BIE Suggested Grade 8 Math – 12-Week Pacing Guide – Interim 1

Unit 1: Exponents & Integer Properties (8.EE.A.1)

Weeks 1–3 (3 weeks)

Focus: Understanding and applying properties of integer exponents.

Week 1

Review multiplying/dividing powers with the same base (from Grade 7).

Explore exponent rules with positive integers (product of powers, quotient of powers, power of a power).

Use visual models (area, repeated multiplication).

Week 2

Introduce zero exponents and negative exponents.

Apply rules to simplify expressions with multiple bases and exponents.

Practice fluency with simplifying expressions.

Week 3

Extend to expressions involving multiple exponent rules.

Connect exponent rules to scientific notation preparation.

Formative assessment + performance tasks (expression simplification).

Unit 2: Scientific Notation (8.EE.A.3, 8.EE.A.4)

Weeks 4–6 (3 weeks)

Focus: Representing and operating with very large and very small numbers.

Week 4

Represent numbers in scientific notation and standard form.

Explore real-world contexts (astronomy, technology, population data).

Compare/Order numbers in both forms

Week 5

Multiply and divide numbers in scientific notation.

Apply exponent properties to operations in scientific notation.

Model with technology or scientific calculators

Week 6

Apply scientific notation to problem-solving (real-world applications).

Performance tasks (multi-step, interdisciplinary with science).

End-of-unit assessment.

Unit 3: Transformations & Congruence (8.G.A.1, 8.G.A.2)

Weeks 7–9 (3 weeks)

Focus: Understanding rigid motions and congruence.

Week 7

Explore translations on the coordinate plane.

Explore reflections across the x-axis, y-axis, and other lines.

Identify preserved properties (length, angle, parallelism).

Week 8

Explore rotations about the origin and other points

Combine sequences of rigid transformations.

Develop precise geometric language for describing moves.

Week 9

Define congruence as a sequence of rigid transformations.

Apply transformations to determine congruence of figures.

End-of-unit assessment (coordinate proofs + real-world applications).

Unit 4: Similarity & Dilations (8.G.A.3, 8.G.A.4)

Weeks 10–12 (3 weeks)

Focus: Dilations and similarity through transformations.

Week 10

Explore dilations on the coordinate plane (center of dilation, scale factor).

Identify preserved properties (angles, parallelism, proportional side lengths).

Week 11

Define similarity in terms of proportionality and angle preservation.

Connect similarity to proportional reasoning and scale models.

Work with similar triangles in problem-solving.

Week 12

Apply similarity to real-world and mathematical problems (maps, models).

Culminating project/performance task (scale drawing or real-world model).

End-of-unit assessment.