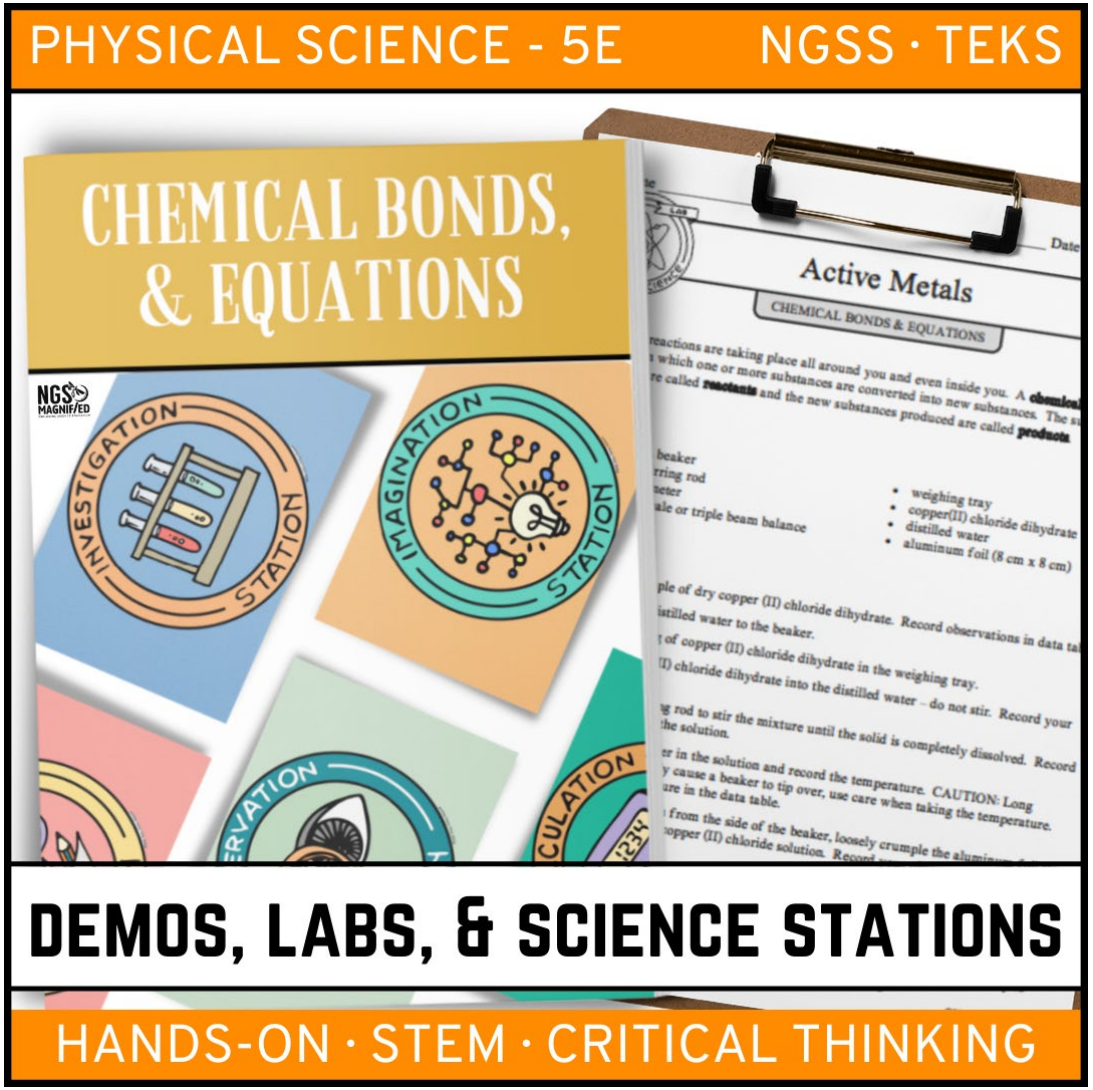
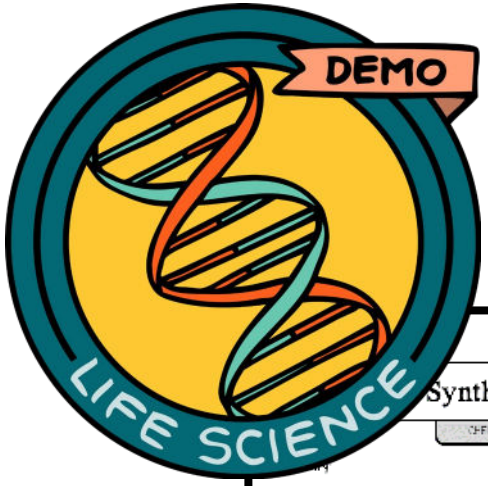
Demos, Labs, & Science Stations Feature:

