Name: ______________________

Element Ball Project

Directions
Construct an Element Ball (actually an Icosahedron – a regular polyhedron with 20 identical equilateral triangular faces) for your assigned element. This is an individual project. Each student will build their own element ball. You must return this completed sheet with your completed element ball on the due date.

Choosing your element
Elements will be chosen out of a jar!

Required Information
1. Your name and class period ________________________________________________
2. Element name and symbol (Latin name too, if applicable) ______________________
3. Atomic radius ____________________________________________________________
4. Atomic number and mass _________________________________________________
5. First ionization energy ____________________________________________________
6. List of common isotopes __________________________________________________
7. Number of protons, neutrons, and electrons _________________________________
8. When discovered and by whom _____________________________________________
9. Group number (and name) and Period number _______________________________
10. Number(s) of valence electrons ____________________________________________
11. Common charge (or charges) ______________________________________________
12. Boiling point or melting point _____________________________________________
13. Density at room temperature, in g/cm$^3$ ___________________________________
14. Is the element a metal, nonmetal, or metalloid? _______________________________
15. Physical state at room temperature _________________________________________
16. Electron configuration _____________________________________________________
17. Electronegativity _________________________________________________________
18. Commercial/Common use _________________________________________________
19. Scientific use _____________________________________________________________
20. Health or Safety issues ____________________________________________________
Everything must be completed by hand. No computer print outs will be accepted.

<table>
<thead>
<tr>
<th>Deadline: NO projects will be accepted after the deadline.</th>
<th>Possible Points</th>
<th>Points Earned</th>
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</thead>
<tbody>
<tr>
<td>Correct Information: All sides contain correct information about the element.</td>
<td>70 points</td>
<td></td>
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<tr>
<td>Neatness: The project is neat and well-constructed. There are no significant weaknesses in the construction or errors in design.</td>
<td>15 points</td>
<td></td>
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<tr>
<td>Creativity/Uniqueness: Attention is drawn to the project due to unique styles or designs. The individuality of the project is readily apparent.</td>
<td>15 points</td>
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<tr>
<td>100 Total Points</td>
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</tbody>
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Construction:
1. Use the attached pattern to cut 20 circles from poster board or cardstock.
2. Fold the circles into triangles, as shown on pattern. (All triangles must be exactly alike!) The folds will end up INSIDE the icosahedron.
3. Add one of the required items to each of 20 separate faces. Color and decorate as you please. Pictures or clip art may be suitable for some items. (All information must be placed inside the triangle-shaped space!)
4. Punch a hole in the side with your name and class period and tie on a 2 feet long piece of string before you put the ball together. This will be used to hang the project.
5. Select 5 (five) triangles and glue, tape or staple them together in a pie shape pentagon to make the top of the element ball.
6. The folded parts of the circle should go inside the element ball.
7. Repeat with another 5 (five) triangles to make the bottom of the element ball.
8. Take the remaining 10 triangles and glue, tape or staple them together in a strip.
9. Glue, tape, or staple the ends of the strip together to form a ring. This will form the equator of the element ball.
10. Secure one of the pentagons to the top of the ring, turn over and secure the other...
pentagon to form the complete ball. *(This step requires AT LEAST three hands, so ask someone to help.)*

Choose a size!