Mathematics
LONG TERM TRANSFER GOALS
Transfer goals highlight the effective uses of understanding, knowledge, and skill that we seek in the long run; i.e., what we want students to be able to do when they confront new challenges – both in and outside of school.

Students will be able to independently use their learning to:

1. Make sense of and persevere in solving complex and novel mathematical problems.
2. Use effective mathematical reasoning to construct viable arguments and critique the reasoning of others.
3. Communicate precisely when making mathematical statements and express answers with a degree of precision appropriate for the context of the problem/situation.
4. Apply mathematical knowledge to analyze and model situations/relationships using multiple representations and appropriate tools in order to make decisions, solve problems, and draw conclusions.
5. Make use of structure and repeated reasoning to gain a mathematical perspective and formulate generalized problem solving strategies.

Big Ideas	Essential Questions
Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.	How are relationships represented mathematically? How can expressions, equations, and inequalities be used to quantify, solve, model and/or analyze mathematical situations?
Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.	What does it mean to estimate or analyze numerical quantities? When is it is appropriate to estimate versus calculate? What makes a tool and/or strategy appropriate for a given task?
Data can be modeled and used to make inferences.	How does the type of data influence the choice of display? How can probability and data analysis be used to make predictions?
Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.	How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems? How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving? How can geometric properties and theorems be used to describe, model, and analyze situations?
Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.	How can data be organized and represented to provide insight into the relationship between quantities?
Mathematical relationships among numbers can be represented, compared, and communicated.	How is mathematics used to quantify, compare, represent, and model numbers? How can mathematics support effective communication?
Measurement attributes can be quantified and estimated using customary and non-customary units of measure.	Why does "what" we measure influence "how" we measure? In what ways are the mathematical attributes of objects or processes measured, calculated, and/or interpreted? How precise do measurements and calculations need to be?
Patterns exhibit relationships that can be extended, described, and generalized.	How can patterns be used to describe relationships in mathematical situations? How can recognizing repetition or regularity assist in solving-problems more efficiently?