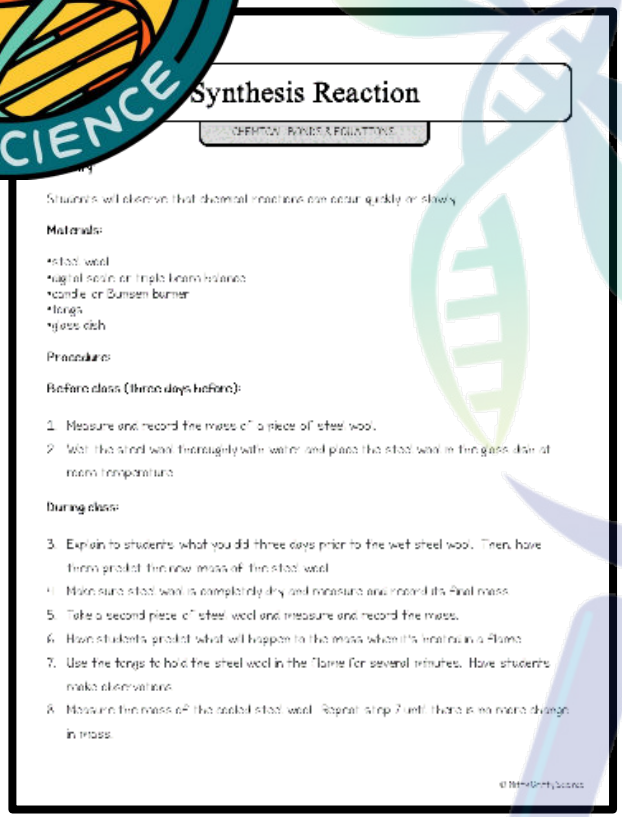
- Hands-on Investigations
- STEM Challenge
- Scientific Literacy
- Inquiry Process Skills



ALL Station Signage Included!!

Color & Black and White




Synthesis Reaction

CHEMICAL BONDS & EQUATIONS

Students will observe that chemical reactions can occur quickly or slowly.

Materials:

•steel wool
•digital scale or triple beam balance
•candle or Bunsen burner
•tongs
•glass dish

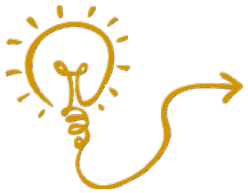
Procedure:

Before class (three days before):

1. Measure and record the mass of a piece of steel wool.
2. Wet the steel wool thoroughly with water and place the steel wool in the glass dish at room temperature.

During class:

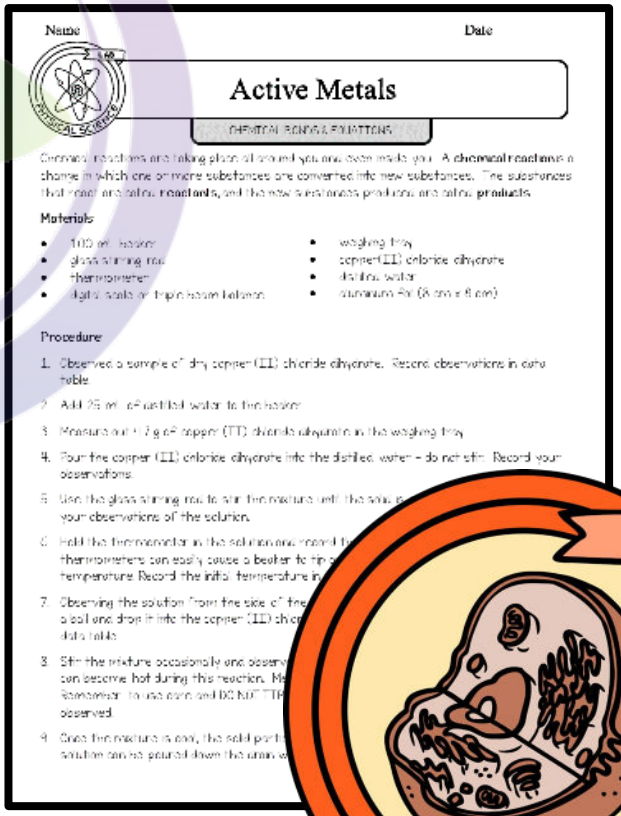
3. Explain to students what you did three days prior to the wet steel wool. Then, have them predict the new mass of the steel wool.
4. Make sure steel wool is completely dry and measure and record its final mass.
5. Take a second piece of steel wool and measure and record the mass.
6. Have students predict what will happen to the mass when it's heated in a flame.
7. Use the tongs to hold the steel wool in the flame for several minutes. Have students make observations.
8. Measure the mass of the cooled steel wool. Repeat step 7 until there is no more change in mass.



