Select **one** of the elements on the Periodic Table and construct an Element Globe, actually an Icosahedron (a regular polyhedron with 20 identical equilateral triangular faces) for the element. **Project Assignment:** 



# My Element: \_\_\_\_\_ Due: \_\_\_\_\_

#### The Element:

- Tell T. Denise which element you have chosen. Everyone must have a different element <u>first come, first</u> <u>served!</u>
- After your element is approved, begin to research the required information (see data sheet).
- Templates, construction paper (12 pieces), string, and scissors will be provided during the next class period. By the end of this class, you should have all the ball's "faces" (with spares) cut out.
- The remaining construction will be done outside of class.

#### **Required Information:**

See data page. Record the information on the data page to transfer to the ball pieces.

#### Construction:

- Using the pattern, cut 20 circles from construction paper. (During class.)
- Fold the circles into triangles, as shown on pattern. (All triangles must be exactly alike!) The folds will end up



INSIDE the icosahedron. Figure 1

- Add one of the required items to each of 19 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!)
- Select 5 (five) triangles and glue, tape or staple them together in a pie shape pentagon to make the top of the element ball.



- The folded parts of the circle should go inside the element ball. Figure 2
- Repeat with another 5 (five) triangles to make the bottom of the element ball.
- Take the remaining 10 triangles and glue, tape or staple them together in a strip.



- Glue, tape or staple the ends of the strip together to form a ring. This will form the equator of the element ball.
- Secure one of the pentagons to the top of the ring. Turn over and secure the other pentagon to form the complete element ball. (This step requires AT LEAST three hands, so ask someone to help.)
- Punch a hole in the side with **no information** and tie on a 1-meter piece of string. This will be used to hang the project.

## Element Globe Data Sheet

(Must be turned in with project!)

- 1. Your name and project construction date:
- 2. Element name:
- 3. Chemical symbol:
- 4. Atomic number:
- 5. Atomic mass:
- 6. Atomic radius:
- 7. Number of protons, neutrons, and electrons:
- 8. When discovered and by whom:
- 9. Group and Period number:
- 10. Family (Group) name (halogen, alkali metal, transition metal, etc.):
- 11. Common Oxidation Numbers:
- 12. Boiling or Melting point:
- 13. Density, in g/cm<sup>3</sup>:
- 14. Is the element a metal, nonmetal, or metalloid?:
- 15. Physical state at room temperature:
- 16. Electron configuration (3 of shells & electrons in each):
- 17. Commercial use:
- 18. Scientific use:
- 19. Health or Safety issues:

### Project Rubric

Deadline: NO projects will be accepted after the deadline	• 0 points
Finished Product: The project demonstrates <u>careful</u> <u>construction</u> ! All sides fit together neatly. NO structural faults are visible. Data sheet is included & neat	• 10 points
• Correct Information: All sides contain <u>correct</u> information about the element, 2 pts, per side	• 38 points
• <b>Creativity/Uniqueness:</b> Attention is drawn to the project due to unique styles or designs. The individuality of the project is readily apparent through use of color, line, and araphics.	• 10 points
• Oral Presentation: The presentation is captivating and easily understood. Presentation of the information demonstrates the uniqueness of the element.	• 12 points
Total Points	• 70 points