



**Physical Science Extended Standards Syllabus  
CHS Special Education Department**

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**CCSD Vision Statement:** The Chillicothe City School District will provide tomorrow's leaders with a high quality education by developing high expectations and positive personal relationships among students, staff, and community members.

**CCSD Mission Statement:** The Chillicothe City School District empowers students to learn, to lead, and to serve.

**Course Description and Prerequisite(s) from Course Handbook:**

Physical Science - 305 (1 semester)

Prerequisite: None

Grade: 9

Graded Conventionally

Credit: 1

Standards used for this course will be taken from the Extended Standards and may be a review of those presented in previous courses to assure mastery of skills for students with disabilities.

Extended Standards may be found at [http://education.ohio.gov/getattachment/Topics/Special-Education/Students-with-Disabilities/Students-With-Disabilities-\(1\)/OACS-E-Science.pdf.aspx](http://education.ohio.gov/getattachment/Topics/Special-Education/Students-with-Disabilities/Students-With-Disabilities-(1)/OACS-E-Science.pdf.aspx).

Physical science introduces students to key concepts and theories that provide a foundation for further study in other sciences and advanced science disciplines. Physical science comprises the systematic study of the physical world as it relates to fundamental concepts about matter, energy and motion. A unified understanding of phenomena in physical systems is the culmination of all previously learned concepts related to chemistry, physics, and space science, along with historical perspective and mathematical reasoning.

\*\* Cross Curricular Activity: Physical science will be utilizing skills used in Algebra 1. An example of these skills will be using formulas to find a missing variable.

**Learning Targets:** Defined below for clarity are the Unit Titles, Big Ideas of every Unit taught during this course, and the Essential Questions to be answered to better understand the Big Ideas. A student's ability to grasp and answer the Essential Questions will define whether or not he or she adequately learns and can apply the skills found in Big Ideas. This will ultimately define whether or not a student scores well on assessments administered for this course.

- **1st Quarter**
  - **Unit I Title: Scientific Method**
    - **Big Idea #1: I identify** the Scientific Method
      - *Essential Question #1: What are the steps of the scientific method?*
      - *Essential Question #2: What the difference between a hypothesis and a theory?*
      - *Essential Question #3: How can a hypothesis become a theory?*
    - **Big Idea #2: I can** use the scientific method to as a process of inquiry.
      - *Essential Question #1: How do I collect data?*
      - *Essential Question #2: How do I interpret the data that I collect?*
      - *Essential Question #3: How do graphs help interpret data collected during the scientific method?*
  - **Unit II Title: Study of Matter**
    - **Big Idea #1: I can distinguish** that matter can be classified into categories according to its composition, chemical and/or physical properties.
      - *Essential Question #1: What is matter?*
      - *Essential Question #2: What are the physical properties of matter? (e.g., size, shape, magnetic weight, melting and boiling point)*
      - *Essential Question #3: How are objects classified using their physical?( e.g., weight, melting and boiling point)*
    - **Big Idea #2: I can identify** solution and mixtures and if they are homogeneous or heterogeneous.
      - *Essential Question #1: What are the differences between a solution and a mixture?*
      - *Essential Question #2: How do I create a mixture?*
      - *Essential Question #3: How do I separate a mixture?*
- **2nd Quarter**
  - **Unit III Title: Atoms**
    - **Big Idea #1: I can identify and label** a model of an atom.
      - *Essential Question #1: What do a collection of atoms make up?*
      - *Essential Question #2: What do atoms look like?*
      - *Essential Question #3: What are the different parts of an atom? (e.g., protons, neutrons, electrons)*
    - **Big Idea #2: I can describe** the difference between Bonding and compounds.
      - *Essential Question #1: What is a chemical compound?*
      - *Essential Question #2: Can atoms interact (bond)?*
      - *Essential Question #3: What is the difference between ionic and covalent bonds?*
  - **Unit IV Title Periodic Trends of the elements**
    - **Big Idea #1: I can describe** the periodic law.
      - *Essential Question #1: What is the periodic table?*
      - *Essential Question #2: How do I interrupt the periodic table?*
      - *Essential Question #3: What are elements?*

- **Big Idea #2: I can Identify** elements on the periodic table
  - *Essential Question #1: How are elements organized on the periodic table? (e.g., properties, # of protons, # of outer electrons.)*
  - *Essential Question #2: I do I answer questions about elements using the periodic table?*

## MID-TERM EXAM

- **3rd Quarter**

- **Unit V Title: Understanding Energy**

- **Big Idea #1: I can identify** conservation of energy.
  - *Essential Question #1: What is the Law of Conservation Energy*
  - *Essential Question #2: What is kinetic energy and how is it changed?*
  - *Essential Question #3: What is potential energy and how is it changed?*
- **Big Idea #2 I can describe the** transfer and transformation of energy.
  - *Essential Question #1: What are the differences between conduction, convection, and radiation?*
  - *Essential Question #2: What is the transformation of energy (e.g., light bulb)?*
  - *Essential Question #3: How is energy transferred to objects?*
- **Big Idea #3: I can identify** how thermal energy moves.
  - *Essential Question #1: How does thermal energy move?*
  - *Essential Question #2: How does thermal energy affect the phase of a substance?*