Discussion questions and teacher set-up included!

Teacher guide and answer key offered for every lab!

Easy-to-get materials!


Name Date

Active Metals

CHEMICAL BONDS & EQUATIONS

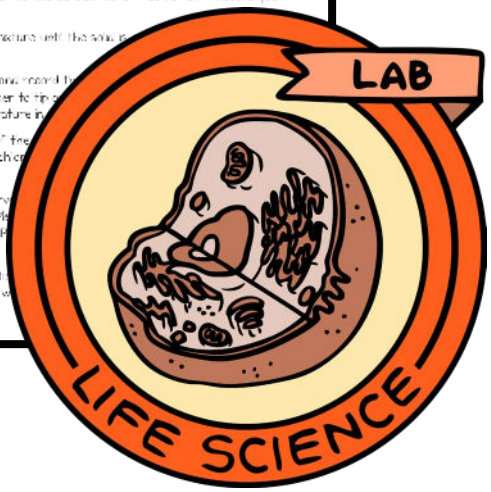
Common reactions are taking place all around you and even inside you. A chemical reaction is a change in which one or more substances are converted into new substances. The substances that enter are called reactants, and the new substances produced are called products.

Materials

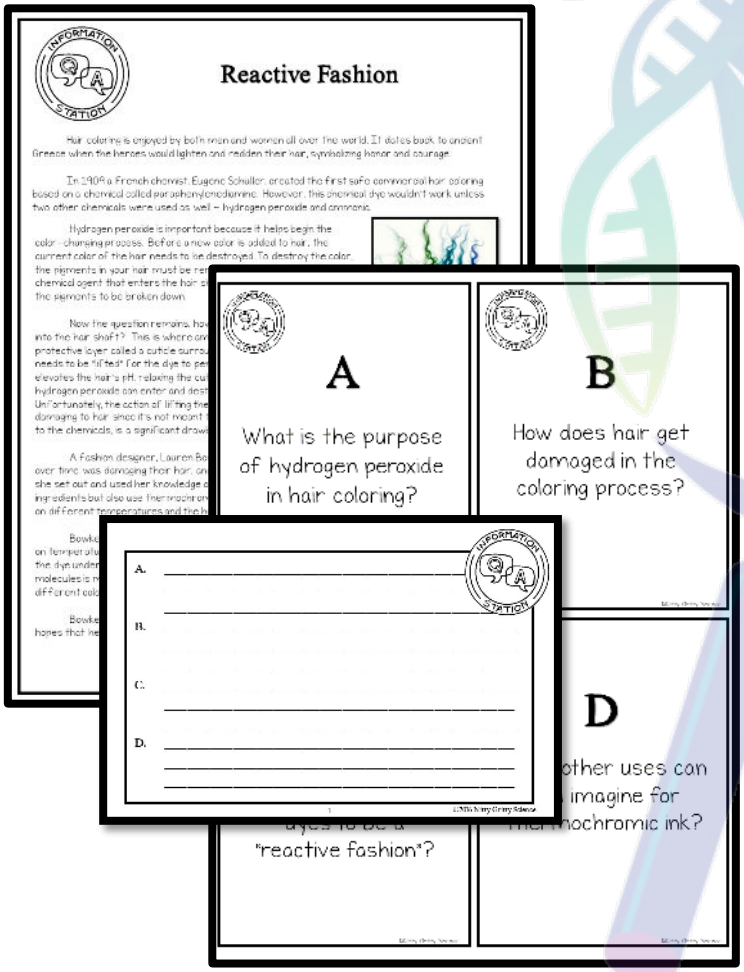
- 100 ml beaker
- glass stirring rod
- thermometer
- digital scale or triple beam balance
- weighing tray
- copper(II) chloride dihydrate
- distilled water
- aluminum foil (5 cm x 5 cm)

