Polyhedra in Architecture and Games

Essential Question: Do polyhedra influence the design of games and architecture? How?

Research using your textbook, BigIdeas.com, and the internet to answer the following questions and complete the activities.

1. What are polyhedra? (define them)

2. What did Plato associate with each of the five Platonic solids? List them by name!

3. Why are the Platonic solids sometimes referred to as the “cosmic figures”?

4. Draw a net for an icosahedron or dodecahedron. Cut out the net and fold it to form the polyhedron.
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5. Describe the 13 polyhedra that are called Archimedean solids.

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6. What is the definition of this category of polyhedra?

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7. Draw a net for one of them. Then cut out the net and fold it to form the polyhedron.

8. Give at least 3 examples of polyhedra used in games. (One should be a newly-developed game.)

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9. Give at least 3 examples of polyhedra used in architecture.

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10. Explain at least 2 reasons that polyhedra are used in architecture.

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