Preston Pumas

6th Grade
Course Description Handbook

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ABOUT PRESTON

PRESTON VISION

Preston Middle School believes passionately in the power of learning to inspire change, better lives, and ultimately, to make the WORLD a better place.

PRESTON MISSION

The Preston Middle School mission is to foster a culture of learning that ensures that every student learns every day!

PRESTON LEARNING COMMUNITY

- We work collaboratively, take collective responsibility, and commit to work together.
- We work interdependently to achieve common goals; everyone is mutually accountable.
- We use evidence and data to inform and improve everyone's practice and learning.

PRESTON VALUES

We believe it takes a true **partnership** among students, parents, staff, and the community to create the **quality learning environment** we have at Preston. An environment that stresses **relationships, relevancy, and rigor**. All programs, core academics, and electives including music, art, drama, and athletics are important and are considered a significant aspect of our learning environment.

SCHOOL DISTRICT AND COMMUNITY CHARACTERISTICS

Fort Collins, Colorado, located 65 miles north of Denver, has an urban population of over 170,000. Colorado State University, Front Range Community College and Poudre School District are some of the major employers of the community. Poudre School District includes 33 elementary schools, 10 middle schools, 2, middle/high schools, 8 high schools, and growing numbers of charter and alternative schools. The total enrollment for Poudre School District is approximately 25,000 with an instructional staff of approximately 4,000.

PRESTON MIDDLE SCHOOL

- **3 year middle school** (6th-8th grade)
- **Standards Based Grading**
- **Academic Programming** - Accelerated Mathematics; Music; STEM; GT
- **Clubs and Activities**– Math Counts, Science Olympiad, Lego Robotics, Jazz Band,

Science Bowl, Speech & Debate, Diversity Club, Outdoor Club, GSA, Art Club, Dungeons and Dragons and many more.

- **6th grade sports-** cross country, tennis, wrestling, golf, and track & field
- **School Mascot** – Puma
- **School colors** – Purple and Teal
- **Enrollment** – 618 (grades 6 - 8)
- **Primary Elementary School Feeders** – Bacon, Bamford, Traut, Kruse, Werner, Zach
- **High School Feeder** – Fossil Ridge High School

REQUIRED CORE CLASSES

English 6
Year-long, Every Day

The sixth grade language arts course is devoted to developing communication and thinking skills through the integrated study of reading, speaking, and writing strategies as well as further refining active listening and critical viewing practices. In addition to adapting usage, conventions, form and/or genre to a variety of audiences and purposes, students continue their practice with the writing process as they gain experience mastering single and multi-paragraph texts in all four major modes- narrative, descriptive, persuasive, and expository. Students actively apply these aforementioned techniques in order to summarize, compare, contrast, activate and synthesize literary and informational texts across content areas.

Science 6
Year-long, Every Other Day

This course is designed for all students and is the first of three courses that meets the Colorado State and Poudre School District Content Standards for Science grades 6 – 8. The major topics covered in the 6th grade are: Forms and Transfer of Energy – Renewable vs. Non- renewable Energy; Properties of Matter – Phases and Changes; Living Systems – The Human Body and Diseases; Earth Systems – The Solar System and the Universe.

Social Studies 6
Year-long, Every Other Day

Sixth Grade Social Studies is a study of the patterns and interactions of countries in the Western Hemisphere. Students will determine information about people, place, and environment through the use and construction of geography tools. From an understanding of the physical and human characteristics of places, students will study the effects of the interaction between human and physical systems. With an emphasis on resource distribution and use, they will determine how economic, political, cultural, and social processes interact to

shape patterns of human populations, interdependence, cooperation, and conflict. This course builds a secondary-level foundation of global awareness, economic literacy, and civic literacy in order to address complex global issues. The 21st century skills of critical thinking, problem solving, communication, collaboration, and cross-cultural understanding will be emphasized throughout the course.

Math 6
Year-long, Every Day

Students will expand upon their knowledge of whole numbers and decimals formed in previous grades to include operations of multi-digit decimals and rational numbers. During the course of the year students will use their knowledge of rational numbers to write and solve equations and inequalities, analyze geometric shapes, and organize and evaluate data displays. Students will explore the concepts of area, surface area, and volume.

Math 7
Year-long, Every Day

In this course students will gain an understanding about and be able to apply rational numbers. Students will explore ratios and proportions to develop an understanding of linear functions and be able to solve single-variable equations. They will compare data distributions and be able to compare differences between populations. Finally, students will analyze geometric figures, calculating area, surface area, and volume. Content is organized into four critical areas, or units. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations

Math 7/8
Year-long, Every Day

This course differs from the 7th Grade course in that it contains content from 8th grade. While coherence is retained, in that it logically builds from the 6th Grade, the additional content when compared to the 7th Grade course demands a faster pace for instruction and learning. Content is organized into four critical areas, or units. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Math 8
Year-long, Every Day

In 8th grade, students will build upon their knowledge and understanding of generating equivalent expressions, ratios and proportions, exponents, and volume of prisms gained in 6th and 7th grade. In this course, students will apply their knowledge of expressions both algebraically and geometrically. Students will explore congruence and similarity of figures in the coordinate plane and write algebraic expressions to describe the transformations. Students will use their knowledge of generating equivalent expressions to solve single-variable linear equations. They will analyze the solution set to include one solution, no solutions, and infinitely many solutions. Students will build upon their understanding of proportional relationships to create linear functions in a graph, table of values, equation, and story problem. They will then examine the similarities and differences between linear and non-linear models, exploring the commonalities and differences among rational and irrational numbers. Students will approximate the location of simple square and cube root values on a number line. Students will expand upon their understanding of volume of prisms to know and apply the formulas for volume of cylinders, cones, and spheres. Students will apply their knowledge of linear relationships to analyze and make conjectures about two-way data displays, tying together the components of this course. The 8th grade standards have been divided into six critical areas, or units, as follows.

