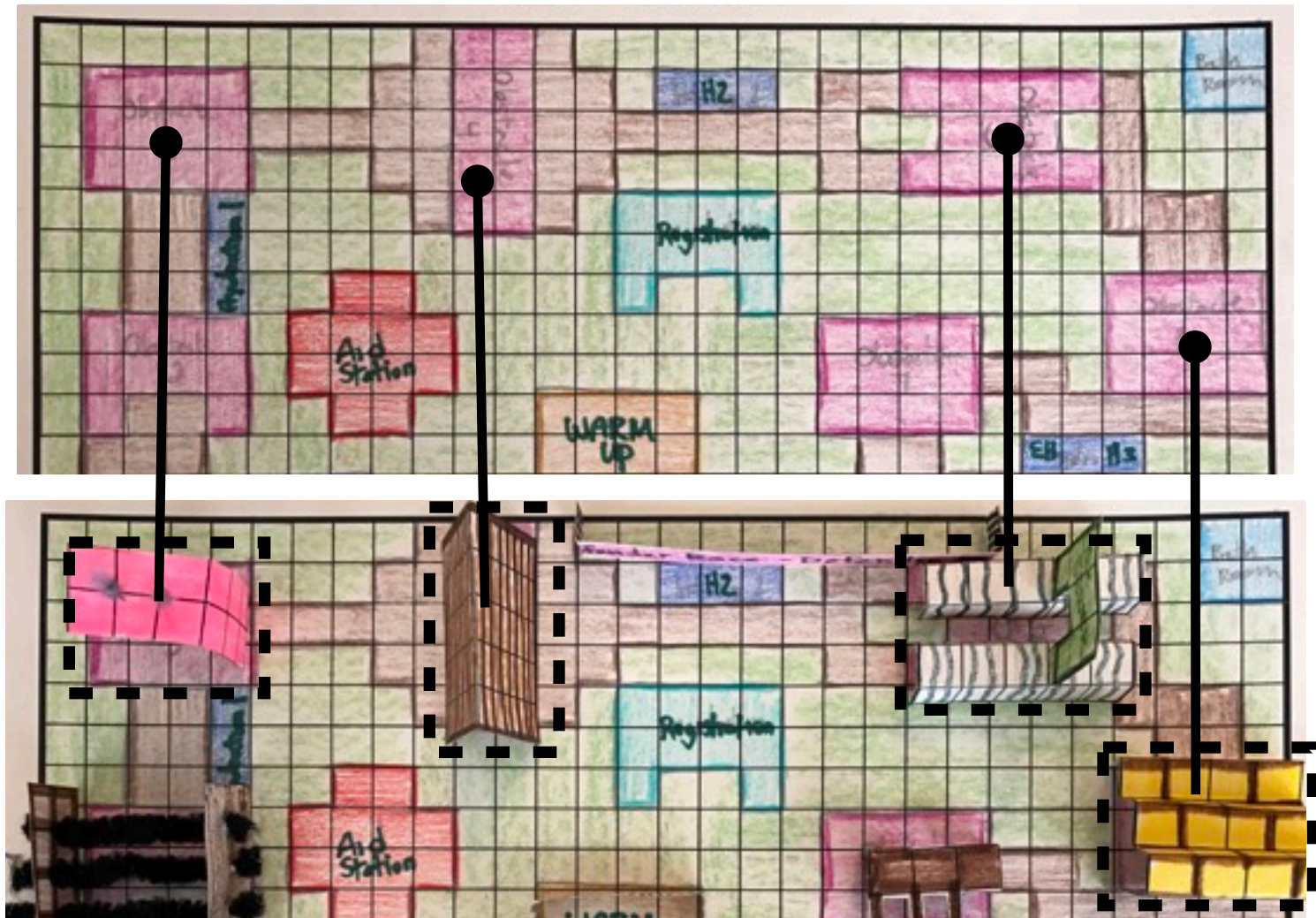
Obstacle Race Course

After you have completed the first six steps, you may begin to build the 3D portions.
Below are some examples.



Obstacle Race Course

See how the 3D obstacles match the sizes on the paper?
Try to match those as best as you can.



Using the provided graph paper will help you with your design.

Obstacle Race Course

You can make more than just the obstacles!



Design the entrance or any other part of the race. Flags, bleachers, and fences are just a couple of options.

