Welcome

- Sign In
- Take a Syllabus, Science Standards and Grade Conversions
- Fill out my parent survey to get to know your child better: bit.ly/WentzloffParentSurvey

About Me

- Year 8 at AHS, Year 10 Teaching
- B.A. College of Wooster in Physics and Computer Science (why I love experiential learning)
- M.A. Education: Urban Pedagogy- University of Michigan (but Go Green)
- Pittsburgh Native (Go Steelers)

Physics

- Integration of Physics, Engineering and Earth Space Science
- Inquiry Based Learning- You will explore and discover science and make conclusions
- Focus on science competencies including writing and communicating in science
- Working in partners and groups
- Limited lecturing and traditional tests and quizzes with flipped lessons to learn content

Physics Units

- Unit 1- Energy Flow from the Earth's Systems
  - How can we design more reliable systems to meet our communities' energy needs?
  - 2021 Texas Blackouts
- Unit 2- Energy, Forces and Earth's Crust
  - How do forces in Earth's interior determine what will happen to the surface we see?
- Unit 3- Collisions and Momentum
  - What can we do to make driving safer for everyone?
- Unit 4- Meteors, Orbits and Gravity
  - How have collisions with objects from space changed Earth in the past, and how could they affect our future?
- Unit 5- Electromagnetic Radiation
  - How do we use radiation in our lives, and is it safe for humans?
- Unit 6- Earth's History
  - Why do stars shine and will they shine forever?

Science Power Practices	4 - Distinguished
Communication ● Written ● Verbal ● Modeling ● Questioning	I am able to clearly articulate my thinking using **extensive** evidence and content specific language with scientific accuracy **that connects multiple components discussed in class OR branches into new ideas.**
Critical Thinking ● Data Analysis ● Mathematical Analysis ● Evaluation of work	I am able to **connect multiple** equations and/or **multiple forms** of scientific data to evaluate the accuracy and relevance of information **and/or** generate a conclusion of my own that **connects to a larger concept.**
Investigation ● Problem solving ● Planning and Carrying out investigations ● Data Collection	I am able to create and/or execute a comprehensive and actionable plan to answer my question(s) or a provided scientific question. An appropriate and organized display of data is included. **I can annotate and record questions before, during, or after the investigation.**

Proficiency Level	Conversion	Letter Grade	Descriptor
Distinguished	★ All 4's or two 4's and one 3 in your power practices ★ **Example:** 444, 443	A	★ Produces **high** quality innovative work. Communicates **extensive** understanding of concepts and contexts. ★ Demonstrates critical and creative thinking with sophistication. ★ Applies knowledge and skills in familiar and unfamiliar classroom and real-world situations with independence.
Proficient	★ All 3's or two 3's and one 4 in your power practices ★ **Example:** 333, 334	B+	★ Produces good quality work. Communicates **basic** understanding of most concepts and contexts with **occasional** misunderstandings and/or minor gaps. ★ Demonstrates **basic** critical and creative thinking. ★ Applies knowledge and skills in familiar classroom situations, but requires **support** in unfamiliar situations.
Approaching	★ Any 2 is present in any power practice ★ **Example:** ★ 322, 222, 422, 442, 332,432	C+	★ Produces work of an acceptable quality. Communicates basic understanding of concepts and contexts with frequent significant misunderstanding and gaps. ★ Developing a demonstration of basic critical and creative thinking. ★ Occasionally applies knowledge and skills but requires support even in familiar classroom situations.
Limited	★ A 1 is present in any power practice ★ **Example:** ★ 331, 221, 441, 123, 431, 421	D+	★ Produces work of limited quality. Expresses misunderstanding and/or significant gaps in understanding for most concepts and contexts. ★ Infrequently demonstrates critical or creative thinking. ★ Beginning to apply knowledge and skills, requires support in all classroom situations.
None	★ Two or more 1's -OR- any Zeros for any power practice	E	★ Student does not meet any of the descriptors above

Per: 1 Physics S1 (HSSC330-1) **23/24 AHS**

Teacher: Wentzloff, V

Detail	Date Due	Assigned	Assignment	Pts Possible	Score	Scored As	Extra Credit	Not Graded	Comments
	01/19/2024	08/28/2023	Communication Overall	4				✓	
	01/19/2024	08/28/2023	Critical Thinking Overall	4				✓	
	01/19/2024	08/28/2023	Investigation Overall	4				✓	
	09/14/2023	09/13/2023	Critical Thinking- Day 2 Circuits Compare and Contract	4				✓	
	09/13/2023	09/13/2023	Investigation- In Class Observation Circuit Building Data Collection	4	2				
	09/08/2023	09/08/2023	Communication- Unit 1 Initial Model	4	2				

Physics

- Be present in class (on time, phone and headphones put away, etc.)
- Communicate with teacher about questions, absences, etc.
- Work on daily warm ups and in class activities
- Be an active member of the class community
- Finish up activities and work on assignments outside of class if required

What's next? AP Physics 1 is offered if a student has completed Algebra 2 (this requirement may change)

