

# SCIENCE FAIR CENTRAL



2021

## THE HOME DEPOT VIRTUAL FIELD TRIP

### Objectives

Students will be able to:

- **Explain** the concept of a global supply chain and **investigate** the supply chain behind a product they use daily.
- **Analyze** the sustainability of a product's supply chain and **develop** suggestions for improvement.
- **Investigate** specific trades careers and **role-play** a discussion from one career's perspective.

### Overview

In this Virtual Field Trip (VFT) from The Home Depot and Discovery Education, students will get an in-depth look at global supply chains, hands-on trades careers, and the value of their personal "know-how." The companion activities included here are designed to engage students prior to and during the Virtual Field Trip, as well as extend learning from the Virtual Field Trip to the classroom. In the activities that follow, students will strengthen and apply their understanding of the global supply chain and connect it to products they use every day. They will also explore trades careers that interest them, assume the role of a career of their choice, and role-play a scene in which they discuss their profession.

### Materials

- During-the-Virtual Field Trip: Global Supply Chain handout, one per student
- After the Virtual Field Trip: My Supply Chain, one per student
- Devices with Internet access: At least one per every two students
- After the Virtual Field Trip: Trades Careers, one per student
- Sticky note: One per student



## Instructional Delivery Method

This Virtual Field Trip is presented as an in-classroom experience, but it can also be easily completed at home. Feel free to make modifications based on your teaching environment. For example:

- All handouts and materials may be shared virtually.
- All partner activities may be completed independently or in virtual breakout rooms.
- Discussions can be conducted virtually, or students can respond to questions in writing independently.

## Engage

- To prepare your class for the Virtual Field Trip, challenge students to use a piece of scrap paper to brainstorm every item they have used today from the moment they woke up to now. Encourage them to think carefully. For instance: As they were waking up, they likely already used a pillow, sheets, a mattress, a bed frame, a light, an alarm clock or phone, a night table, and more!
- Once the class has had a few moments to brainstorm, write the following categories on the board and encourage students to share the items they brainstormed for each one:
  - Waking up
  - Getting ready for school
  - Traveling to school
  - During the school day
- Summarize that we—as a human population—use a lot of different items on a daily basis. So far, they have only considered what they use before school and during school. You haven't even talked yet about what they use after school, in the evenings, at night, on the weekends, or when they are on vacation!
- Ask students to consider: Where do all these “things” come from? After encouraging students to share their thoughts, acknowledge that the answer is complicated. To find out more, students are going to participate in the \_\_\_ Virtual Field Trip!

## During the Virtual Field Trip

Distribute one *During-the-Virtual Field Trip: Global Supply Chain* handout to each student. Review the directions provided, and tell the class that the Virtual Field Trip will explain the concept of a global supply chain. Instruct students to complete Part 1 of the handout during the Virtual Field Trip, and then give the class a few minutes to complete Part 2 after the field trip ends.



## After the Virtual Field Trip

### Activity 1

- Encourage students to use their word clouds to explain the concept of a Global Supply Chain. Be sure they understand that a supply chain is made up of the goods and services that transform raw materials into finished products, as well as how these products are distributed and sold. A global supply chain involves every single step of making and selling goods all around the world.
- Then challenge students to think about the supply chain behind products they frequently use. Distribute one *After the Virtual Field Trip: My Supply Chain* handout to each student, and do the following to prepare the class for this activity:
  - Review the directions and each of the steps provided.
  - Be sure students understand that they may not be able to find exact answers for their particular product, and that's okay! The goal of the activity is to get an overview of the supply chain behind the product they select.
  - Decide whether students will complete the activity individually, in pairs, or in groups of three. This may depend on the technology you have available.
- Once students have completed their research, bring the class back together and lead a discussion focused around the work they just completed. Discussion questions may include:
  - Are you surprised by the number of raw materials needed for your product? Why or why not?
  - Based on what you learned during the Virtual Field Trip, what steps can be taken to make supply chains more sustainable? Ensure students mention the importance of thinking about waste, transportation, and energy used, as well as other ways to protect and/or restore the environment (for instance: planting new trees, etc.).
  - What parts of your product's global supply chain seem most sustainable? What parts could be improved, and what changes would you make?