- **Unit VI Title: Force and Motion**

- **Big Idea #1 I can summarize** that force has both magnitude and direction, as well as being balanced and unbalanced.
  - *Essential Question #1: What is force (e.g., gravity, friction, normal, tension)?*
  - *Essential Question #2: What is the difference between a balanced and an unbalanced force and how do I change it? (e.g., accelerate it, stop it, start it.)*
- **Big Idea #2: I can explain** force diagrams
  - *Essential Question #1: What is a force diagram and how do I label it?*
  - *Essential Question #2: What does the force diagram show?*
  - *Essential Question #3: How do you I create a force diagram?*

- **4th Quarter**

- **Unit VII Title: Dynamics**

- **Big Idea #1: I can distinguish** between how forces affect motion.
  - *Essential Question #1: What is Newton's first law?*
  - *Essential Question #2: What is a position vs. time graph?*
- **Big Idea #2: I can explain** friction
  - *Essential Question #1: What affects friction?*

- *Essential Question #2: How do friction and normal force relate to a moving object? (e.g., sliding furniture over different surfaces.*
- *Essential Question #3: How are surface types organized from “causes the most friction” (most difficult to push) to “causes the least amount of friction” (easiest to push)?*
- **Unit VIII Title: The Universe**
  - **Big Idea #1: I can explain** the origins of the Universe and solar system.
    - *Essential Question #1: What is the Big Bang Theory?*
    - *Essential Question #2 Does our universe continue to expand?*
    - *Essential Question #3: What is the difference between an Earth centered model and a Sun-centered model?*
  - **Big Idea #2: I can distinguish** between the different types of stars.
    - *Essential Question #1: What is the life of a star?*
    - *Essential Question #2: What are the different types of Stars?*
    - *Essential Question #3: What are the properties of the sun?*
  - **Big Idea #3: I can describe** different types of galaxies.
    - *Essential Question #1: What is a galaxy?*
    - *Essential Question #2: What are the shapes of the different galaxies?*

### **END OF COURSE EXAM**

#### **Course Materials:**

- Google Chromebook
- 3 ring binder (1 ½” or bigger) with dividers
- Paper
- Pencil or other writing utensils

#### **Textbook:**

- Textbook: AGS-Physical Science

#### **Electronic Resources:**

- [www.classroom.google.com](http://www.classroom.google.com)
- [www.docs.google.com](http://www.docs.google.com)
- [www.drive.google.com](http://www.drive.google.com)
- [www.edmodo.com](http://www.edmodo.com)
- [www.studyisland.com](http://www.studyisland.com)
- [www.quizlet.com](http://www.quizlet.com)
- [http://www.sciencebuddies.org/science-fair-projects/project\\_ideas.shtml](http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml)

**Course Expectations:**

- Students are expected to complete all assignments on time
- Students are expected to actively participate in classroom discussions and activities,
- Students are expected to monitor their own progress via their Progress Book account
- Students are expected to ask for help when it is needed.
- Student **WILL NOT** use cell phones
- When tests are given students will not talk to anyone who is taking said test.
- Students are expected to come to class ready to work.
- No outside food or beverages will be allowed in the classroom.

**Grading:**

Unit Exams	50%
Assessments (Including: Quizzes, Essays, Labs, and Projects)	30%
Class work/Homework	20%

- Each nine week's grade comprises 20% of a student's final grade.
- The Mid-Term Exam and End of Course Exam each comprise 10% of a student's final grade.

**Grading Scale:**

The grading scale for Chillicothe High School can be found in the student handbook or online at <http://www.chillicothe.k12.oh.us/1/Content2/studenthandbook>.

**Late Work:** Late work will be subject to the Board-adopted policy on assignments that are submitted late (to be reviewed in class).

- Regardless of the absence type (excused, unexcused, OSS, etc.), students are expected to make up work and be held accountable for learning all material they missed.
- Any student who is absent from school will receive one (1) additional day for every day he/she missed to make up his/her work for full credit (100%).
- Any student who exceeds the allotted time to turn in an assignment for full credit may still submit work late for partial credit.
  - Any student who turns in work up to 1 week late must at least be given the opportunity to earn 75% on that assignment.
  - Any student who turns in work between 1 and 2 weeks late must at least be given the opportunity to earn 60% on that assignment.
- The end of the 9 weeks is the cut off point for teachers to accept late work from students for full or partial credit unless the teacher decides to give the student an incomplete for the 9 weeks due to extenuating circumstances.

**Performance Based Section: Writing Assignments/Exams/Presentations/Technology**

One or more of the End of Unit Exams may be Performance Based. According to the Ohio Department of Education, "Performance Based Assessments (PBA) provides authentic ways for students to demonstrate and apply their understanding of the content and skills within the standards. The performance based assessments will provide formative and summative information to inform instructional decision-making and help students move forward on their trajectory of learning." Some examples of Performance Based Assessments include but are not limited to portfolios, experiments, group projects, demonstrations, essays, and presentations.

**CHS Special Education Physical Science Course Syllabus**

After you have reviewed the preceding packet of information with your parent(s) or guardian(s), please sign this sheet and return it to me so that I can verify you understand what I expect out of each and every one of my students.

Student Name (please print): \_\_\_\_\_

Student Signature: \_\_\_\_\_

Parent/Guardian Name (please print): \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_