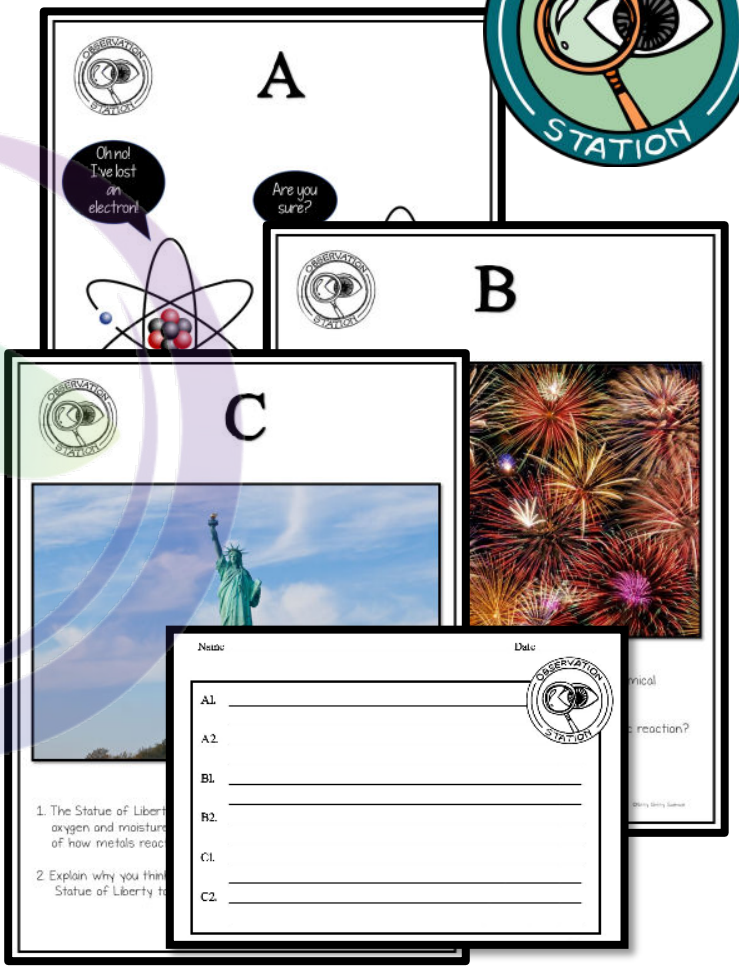
Procedure

1. Observe a sample of dry copper(II) chloride dihydrate. Record observations in data table.
2. Add 25 ml of distilled water to the beaker.
3. Measure out 1.7 g of copper (II) chloride dihydrate in the weighing tray.
4. Pour the copper (II) chloride dihydrate into the distilled water – do not stir. Record your observations.
5. Use the glass stirring rod to stir the mixture until the solid is [illegible] your observations of the solution.
6. Hold the thermometer in the solution and record the [illegible] thermometers can easily cause a beaker to tip [illegible] temperature. Record the initial temperature in [illegible]
7. Observing the solution from the side of the [illegible] a coil and drop it into the copper(II) chloride [illegible] data table.
8. Stir the mixture occasionally and observe [illegible] can observe hot during this reaction. Me[illegible] thermometer to use once and DO NOT TH[illegible] observed.
9. Once the mixture is cool, the solid part [illegible] solution can be poured down the drain w[illegible]



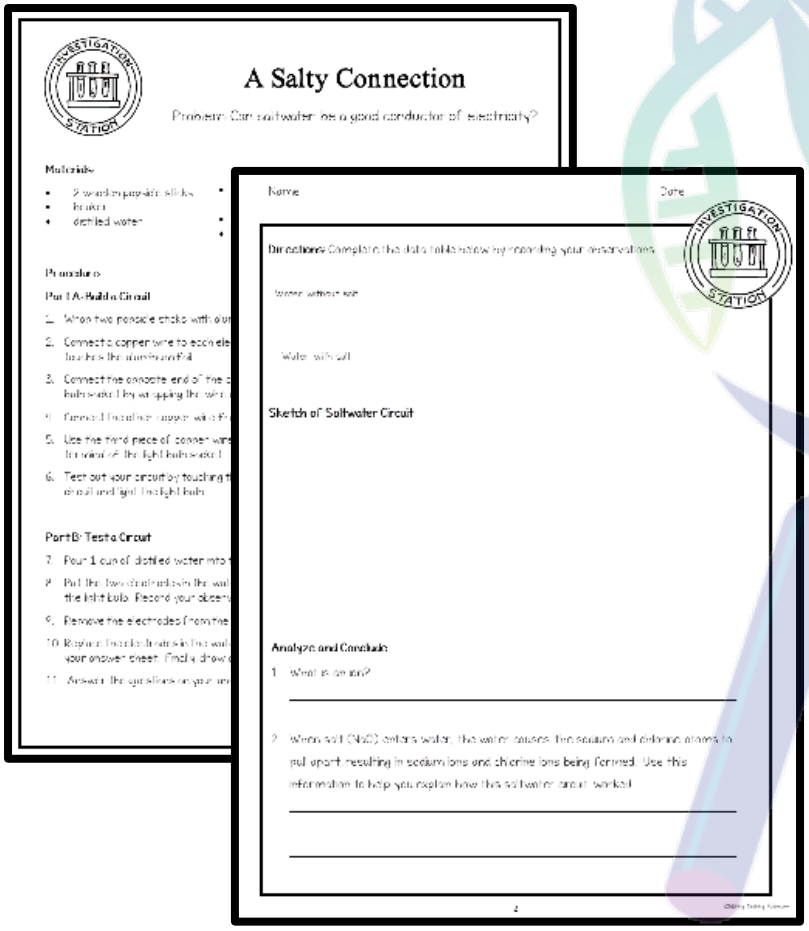
Group members will read a passage and then complete a task to help increase science literacy and deepen their understanding of the science concept.