### Activity 2

- Explain that the woodworker, who students met during the Virtual Field Trip, is just one example of a trades career. There are also many other different kinds of skilled trades careers—and each one does their important and challenging hands-on work!
- Distribute one *After the Virtual Field Trip—Trades Careers* handout to each student, and read the Background section of the handout aloud together.
- Then give students time to complete the *Learn More* and *Focus* sections, either individually or with a partner.



- Once students have wrapped up the first two sections, prepare them for the third section by doing the following:
  - Read through the *Share* section together.
  - Encourage students to choose the career they will focus on, and instruct them to create a sticky note name-tag with their career title.
  - Guide students in forming groups of three or four around the classroom, ensuring that each group has a diverse range of careers.
- Then give groups time to use the questions provided to hold an engaging discussion around their trades careers.
- Wrap up with a class-wide conversation around the following prompt:

*You just talked a lot about your future. Now let's think about **now!***

*Trades skills can also help us be more independent in our everyday lives. What hard skill(s) (e.g., specific technical skills such as furniture-building, plant-care, computer programming, sewing, car maintenance, etc.) could you start learning today that will help you solve problems in your daily life? Where and/or how could you start learning this skill?*



## National Standards

### Next Generation Science Standards

- Engineering Design
  - Cross-Cutting Concepts: Influence of Science, Engineering, and Technology on Society and the Natural World
    - All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ETS1-1)
    - The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)

### C3 Framework for Social Studies Standards

- D2.Eco.1.6-8: Explain how economic decisions affect the well-being of individuals, businesses, and society.
- D2.Eco.2.6-8: Evaluate alternative approaches or solutions to current economic issues in terms of benefits and costs for different groups and society as a whole.

### English Language Arts Standards

- SL.1: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- SL.2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- R.7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

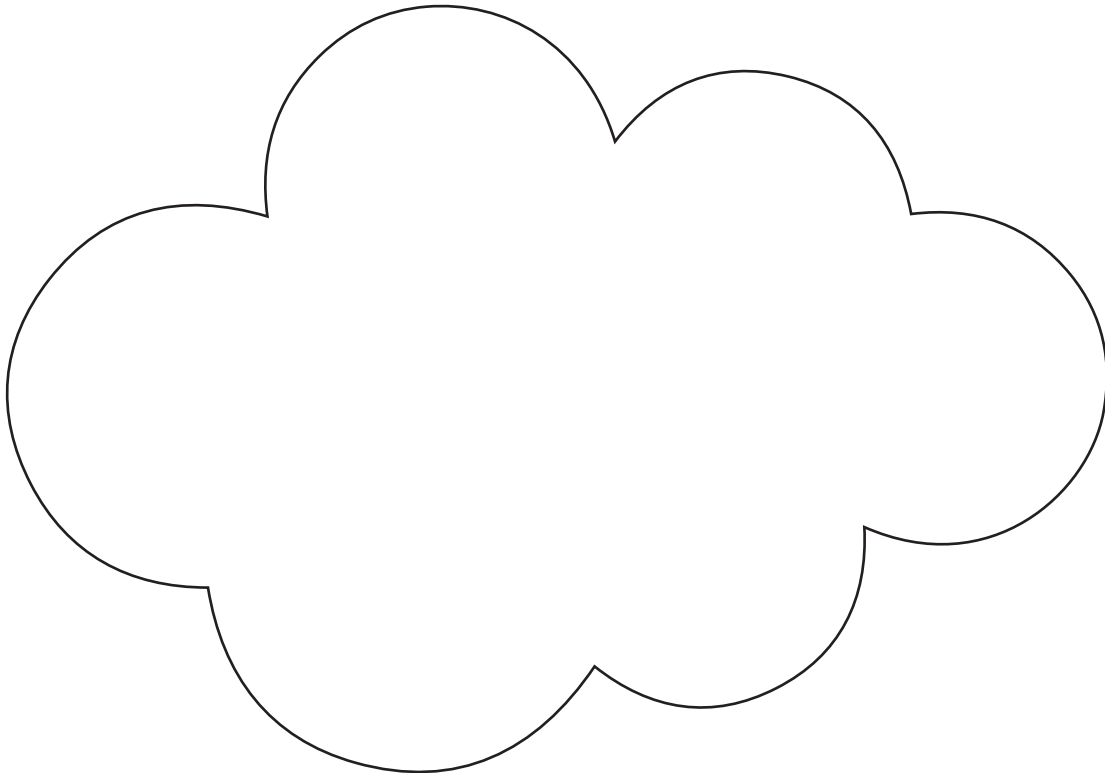
# During-the-Virtual Field Trip: Global Supply Chain