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AP Physics 1

- Fast paced, rigorous and application based learning of Newtonian physics (Algebra based)
- Flipped Learning- videos by me!
- Multiple Choice Daily Warm Ups- team effort
- Weekly Free Response Check in Questions- Thursdays- Timed 20 minutes
- Inquiry Based Labs and Lab Reports
- In Class/Real Time Assessments
- Practice in AP Workbook, AP Classroom and OpenStax

Resources

- OpenStax
  - Primary textbook
  - Updated and corrected frequently
  - Online and tons of practice
- AP Workbook
- AP Classroom
- Flipped Lessons
- AP Practice Tests

Unit Calendar has daily practice in OpenStax problems and AP Workbook problems listed that go with each topic

AP Physics Units

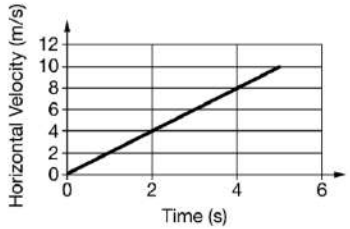
- **Unit 1** Motion
- **Unit 2** Forces
- **Unit 3** Circular Motion and Gravitation
- **Unit 4** Energy
- **Unit 5** Momentum
- **Unit 6** Simple Harmonic Motion
- **Unit 7** Rotational Motion
- Test Review
- **Unit X:** Fluids

AP Physics 1 Science Practice	Science Power Practices	4 - Distinguished
● Science Practice 1: The student can use representations and models to communicate scientific phenomena and solve scientific problems. ● Science Practice 7: The student is able to connect and relate knowledge across various scales, concepts, and representations in and across domains	Communication ● Written ● Verbal ● Modeling ● Questioning	I am able to clearly articulate my thinking using **extensive** evidence and content specific language with scientific accuracy **that connects multiple components discussed in class** **OR branches into new ideas.**
● Science Practice 2: The student can use mathematics appropriately ● Science Practice 5: The student can perform data analysis and evaluation of evidence ● Science Practice 6: The student can work with scientific explanations and theories.	Critical Thinking ● Data Analysis ● Mathematical Analysis ● Evaluation of work	I am able to **connect multiple** equations and/or **multiple forms** of scientific data to evaluate the accuracy and relevance of information **and/or** generate a conclusion of my own that **connects to a larger concept.**
● Science Practice 3: The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course. ● Science Practice 4: The student can plan and implement data collection strategies appropriate for a particular scientific question	Investigation ● Problem solving ● Planning and Carrying out Investigations ● Data Collection	I am able to create and/or execute a comprehensive and actionable plan to answer my question(s) or a provided scientific question. An appropriate and organized display of data is included. **I can annotate and record questions before, during, or after the investigation.**

Q: Velocity vs Time graph

Create Quiz

13 of 17



An object travels along a straight line across a horizontal surface, and its motion is described by the velocity versus time graph shown in the figure. Which of the following methods will determine the total displacement of the object between $0\,\text{s}$ and $5\,\text{s}$? Select two answers.

A Finding the slope of the line between $0\,\text{s}$ to $5\,\text{s}$

B Dividing the change in velocity between $0\,\text{s}$ to $5\,\text{s}$ by the change in time

C Finding the area bound by the horizontal axis and the curve from $0\,\text{s}$ to $5\,\text{s}$ ✓

D Using $\text{Average Speed} = \frac{\text{total distance}}{\text{total}}$ and multiplying the average speed of $5\ \frac{\text{m}}{\text{s}}$ by a total time of $5\,\text{s}$ ✓

Answer C

13 of 17

Hide Scoring and Details

Item Details

Exam Alignment: High
Security: Teacher Use Only
Question Type: Multiple Correct

Unit And Topic

1: Kinematics

- 1.1: Position, Velocity, and Acceleration

Assessment Purpose And Source

Formative

- AP Topic Question

Science Practice

Practice 2: The student can use mathematics appropriately.

- Skill 2.1: The student can justify the selection of a mathematical routine to solve problems.

Big Idea And Learning Objective

3.A: All forces share certain common characteristics when considered by observers in inertial reference frames.

- 3.A.1: An observer in a reference frame can describe the motion of an object using such quantities as position, displacement, distance, velocity, speed, and acceleration. a. Displacement, velocity, and acceleration are all vector quantities. b. Displacement is change in position. Velocity is the rate of change of position with time. Acceleration is the rate of change of velocity with time. Changes in each property are expressed by subtracting initial values from final values. c. A choice of reference frame determines the direction and the magnitude of each of these quantities. d. There are three fundamental interactions or forces in nature - the gravitational force, the electroweak force, and the strong force. The fundamental forces determine both

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	09/13/2023	09/13/2023	Investigation- Graphing Motion Lab- In Class Observation	4				✓	
	09/10/2023	09/10/2023	Investigation- Ball Bounce Lab	4	3				
	09/08/2023	09/08/2023	Critical Thinking- Ball Bounce Lab	4	2				

Should I Take the Test?

- Does the college or program I am interested in take AP Physics 1? What is the minimum score required?
- Am I willing to work outside of class on problems and practice?
- Am I doing well on multiple choice warm ups and check in questions?
- Do I actually want to take it?

Extra Note- I am planning on going to the board with AP Physics 2 to be offered next year :)