

CH.2 MASS AND VELOCITY



2 | 2.2: "Designing Wheelchairs"

Force and Motion





F&M 2.2.1 WARM-UP

Students consider whether the same force or different strength forces would be needed to make objects of different mass move at the same velocity. (5 min)



Explain your answer choice.

Jenna has a regular car and a toy car. She wants to see them go at the same speed. What strength force needs to be exerted on each car to make that happen?

- a The same strength force on each car will cause the cars to move at the same speed.
- b Different strength forces are needed to cause these cars to move at the same speed.



F&M: 2.2.2 ACTIVE READING

Active Reading: "Designing Wheelchairs"

From the Sim activity in the last lesson, you noted that when the same force is applied to two objects of different mass, their velocity changes are not the same.

Dr. Gonzales sent an article that might be helpful with **understanding how the same thruster force could have affected this pod so differently**, especially if our guess is correct—it had a different-from-usual number of samples on board. The article is not about space pods, but designing wheelchairs for different types of people and activities, so you will need to apply the information to the pod that moved unexpectedly.

Reading "Designing Wheelchairs for All Shapes and Sizes"

When your teacher instructs you to, open "[Designing Wheelchairs for All Shapes and Sizes](#)" in the Amplify Library. Annotate the article as you read.



F&M: 2.2.2 ACTIVE READING

Active Reading: "Designing Wheelchairs"

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.
2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.
3. Examine all visual representations carefully. Consider how they go together with the text.
4. After you read, discuss what you have read with others to help you better understand the text.



F&M: 2.2.2 ACTIVE READING

Active Reading: "Designing Wheelchairs"

Get started!



EH – 2.2.3: DISCUSSING ANNOTATIONS

Students share their questions and ideas from “Designing Wheelchairs for All Shapes and Sizes.”
(15 min)

Discussing Annotations

#share

Carefully choose an interesting annotation (comment, question, connection, vocabulary word) you'd like to share with your partner and add #share to this annotation.

#discussed

Add #discussed to your annotation if you feel that you and your partner have resolved a question OR if your discussion gave you a deeper understanding about something in the article.

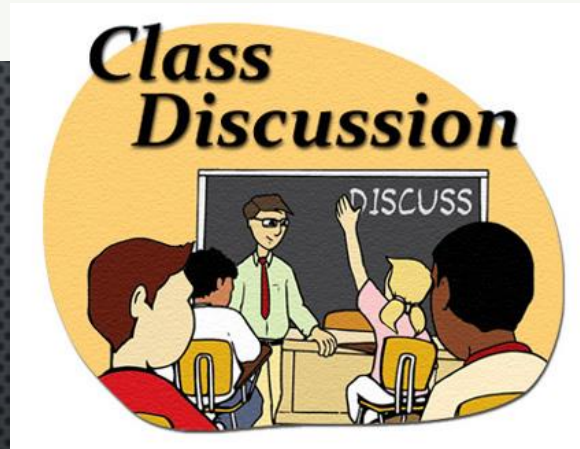
#present

Add #present to your annotation to mark any unresolved questions or ideas you would like to present to the class.



EH – 2.2.3: DISCUSSING ANNOTATIONS

Students share their questions and ideas from “Designing Wheelchairs for All Shapes and Sizes.”
(15 min)



Reviewing Annotations

1. Look over your annotations for "**Designing Wheelchairs for All Shapes and Sizes.**" Select one or two to share with your partner. Tag each annotation you selected by adding #share.
2. Discuss the tagged annotations with your partner. After the discussion, edit these annotations by changing the tag to #discussed.
3. Select one of the questions or connections you already discussed or a different question or connection that you still want to discuss with the class. Tag that annotation with #present.



EH – 2.2.3: DISCUSSING ANNOTATIONS

Students share their questions and ideas from “Designing Wheelchairs for All Shapes and Sizes.”
(15 min)

HAND IN

Rate your success with Active Reading skills:

As I read, I paid attention to my own understanding and recorded my thoughts and questions.

never

almost never

sometimes

frequently/often

all the time

Reflecting on Annotations

Review your annotations, answer the reflection question, and then press **HAND IN** to submit your article.



Go to...

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**2.3: Explaining Mass,
Force, and Velocity**