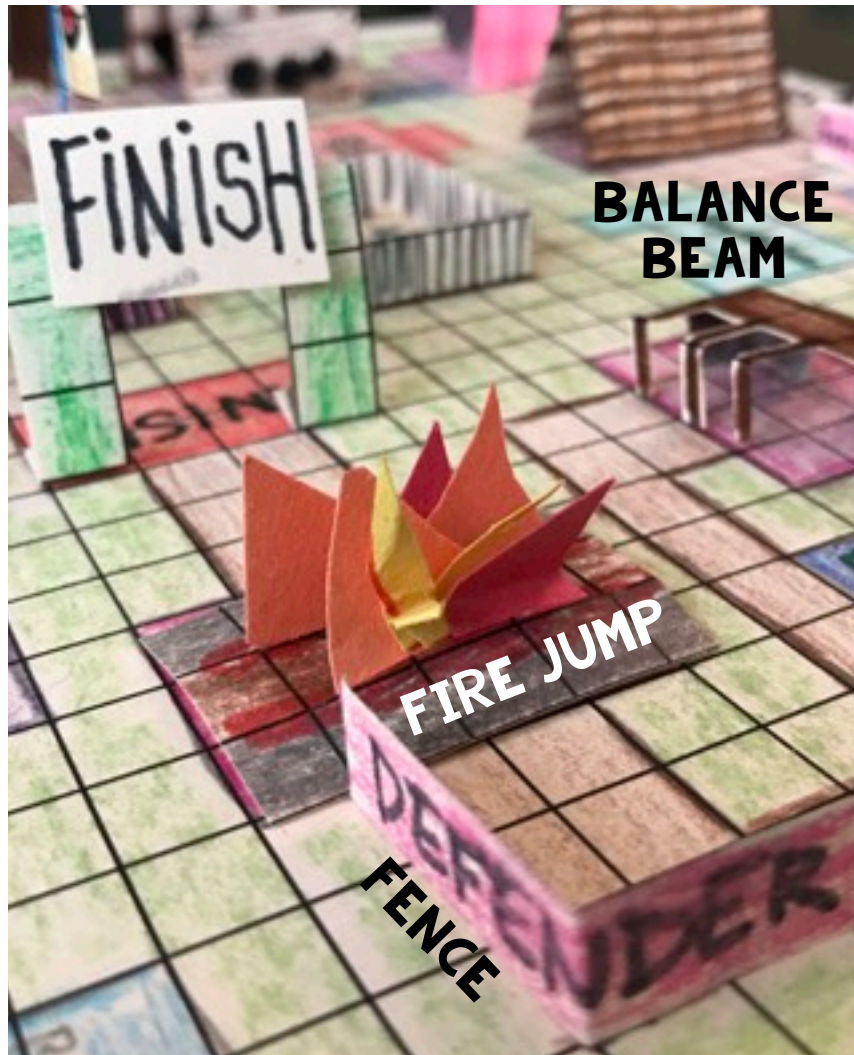
Obstacle Race Course

You can make more than just the obstacles!



Can you find the fences? They just add an extra touch or realism.

Obstacle Race Course



Obstacle Race Course



OBSTACLE RACE COURSE
FINAL VERSION

ENDER RACE - Defender

H2O

Registration

Aid Station

WARM UP

WASH

SEATING

DEFENDER

DEFER

Bath Room

H2O

WASH

DEFER



IF YOU'RE LOOKING FOR SOMETHING TO ENGAGE STUDENTS, EXPAND THEIR THINKING, AND PUSH CREATIVITY-- CHECK OUT MY ASSORTMENT OF...

[Project Based Learning Activities.](#)

CLICK ABOVE!





Click on any image for a direct link.

Thank you for choosing this product. This product is for a single user license only. It should not be redistributed to multiple users, unless multiple licenses are purchased. You may purchase multiple copies at a reduced rate on almost all items. No portion of this product should be uploaded digitally, available for download, or uploaded to shared servers. Please contact me for questions.

TPT: <http://www.teacherspayteachers.com/Store/Digital-Divide-And-Conquer>.

Blogger: <http://digitaldivideandconquer.blogspot.com>

Facebook: <https://www.facebook.com/DigitalDivideAndConquer>

Email: digitaldivideconquer@gmail.com.

CREDITS

