

# Warm Up



- What does a “short circuit” mean to you?
- What will happen when we have a “broken circuit”? Give an example.
- How do we think a short circuit in the electric grid would affect energy transfer into buildings? What about a broken circuit?

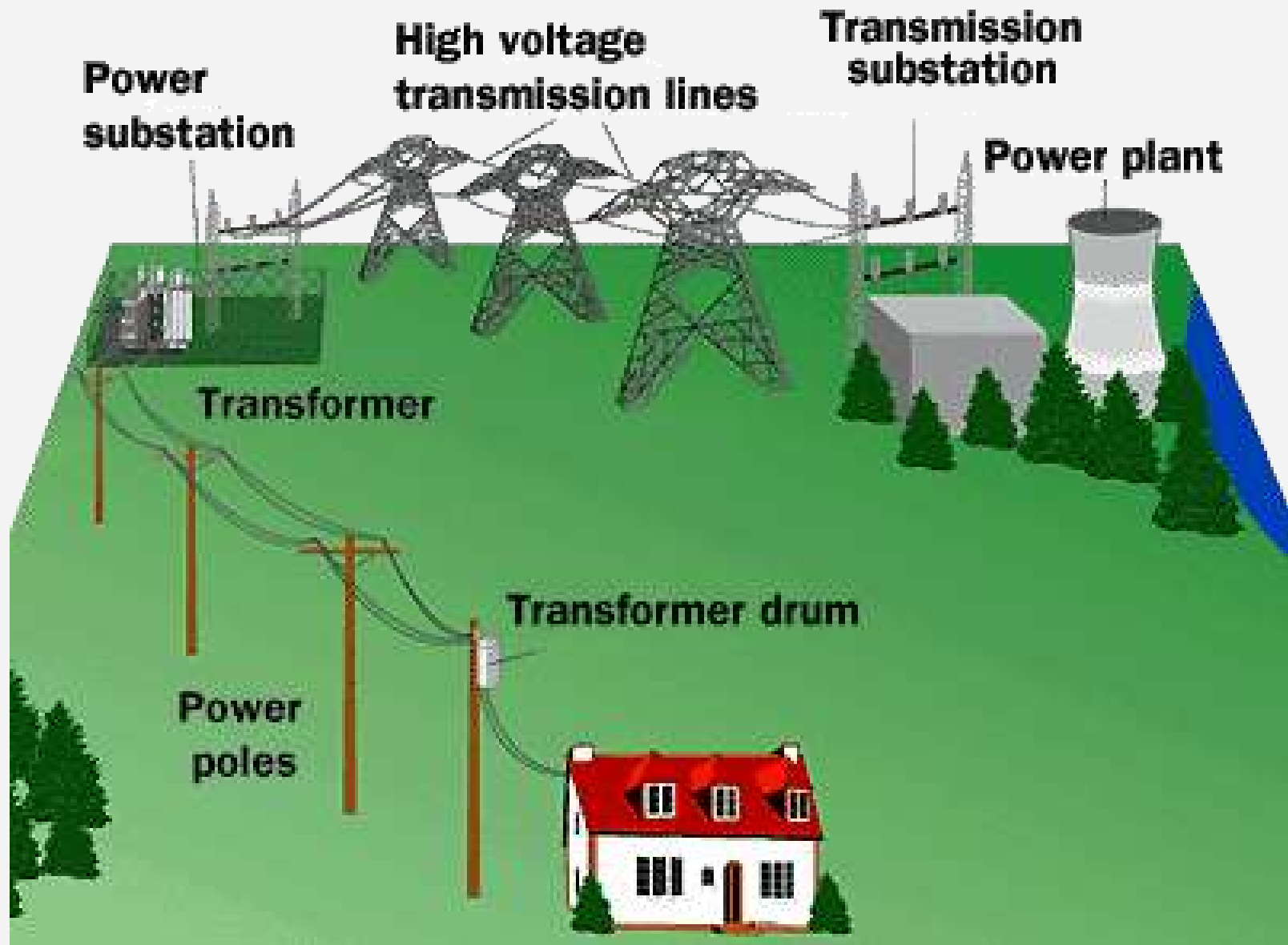
# Read about a Short Circuit Event



## On your own

→ Be ready to share your ideas with the class.