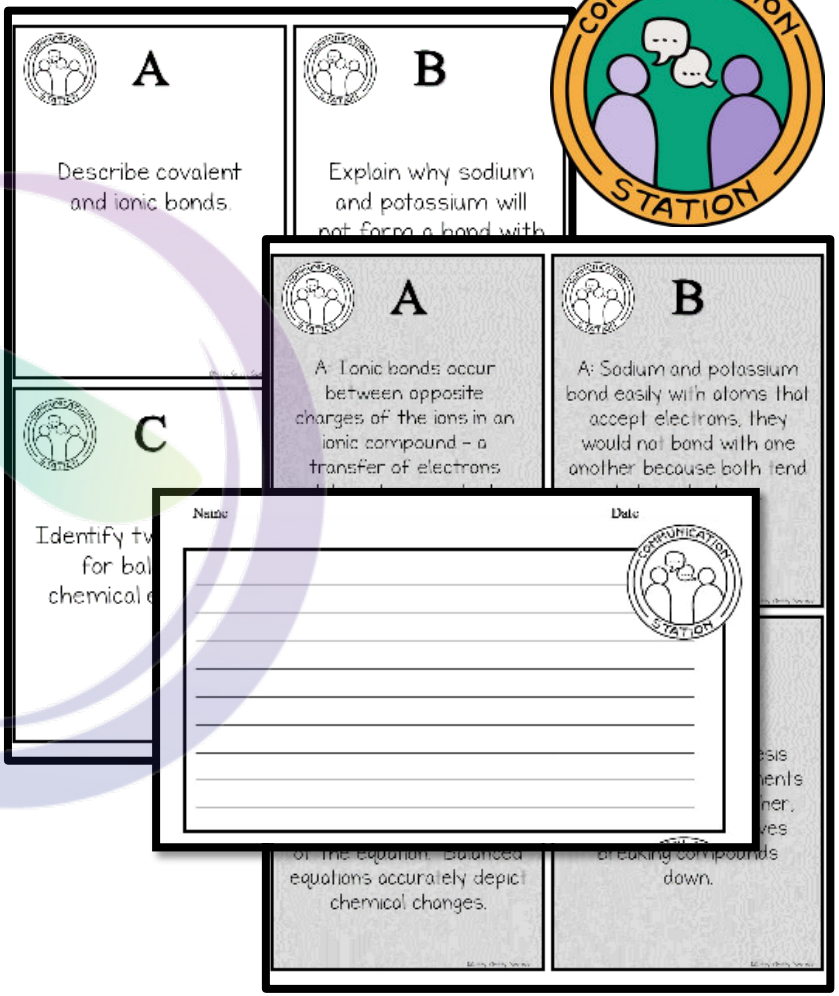




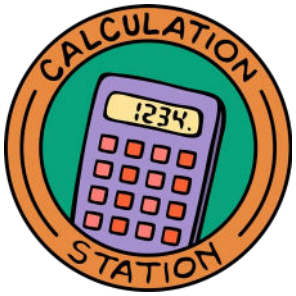
Group members will have images, illustrations, or actual samples at this station that show applications or processes of the science topic.

Group members will work with one another to explore the concept through hands-on activities, so they may practice specific inquiry process skills as they learn.

