**Manzano middle school**

**8th grade science**



**Dear Manzano Spartans,**

**We have a problem, and the yearbook staff is in a panic! The Manzano Middle School yearbook staff may miss the printing deadline. The deadline is approaching fast and we need all the help we can get. We need your help to complete our exchange student section. We have completed all of the other sections of the yearbook; however, the exchange student’s section is not finished. This year our exchange students were far out.**

**They came from the distant galaxy Andromeda. The eighteen Alien exchange students have unique physical characteristics and behavior made them a close-knit group. We had eighteen Alien exchange students. However, we only have photographs of seventeen Aliens. We are missing the photograph of My Favorite Alien. Most of the Aliens were from the same families. Their physical features and clothing are similar. We need someone to create a portrait of the missing Alien. The missing Alien was Sharpscity’s favorite. I have included the pictures of the seventeen remaining Aliens.**

**Arrange the pictures of the seventeen Aliens in their families according to their clothing and arrange them in periods according to their physical characteristics. If you can do this, you will be able to determine where My Favorite Alien fits in. Please draw the portrait of the missing Alien to help us complete the exchange student’s section of the yearbook. Please help us meet the deadline.**

**Miss Medrano,**

**Yearbook Editor/8th Grade Science Teacher**

MY FAVORITE ALIEN

1. What is the name of the fifteenth Alien?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Which alien seems to not follow the pattern/rules?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. How many Alien families are represented?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. To which Alien family does My Favorite Alien belong?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. How many electrons does it take to fill the 1st, 2nd, and 3rd energy levels:

1st Shell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2rd Shell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3rd Shell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. How many electrons are in each level for Alien thirteen?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Please explain why some Aliens are smiling and some are frowning?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. What is a valence electron?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. What do the arms represent?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. What do the projections on the head represent?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. List all of the Aliens that have a full outer energy level. [List names from the periodic table of elements]\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. What two things helped you place each Alien in a family?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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13. Draw a portrait of the missing alien below. Include everything that other Alien family members have. Make sure to include its name.

 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_