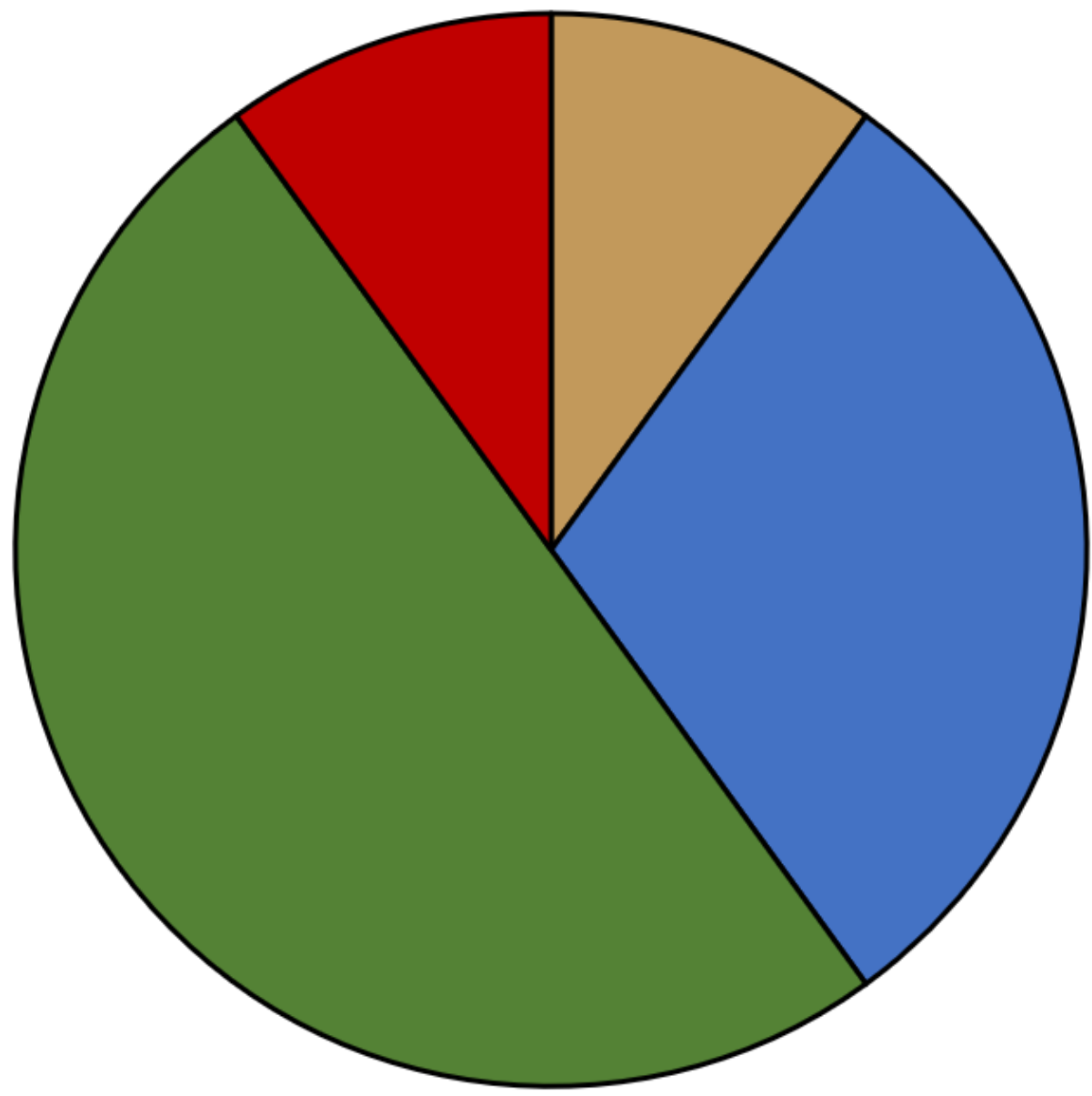


INSTRUCTIONAL FRAMEWORK



Engage Explore Apply Reflect

Time will vary based on instructional focus.

Mathematical Practices

These mathematical practices describe how students should engage with the mathematics content for their grade level. Developing these habits of mind builds students' capacity to become mathematical thinkers. These practices can be applied individually or together in mathematics lessons, and no particular order is required. In well-designed lessons, there are often two or more Mathematical Practices present.

MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals.

Students are expected to:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Engage

Teacher:

- Facilitate an interesting and captivating introduction to the lesson.
- Present the relevant learning objectives within an engaging activity.
- Encourage students' curiosity and wonder about the topics being explored.

Student:

- Notice patterns or connections from previously explored topics.
- Ask questions and express wonder about the concepts being presented.

Explore

Teacher:

- Facilitate and guide student-centered instruction.
- Engage students in exploration of new concepts.
- Provide opportunities for open-ended exploration and inquiry.
- Offer support and assistance as needed during the exploration process.
- Use a variety of data to inform instruction and provide feedback.

Student:

- Think critically, exercise flexibility in thinking, and engage in strategic reasoning.
- Collaborate with peers and ask questions when needed.
- Make connections and explore patterns using various tools and representations.

Apply

Teacher:

- Create opportunities for students to demonstrate and communicate their thinking process.
- Provide clear instructions and expectations for the application tasks.
- Offer guidance, support, or enhancement, as needed.
- Use a variety of data to inform instruction and provide feedback.
- Facilitate collaborative groups to support productive student discourse.

Student:

- Apply the learned concepts to real-world situations, independently or collaboratively.
- Demonstrate and communicate reasoning through various tasks aimed at applying knowledge gained from the exploration.
- Take responsibility for completing the application tasks as assigned.
- Connect and generalize patterns to a broader situation.

Reflect

Teacher:

- Facilitate a summary of the lesson and its objectives.
- Encourage students to reflect on their efforts and learning experience.
- Use purposeful questioning to prompt students to pose questions for future exploration or learning.

Student:

- Communicate efforts by summarizing the learning.
- Engage in self-reflection about their learning process, achievements, and new knowledge obtained.
- Contribute to group discussions or individual reflections and pose questions to solidify understanding for future exploration or learning.