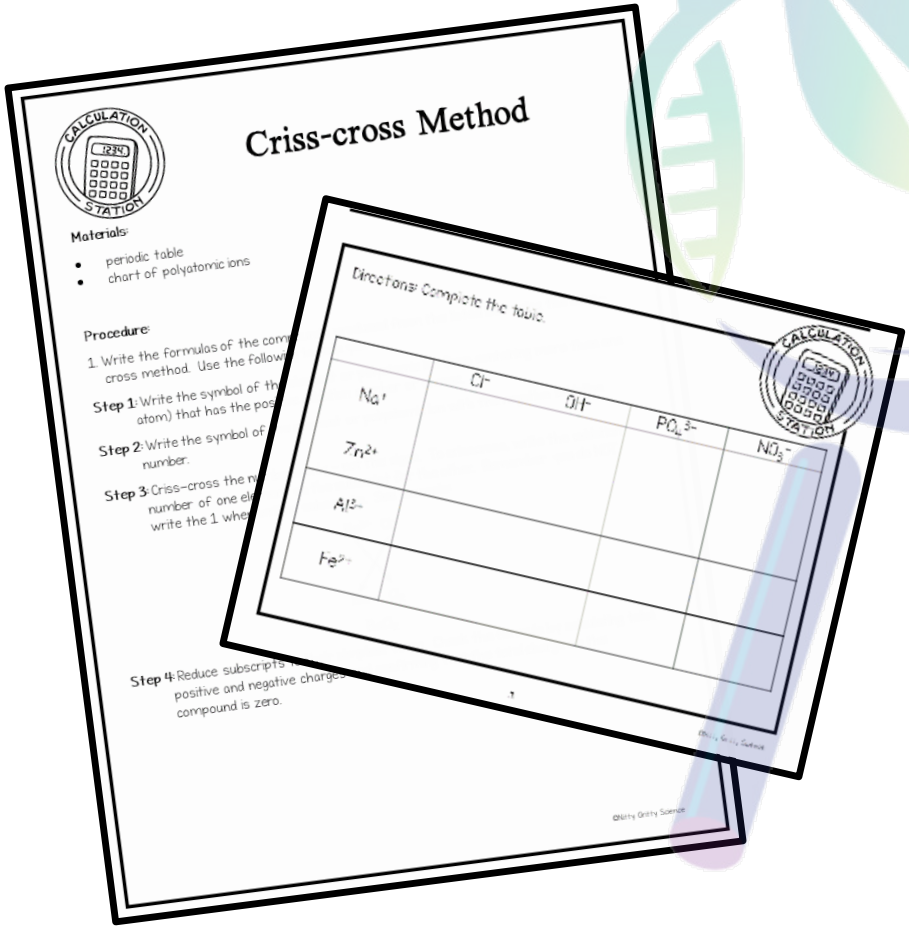


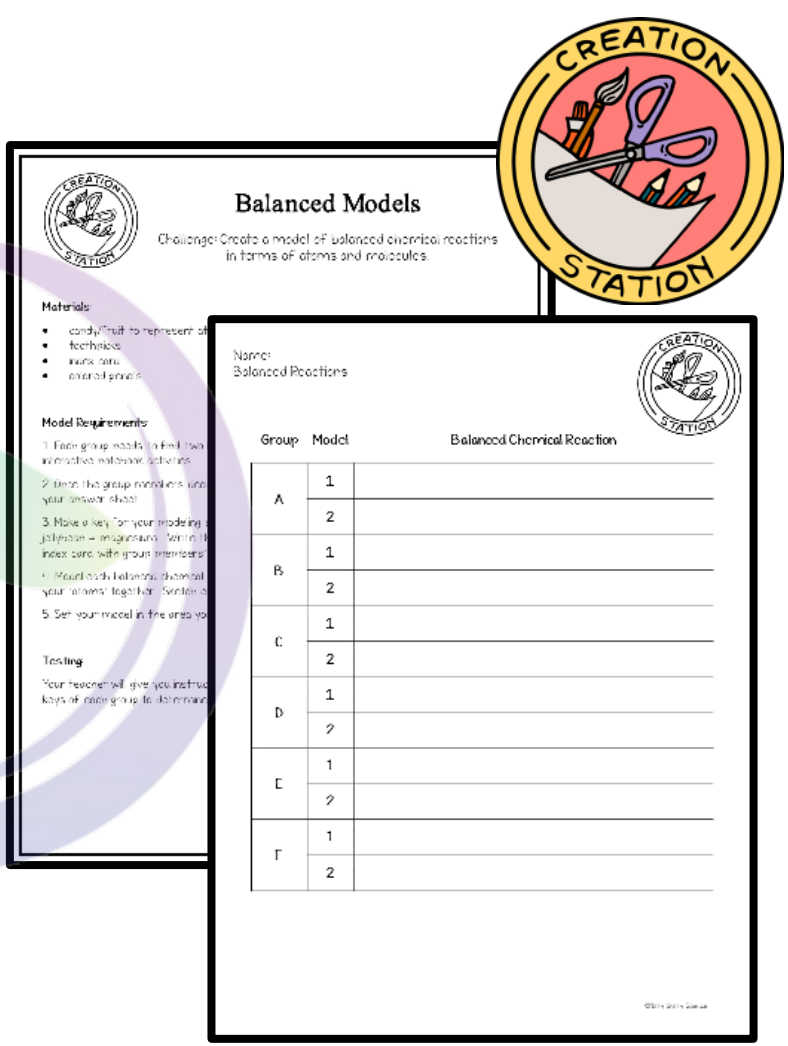


There are three different options for this station: interviews, videos, or group essay. Depending on the option you choose, group members will communicate what they know by answering questions in creative ways.



Group members use their math skills to complete the station challenge. Skills may include graphing, analyzing