- Read about a situation in which overgrown trees caused an energy crisis that affected more than 50 million people in North America.
- As you read, fill out a Noticings and Wonderings Chart with your group.



## **Scenario E**

**House 1- High Power**

**House 2- No Power**

**House 3- Low Power**

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## Warm Up

- Take out your substation models from yesterday
- Finish up your models A-D right now!
- In your notebook...
  - Which scenario is most similar to the one we read about yesterday in Ohio?

# Practice Modeling Energy Transfer

## With your partner or group...

- Model the scenarios you are given to see whether any of them could explain what happened in Texas.
- Each model must include a power station, substation, power lines, House 1, House 2 and House 3
- Make sure to model how much energy is getting to each house.
- Add question marks (?) in parts of the model(s) you are not sure about.

# Supply and Demand

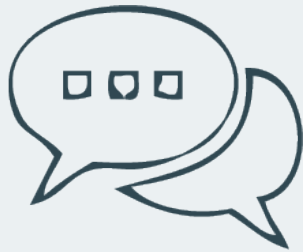
We have data on how much electricity was available in the Texas grid during the February 2021 storm (**energy supply**), and how much electricity was forecast to be used during that time (**energy demand**).



## Turn and Talk

How could this **supply and demand** data help us make progress on our questions about what happened over this period?

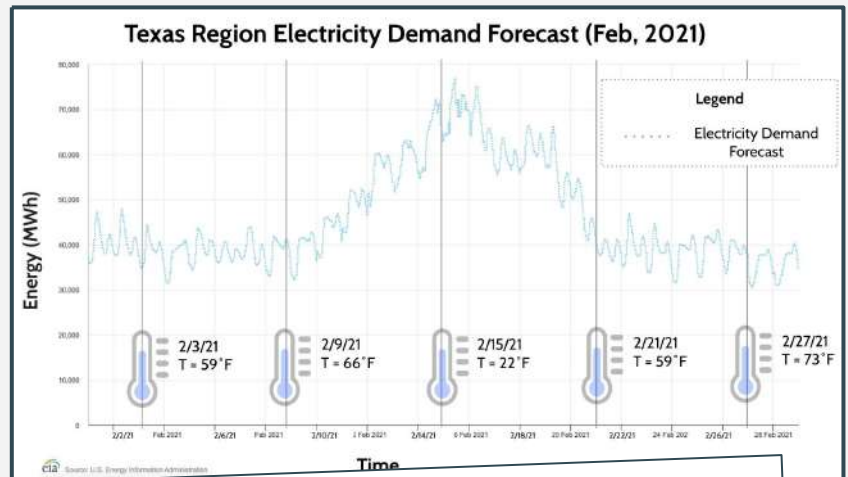
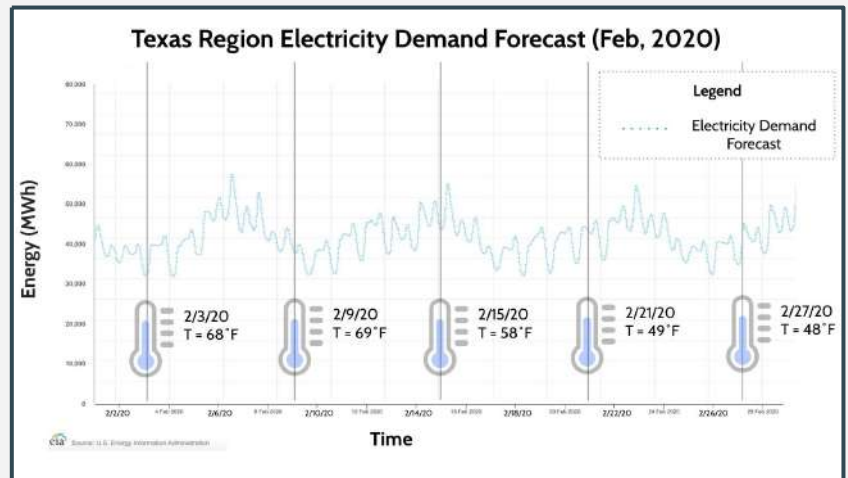
# Pause to Consider



## Turn and Talk

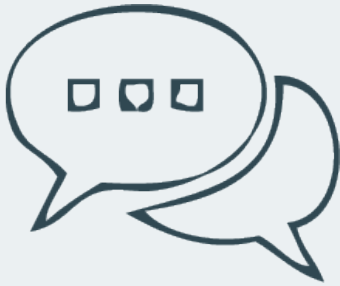
What could have caused an increase in the electricity demand forecast in February 2021 compared to February 2020?