Algebra 1
Year-long, Every Day
**Prerequisite of successful completion of Math 7/8 or Math 8*

Concepts and skills are introduced contextually in algebraic, graphic, numeric, and verbal form. As a result, the student will be able to communicate mathematically, make connections within algebra, and between algebra and other disciplines. To address district and state standards, this course interweaves mathematical topics of algebra, geometry, statistics, probability, number systems, and measurement. Algebra 1 explores rational numbers, equations, radical expressions, functional relationships, inequalities, linear functions, systems of equations, exponents, polynomial functions, and quadratic functions. Algebra 1 taken before high school is designed for accelerated middle school students. Upon successful completion, students will progress to Geometry.

Geometry
Year-long, Every Other Day
**Prerequisite of successful completion of Algebra 1*
Geometry concepts and logical reasoning are emphasized, while measurement and applications

are integrated to motivate students via real-world connections. As a result, students will be able to communicate mathematically, make connections within geometry and between geometry and other disciplines. Geometry explores reasoning and proof, parallel and perpendicular lines, triangle congruence and relationships, right triangle relationships and trigonometry, quadrilaterals, similarity, area, volume, circles, and transformations. To address district and state standards, this course interweaves mathematical topics of algebra, geometry, statistics, probability, number systems, and measurement. Upon successful completion, students will progress to Algebra 2.

Algebra 2
Year-long, Every Other Day
***Prerequisite of successful completion of Algebra 1*

Building on their work with linear, quadratic, and exponential functions, students extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas for this course, organized into four units are as follows: Inferences and Conclusions from Data; Polynomial, Rational, and Radical Relationships; Trigonometric Functions; Modeling with Functions.

REQUIRED 6TH GRADE CLASSES

Art Activities & Appreciation
Quarter

Art appreciation and history are correlated with studio art, which emphasizes the elements of art (line, shape, color, value, texture, form, and space) and the principles of design (balance, movement, rhythm, contrast emphasis, and pattern unity).

Design and Technology Explorations
Quarter

Introduction to Technology/Engineering is an exciting and fast paced hands-on/minds-on

class. Students will explore areas of technology and engineering from electronics, rocketry, robots and other technology related areas. During each unit, Science Technology Engineering and Math (STEM) concepts will be integrated to provide the student with 21st century skills and help build technological literacy. This class will provide the foundation for additional Technology Education curriculum offered to seventh and eighth grade students. Student projects will align with The Design Cycle (Investigate, Plan, Create, Evaluate) for both student design and evaluation. Safe and proper use of equipment will be integrated in the course.

Physical Education 6
Quarter

This is an active course designed around developing physical fitness and wellness ,desirable social traits, knowledge of a variety of activities and developing motor skill. Depending upon which quarter a student is scheduled (fall/winter/spring), the variety of core activities may include soccer, volleyball, flag football, basketball, softball ,tumbling, racquet skills, aerobics fitness, track and field, and rhythms. Activities may change due to weather conditions.

Science Adventures
Quarter
The Science Adventures class is designed to provide real-world relevance to science and math. Students will work with web-based inquiry activities to analyze existing data, create graphs and tables, and look at the value of representing data in different ways. They will examine animations and learn to read diagrams to obtain information. Finally, students will learn to write a scientific explanation that is supported by evidence.

MUSIC/ELECTIVE CLASSES

Choir 6
Year-long

Choir 6 is a non-auditioned ensemble open to all 6th grade students. The choir performs music from all genres and time periods while learning the basics of singing, posture, music theory, and sight singing. Beginning choir is the entry pathway designed to give students with an interest in singing an opportunity to explore the changing voice at the middle school level. This class will provide a strong choral foundation that will enable students to confidently transition to select choirs at the seventh grade and eighth grade level.

Beginning Band
Year-long

Beginning band is designed for teaching basic skills to beginning wind, brass and percussion players. Tone, technical facility, music terminology, and music reading are emphasized. Music literature appropriate to beginner skill level is presented. Enrollment is based upon completion of the summer band program or by approval of the instructor. If a student is not able to attend the summer band program and wishes to play in the beginning band, they should contact the instructor at the middle school they will attend. Performance opportunities begin in this class. Beginning Band is an extension of PSD summer band. Percussionists are strongly recommended to have two years of piano.

Beginning Orchestra
Year-long

Beginning Orchestra is designed for the beginning string student. Basic techniques of bowing, fingering, and correct manipulation of the instrument are studied. Music literature appropriate to a beginner's skill level is presented. Enrollment is based upon completion of the summer instrumental program or by approval of the instructor. If a student is not able to attend the summer instrumental program and wishes to play in the beginning orchestra, they should contact the instructor at the middle school they will attend. Performance opportunities begin in this class.

World Language Exploration
Semester

World Language Exploration is an elective class designed to introduce students to the alphabet, numbers, pronunciation, basic phrases, greetings, and culture of French, German, and Spanish.

Environmental Education
Semester

Environmental Education invites students to explore the dynamic relationships between Earth's systems and human societies by using real-world geographic tools—such as maps, GIS, and primary source data—to make informed inferences and predictions. Through hands-on investigations, learners will analyze how natural processes and human activities shape local and global ecosystems, with a special focus on Colorado's diverse regions. By evaluating how regional differences and community perspectives across the Front Range, high plains, mountains, and Western Slope influence environmental challenges and solutions, students will build the observation, analysis, and problem-solving skills needed to become thoughtful stewards of our planet.