data, using models, measurement, and calculating formulas or word problems.

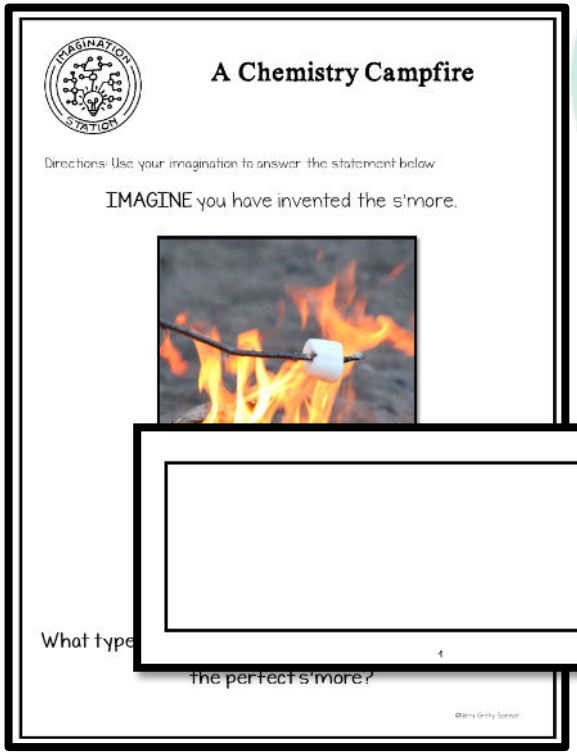


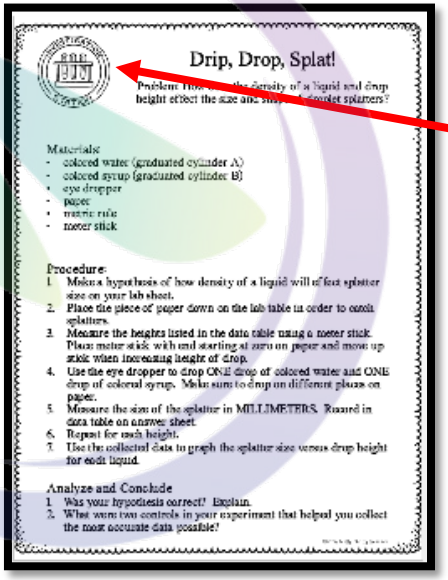


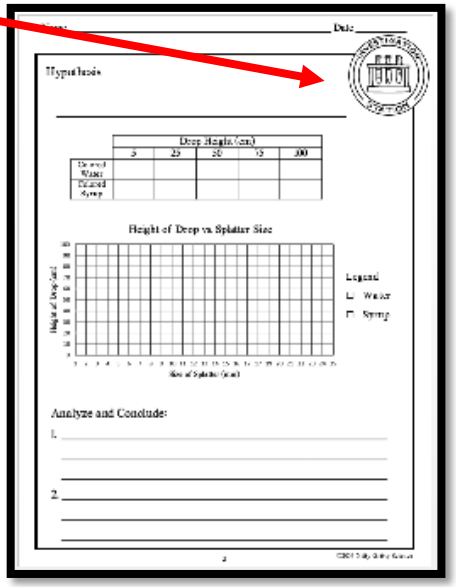
Group members will work together to solve a STEM (Science, Technology, Engineering, Math) challenge by creating models or designs that demonstrate their understanding of the science topic being taught.