## Part 1

As you participate in the Virtual Field Trip, jot words and phrases below that are used to explain the concept of a global supply chain. If the word or phrase is discussed frequently, mark it with a check (✓) each time it is mentioned.


## Part 2

Now create a word cloud for Global Supply Chain by filling the cloud below with the words from above. The more important a word is to understanding the Global Supply Chain, the bigger it should be!



## After the Virtual Field Trip—My Supply Chain

**Directions:** Follow the steps below as you consider the supply chain behind a product that you use every day.

1. Select an item or product that you use every day and record it below.

\_\_\_\_\_

2. Then research: What raw (or basic, unprocessed) materials are used to make this product? Tip: Use your own background knowledge, the product's packaging and/or labels, and the Internet to develop your list and record them in the first column below.

Raw Materials	Where can these materials be found?

3. Then fill in the second column: Where can these products be found? You may again use your own background knowledge, any information on the packaging, and the Internet to develop your list.
4. Now that you understand what materials are used to make your product and where these materials can be found, consider: What are some of the steps that go into manufacturing and packaging your product so it is ready to be sold?





## After the Virtual Field Trip—Trades Careers

### Background

A trades career is an occupation that requires a specialized skillset and knowledge. These skills are often gained through on-the-job experience, an apprenticeship, or a training/certification program. You can also earn an associate’s degree, a bachelor’s degree, and even a master’s degree in many trades. While all trades careers require work that is hands-on and challenging, they don’t all require physical labor. Some of today’s highest paying trades careers include home inspectors, plumbers, licensed practical nurses, HVAC technicians, electricians, and landscape designers. Depending on your interests and passions, there are many different focus areas for trades careers.

### Directions

- 1. Learn More:** Go to PathtoPro.com and read the building, mechanical, industrial and medical trade career overviews. As you do, think about which trades career category(-ies) interest you most—either as a potential future job or just to learn more about!
- 2. Focus:** Now select two specific careers from this category(-ies) to explore further. You may choose careers listed on the website above or perform an additional Internet search around the trades career category(-ies) that you selected.

Write these two careers in the top row below. Then use <https://www.bls.gov/> to investigate these careers and fill in the remaining information.

Skilled Trades Career:	Career #1:	Career #2:
Responsibilities, in order of what <b>you</b> would consider most interesting to least interesting		
Training and Education Requirements		

<p>Soft skills* required, in order of your strengths to weaknesses</p> <p><b>*Note:</b> Soft skills are non-technical skills, such as communication and work ethic, that have more to do with <i>how</i> you work than the work that you do.</p>		
<p>Other interesting facts or information that you believe are important to know about this career.</p>		

**3. Share:** Flash-forward to the future, and pretend you now have one of the careers you researched above. Try to select the career that best aligns with your interests and skills.

Then form a group with two or three other students, and discuss the questions below as you speak from the perspective of your selected career. Base your answers on your research, but also role-play, have fun, and be creative!

**Discussion Questions:**

- How did you end up where you are today? Share the path you took from middle school to getting the job you have now.
- What specific skills do you need to do your job? What skills did you have to learn?
- What is your favorite part about the work that you do?
- What do you find is the hardest part about your job?
- What are some similarities and differences among your group’s careers?
- Is there any advice you would give to students hoping to become a [insert your career here]?