

Name\_\_\_\_\_

### Fifth Grade Ultimate Design Challenge

Design Team Name\_\_\_\_\_

Members\_\_\_\_\_

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Follow the guidelines below to build your vehicle.....

1. Each team will enter all the challenges listed in the back of the packet.
2. Each team may design and test only one vehicle.
3. Use all the scientific knowledge you have gained to help design the vehicle.
4. Work together as a team and listen to all ideas before you build.
5. You will have 2 days in class to design and build. (Jan. 22 and 23)
6. You must build your vehicle using only the pieces in your design bag.
7. Additional pieces may be purchased using Avonworth Dollars. Your group will need to decide how to divide the cost between all members.
8. You may test your vehicle only in the classroom.
9. During the challenge, you only get one try.
- 10.As you build your vehicle the total cost of each part will be totaled.
- 11.Think about cost efficiency as you build. There will be a prize for the most cost efficient vehicle that can meet all the challenges.
- 12.Once your vehicle is built, you will need sponsors to help you at the challenge.
- 13.Sponsor can give you the opportunity for another try at any of the 5 challenges.
- 14.In Language Arts, you will create an advertisement that persuades the other classes to sponsor your vehicle. (Instruction will be provided during Language Arts Class)
- 15.Persuading someone to sponsor your vehicle will reward you with the opportunity for an extra try at any one of the challenges.
- 16.Sponsorship is \$10 and all sponsors receive prize money if the vehicle they sponsor places at a challenge.

17. Students will have an opportunity to listen to each other's persuasive speeches before choosing to sponsor a vehicle.
18. Speeches will be held on Jan. 30. Sponsors will be purchased on the same day.
19. Ultimate Challenge will take place in the gym on the morning of February 1.
20. 1<sup>st</sup> place at each challenge wins \$10 avonworth dollars a member and \$25 per sponsor.  
2<sup>nd</sup> place at each challenge wins \$5 avonworth dollars a member and \$15 per sponsor.
21. There will be an additional prize for the most cost efficient vehicle that can meet all the challenges.
22. At the conclusion of the challenges, each team member will turn in their data, cost sheet and reflection.
23. Start thinking, start cooperating and get ready!!!!

Pricing cost for extra pieces:

Wheels: large \$7 small \$5

Tires: Large \$5 small \$3

Rods: \$3 each

Connectors: \$2 each

Rubberbands: \$5 each

## Challenge 1

### Delivering a Load:

- Must move 3m within 20 cm on either side
- Must move in 7 seconds or less
- Must carry one block

Closest Back Wheels to 3meters wins

## Challenge 2

### Speedy Quick

-Must move 5 meters in the least amount of  
time

## Challenge 3

How Far can You Go?

-Must move the furthest distance across the floor.

## Challenge 4

### Up a hill

- Must move the furthest distance up an incline
- Closest to the top of the hill without going over.

## Challenge 5

### Carry the Most

- Get your vehicle to move the furthest distance carrying the greatest load

Name \_\_\_\_\_

## Planning Sheet for Advertisement

Describe your vehicle in detail. Use persuasive adjectives!

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Why should people sponsor your vehicle? Write 3 strong reasons!

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Brainstorm some slogans to use in your advertisement. Circle the one you decide to use.

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On the back of this paper, sketch your advertisement.



NAME \_\_\_\_\_

### RUBRIC FOR ADVERTISEMENT

	1 point	2 points	3 points	Points
<b>Description of vehicle</b>	The vehicle is not clearly described.	The vehicle is somewhat described in the advertisement	The vehicle is clearly described in the advertisement.	
<b>Reasons</b>	The advertisement has 0 or 1 persuasive reasons to sponsor the vehicle	The advertisement states 2 persuasive reasons to sponsor the vehicle	The advertisement clearly states three persuasive reasons to sponsor the vehicle	
<b>Organization</b>	The advertisement shows little or no organization.	The advertisement is somewhat organized.	The advertisement is well-organized	
<b>Presentation</b>	The advertisement is not eye-catching and not colorful.	The advertisement is somewhat eye-catching and has some color.	The advertisement is eye-catching and colorful.	
<b>Mechanics</b>	Student made 5 or more mistakes in spelling, punctuation, capitalization	Student made 3-4 mistakes in spelling, punctuation, capitalization	Student made 0-2 mistakes in spelling, punctuation, capitalization	

NAME \_\_\_\_\_

**RUBRIC FOR PERSUASIVE SPEECH**  
**USE THIS RUBRIC TO GUIDE YOUR WORK!**

	1 point	2 points	3 points
<b>Introduction</b> *Hook *State your position. *State your reasons.	The student's introduction is lacking interest or clarity.	The student attempted to write a clear and interesting beginning.	The student wrote a clear, interesting and attention-getting introduction.
	The student's position statement or thesis is not clear.	The student's position statement or thesis was stated, but not quite clearly.	The student's position statement or thesis is stated clearly.
<b>Body</b> *Explain your reasons clearly.	The student did not include three strong reasons and /or did not clearly explain them.	The student has three reasons, but needs to explain them more thoroughly.	The student clearly explained at least three strong, appropriate reasons to support his/her opinion
<b>Conclusion</b> *Summarizes *Audience definitely knows the speech is over without being told	The student did not restate the position and/or conclude the letter	The student attempted to restate the position and summarize.	The student restated the position and summarized main points.
<b>Presentation</b> *Eye contact *Enthusiasm *Clear, slow speech	The student lacks presentation skills.	The student is building presentation skills.	The student used excellent presentation skills.



FIFTH GRADE ULTIMATE DESIGN  
CHALLENGE

# SPONSORSHIP

*Design Group*

*Sponsored by:*

One Free Try at any  
Challenge

\$10 a sponsor

Name \_\_\_\_\_

### Design Challenge Reflection

1. Record your results from the design challenge: ( 5 points )

Carrying a load:

Speedy Quick:

How Far Can You Go:

Up A Hill:

How Much Weight:

2. Of the 5 challenges, which one did you like the most and explain why?  
(3 points)

3. Which challenge did you find to be the most challenging and why?  
(3 points)

4. Which challenge did you not meet and explain why?(2 points)

5. If you could change something on your vehicle to help you meet that challenge what would it be and why? 5 points

6. How do think your group worked during the challenge and explain your thinking? (2 points)

7. Use one scientific concept we learned during the unit and explain how it affected your vehicle during the challenges. ( 3 points)

8. Did you like the Ultimate Design Challenge? Explain why or why not. (2 points)