This station makes science concepts relevant for students by asking them to imagine scenarios that will bring about discussion and critical thinking.

USER-FRIENDLY PAGES:
Students easily recognize which answer sheet to use at each station by matching station icons located on each page!







TEACHERS SAVE TIME:
Laminate station pages and reuse for each class and for years to follow!

Inquiry and Process Skills

Demo Guided Inquiry Lab Science Stations

Inquiry-Based Science Unit: Chemical Bonds and Equations	Classifying	Communicating	Compare & Contrast	Creating Models	Gather/Organize Data	Generalizing	Identifying Variables	Inferring	Interpreting Data and Graphs	Making Decisions	Manipulating Materials	Measuring / Calculating	Observing	Predicting
Synthesis Reaction	X	X	X			X		X		X	X		X	
Active Metals		X	X	X	X		X		X		X	X		X
Information Station: Reactive Fashion		X	X		X	X		X		X			X	
Observation Station: Images & Questions	X		X		X	X		X					X	
Investigation Station: A Salty Connection	X		X		X		X		X		X		X	
Calculation Station: Criss-cross Method					X		X			X		X		
Communication Station: Questions	X	X				X				X				
Creation Station: Balanced Models		X		X	X				X	X	X	X		X
Imagination Station: A Chemistry Campfire		X		X						X				X

NGS Magnified promotes scientific inquiry throughout the curriculum. Students become more confident and effective learners while developing problem-solving and critical thinking skills. Process skills, such as planning, organizing, and evaluating, help students to complete projects and assignments. These skills allow students to independently gather information, analyze it, and draw their own conclusions.

This download is part of the
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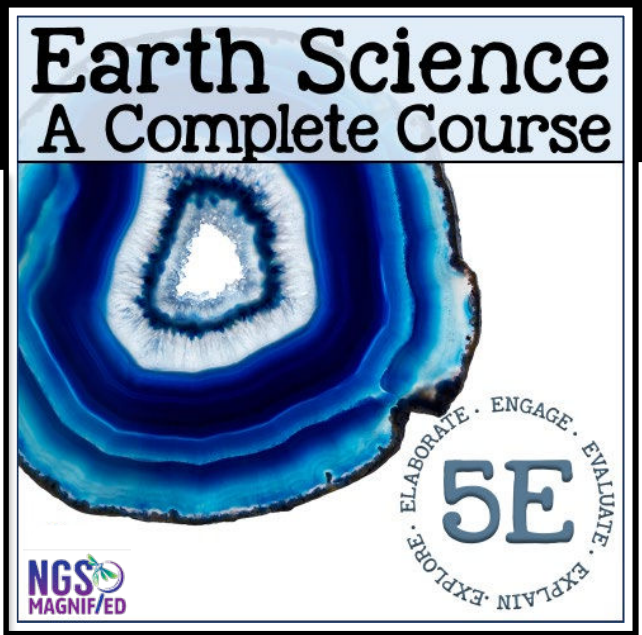
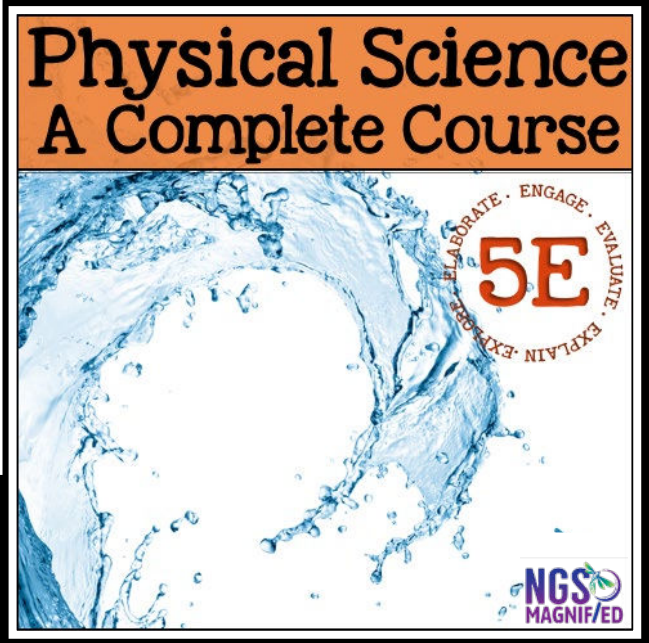
Click below to learn more.





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