→ Be ready to share your ideas with the class.





# Navigate



## Turn and Talk

Look back at the graphs we analyzed last time, and discuss the meaning of each pattern we noticed with a partner.

- How do you think power companies make these forecasts of demand?
- What sorts of decisions might the power companies make using these forecasts?

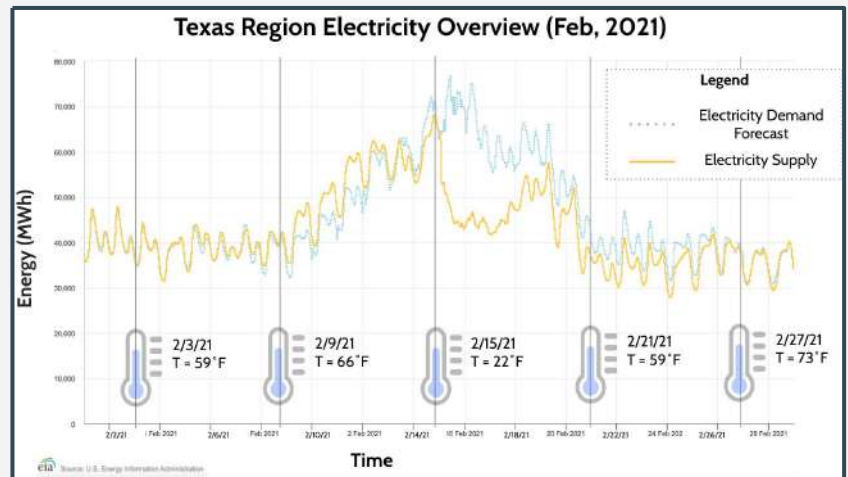
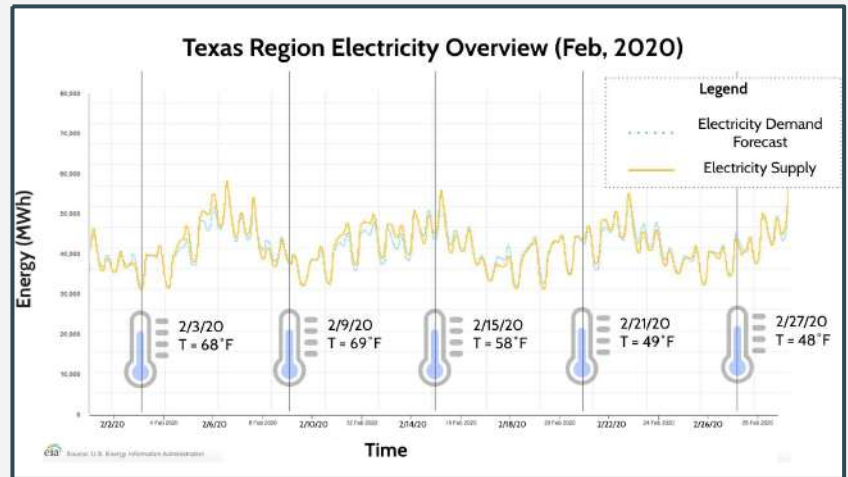
→ Be ready to share your ideas with the class.

# Interpret Graphs of Electricity in Texas



**With a partner**

Analyze the graphs of  
**electricity production** for  
February 2020 and  
February 2021.



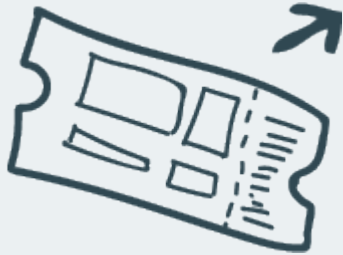
# Building Understandings



## With a partner

- What differences do you notice between the supply graph and the forecasted demand graph?
- What could these differences represent?

# Navigate with an Exit Ticket



## Exit Ticket

What part of the electric grid system do you want to investigate next to determine what might have happened to decrease supply in Texas in February 2021?

Write your answer on a piece of paper and hand it to your teacher.

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