

Grade 9

Distance Learning Module 10: Week of: June 8<sup>th</sup> – June 12<sup>th</sup>

## Conceptual Chemistry - *Modified from [Unit #3 - Polymers](#)*

### Targeted Goals from Stage 1: Desired Results

#### Content Knowledge:

1. A functional group is an atom or group of atoms within a molecule that has similar chemical properties whenever it appears in various compounds. Common functional groups include: alcohols, amines, carboxylic acids and esters.
2. Natural polymers occur in nature and can be extracted. They are often water-based. Examples of naturally occurring polymers are starches, cellulose, nucleic acids and proteins.
3. Synthetic polymers are derived from petroleum oil, and made by scientists and engineers. Examples of synthetic polymers include nylon, polyethylene, polyester, Teflon, and epoxy.

#### Vocabulary:

Organic Functional Group, Hydroxyl Group, Carboxylic Acid, Ester, Amine, Hydration Reaction, Dehydration Reaction, monomer, polymer, natural polymer, synthetic polymer

#### Skills:

1. Conduct an experiment using proper scientific design and protocols.
2. Gather and analyze data to draw conclusions and communicate results.
3. Identify how the use of bioplastics can impact the environment and cite evidence to justify claims.

#### Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
<p>Monday: Students will watch edpuzzle videos that discuss four functional groups in organic compounds, which include, hydroxyl group (-OH), carboxylic acids (OH-R=O), amines (-NH<sub>2</sub>), and Esters. Students will then complete a worksheet where they will identify the functional groups based on the type of molecule they form, the names of the functional group, properties of the functional groups, and their drawings.</p>	<p><b>Introduction to Functional Groups:</b> Edpuzzle</p> <p><b>Alcohols, Carboxylic Acids, and Amines:</b> Edpuzzle</p> <p><b>Esters:</b> Edpuzzle</p> <p><b>Worksheet Answer Key:</b> Google doc posted in Google classroom</p>	<p><b>Worksheet:</b> Google doc posted in Google classroom</p>
<p>Tuesday: Students will practice identifying functional groups by observing them within a molecule. Then students will practice on their own with an accompanying worksheet. Students will observe organic molecules, circle the functional groups inside of the molecule, and identify the name of the functional group that they circled. Students are only responsible to know the four functional groups they learned on Monday.</p> <p><b>Online Q&amp;A/ Office Hours: 9:25 a.m.-10 a.m</b></p>	<p><b>Practice Identifying Functional Groups:</b> Edpuzzle</p> <p><b>Functional Group Reference Table:</b> Google doc posted in Google classroom</p> <p><b>Worksheet Answer Key:</b> Google doc posted in Google classroom</p>	<p><b>Worksheet:</b> Google doc posted in Google classroom</p>
<p>Wednesday: Students will be introduced to both synthetic and natural polymers. Students will first watch a crash course on polymers, and then read an article discussing natural polymers from Newsela. Students will take notes on</p>	<p><b>Introduction to Polymers:</b> Edpuzzle</p> <p><b>VIDEOS:</b> YouTube video: How Big The Great Pacific Garbage Patch Really Is</p>	<p><b>T-Chart Notes Organizer</b> posted in Google classroom</p>

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
the videos and the article using a T-Chart Notes Organizer.	[Introduced the Great Pacific Garbage Patch]  YouTube video: [Kurtzgesagt general overview of plastic pollution]  <b>Newsela Article Discussing Natural Polymers:</b>	
Thursday: Students will review the material from unit two. Students will be asked to complete a Unit 3 practice test that goes over organic molecules, organic functional groups, and polymers.  <b>Online Q&amp;A/ Office Hours: 9:25 a.m.-10 a.m</b>	<b>Practice Test Answer Key:</b> posted in Google classroom	<b>Unit 3 Practice Test:</b> posted in Google classroom
Friday: Complete Module 10 Content Check Review from the week Check answer keys for worksheets, retry if needed Office hours 9:25 a.m. to 10:00 a.m.		

**Week criteria for success** (attach student checklists or rubrics):

- watched all of the recorded videos and taken notes
- completed all google forms and checked for accuracy. Each incorrect answer on the google form will provide feedback as to why the correct answer is preferred. Students will incorporate this feedback into future attempts.
- Students will complete an end of the week assessment that checks on content understanding for the topics of the week.
- incorporated feedback, submitted second attempt, if needed on google classroom

**Supportive resources and tutorials for the week** (plans for re-teaching):

- online virtual Q and A help sessions (see Google Classroom for times and invite codes)