

# HOW DOES FOOD GET TO YOUR HOME?

1. Click on this link: <https://vis.csh.ac.at/food-supply-shocks/>
2. Watch the video and write down all **4 countries** that appear in it.

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3. Do some research on the Internet: What is a **supply chain**? Explain and give an example.

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4. Back to the Explorer: Search for Austria on the map. How is **Austria** abbreviated? \_\_\_\_\_

5. Which country is behind the abbreviation **ZAF**? \_\_\_\_\_

6. Find three countries (or more) whose country abbreviation begins with **G**:

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## YOU'RE WARMED UP ... LET'S NOW LOOK AT HOW SUPPLY CHAINS ARE RELATED.

7. If Austria were to stop producing apples, what would be the **consequences in Austria**?

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8. Would **other countries** also be affected?

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9. If the **U.S. stopped producing maize**, how many countries would have a red flag?

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10. How many products in **Norway** would be affected? \_\_\_\_\_

And which product would be **most affected** there? \_\_\_\_\_

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11. What does a **red flag** mean? (Hint: search for the legend.)

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12. If **Australia stopped producing honey**, which countries would suffer losses of more than 20%?

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13. What percentage of **eggs in Austria** are not produced there?

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14. **Find a scenario:**

A supply stop of which product in which country would hit the country you live in particularly hard?

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15. Think about it: What can cause delivery problems or delivery stoppages?

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16. Imagine you want to sell **organic apple juice**. To do this, you look for **fruit growers** who sell apples. Would you look for one producer or several? **Give a reason.**

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17. All of the results you've explored here are created using a mathematical model.

Do some research: What is a **mathematical model**?

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## SOLUTIONS

**| 2 |** Belgium, Dominica, Ukraine, Portugal

**| 3 |** individual answer (e.g., a supply chain describes the process from production to delivery of a product or service; for example, all the steps required for the agricultural cultivation of apples to apple juice in the supermarket).

**| 4 |** AUT

**| 5 |** South Africa

**| 6 |** For example: Ghana, Guinea-Bissau, Guinea, Gambia, Greece, Great Britain, Georgia, Guatemala...

**| 7 |** In Austria, the following products would be missing: 67.02% apples / 7.82% fermented beverages / approx. 0.27% alcoholic beverages.

**| 8 |** Yes, but only to a small extent. There are no yellow or red flags in other countries. In Germany, for example, this would result in around 1% fewer apples being available, which Germany would then have to purchase from other sources.

**| 9 |** Nearly 30 (26)

**| 10 |** 29; the most affected product would be alcohol, where 61.74% would be missing.

**| 11 |** A red flag means that 80-100% of a product is missing.

**| 12 |** Australia, Philippines, Malaysia, Mauritius, Djibouti

**| 13 |** If Austria would no longer produce eggs, 78.41% of the eggs would be missing. It is therefore obvious that Austria imports about 21.59% of the eggs.

**| 14 |** individual answer

**| 15 |** Epidemics or pandemics, conflicts and wars, increased commodity prices, natural disasters, transportation difficulties, consumption fluctuations (sudden increase in demand), pests, and much more.

**| 16 |** If you only look for a single fruit grower, you are completely dependent on this one. If there are delivery problems (due to hail, pests, etc.), you can no longer produce and sell organic apple juice. It is always important to have alternative supply routes.

**| 17 |** A mathematical model aims to describe real-world problems with formulas, functions and other mathematical tools. This simplified image of reality can then be investigated. It is thus possible to include aspects that are important for a particular question, but omit irrelevant aspects. This is particularly important when real processes are so complex that they cannot be described in their entirety. Mathematics can therefore use models to help answer complex real-world questions - in this case, for example: How dependent are countries on each other when it comes to food supplies?