Articles- **NATURAL** & SYNTHETIC

Directions: Each student at your table will be given a different article to read. You will read your article and answer the questions on your worksheet. Then you will group up with someone else who has your same article. You will answer the questions from your group discussion. Then you will go back to your table and share your article with your table. Each student at the table will have a different article and a different worksheet.

GOLF BALL CLEANUP

1. What did Alex Weber find when she was diving in the ocean?
2. She started to pick them up when she would dive. On a typical dive, how many would she pick up?
3. She visited local links and told them about the problem… did they seem concerned?
4. Alex got the help from Matthew Savoca at Stanford University. What type of scientist is he?
5. Savoca made sure they followed the scientific _____ process, meticulously planning and _____ their endeavor. He told Alex that gathering _____ was the key to writing a research paper.
6. What happens in the ocean to wear down the golf balls?
7. What is the outside of the golf ball made from?
8. When the outer shell erodes, it creates tiny bits of _____.
9. They are mistaken for food by marine animals. Is this healthy for them to eat?
10. What is in the center of a golf ball that is toxic to marine life?
11. What are some possible solutions to keeping golf balls out of the ocean?

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EXPERT GROUP

Directions: You will find 2-3 other people that have your same article (yellow paper). As a group, you will discuss what you read and answer the following questions.

1. By what stage is all surface plastic gone from the golf ball?
2. What is released from the core of the golf ball?
3. Why is golf ball pollution in the ocean a problem?
4. What steps did Alex follow to convince golf courses to do something about golf ball pollution?

TABLE GROUPS

Directions: Each person at your table read a different article. They will be asking you these questions. Be prepared to answer.

1. What happens to a golf ball after it enters the ocean?
2. Why is it a problem that golf balls land in the ocean?
3. Are golf balls made from natural or synthetic substances? Explain your answer.

The table below has questions for you to ask the people at your table about the articles that they read. Ask them the questions and write down their answers.

Chewing on Plastic:

1. What pollution problem can be caused by using artificial gum?

2. Seattle has a famous gum wall. Discuss what that gum wall would be like (or if it would exist) if it was only filled with "simply gum."

3. Did the woman who invented the gum use the scientific method or the engineering design process to perfect her gum? Why?

Cell Phone Chemistry:

1. Choose 3 of the **elements** used in a cell phone and explain their function.
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2. Explain how a cell phone is a synthetic item but comes from natural resources.

The Bizarre Quest for Artificial Blood:

1. Why is there a need for artificial blood?

2. Does artificial blood need to be exactly the same as real human blood? Why/Why not?

3. Are there places in the world that use artificial blood? Where? Why?

CLASS DISCUSSION

Directions: As a class, give examples of advantages and disadvantages to synthetic products.

Advantages	Disadvantages