## Scenario

You need to buy a new high efficiency furnace. You have the following three options: geothermal, natural gas, and electric. Calculate the cost of each system after 1 year, 5 years, 10 years, and 25 years. Then answer the questions with a partner or your group.

| Heating System | Geothermal | Natural Gas | Electric |
| :---: | :---: | :---: | :---: |
| Purchase <br> price | $\$ 17,500$ | $\$ 4,500$ | $\$ 2,500$ |
| Operating costs <br> over 1 year | $\$ 544$ | $\$ 634$ | $\$ 1,361$ |
| Price + 1 year (\$) |  |  |  |$\quad$| Price + 5 years (\$) |
| :--- |$\quad$| (\$) |
| :--- |

N.B. The table figures are based on average values and vary depending on the household.

## Questions

1. According to your calculations, which heating system costs less:
a) Initially?
b) After 1 year?
c) After 5 years? $\qquad$
d) After 10 years? $\qquad$
e) After 25 years? $\qquad$
2. Describe a situation in which it would be better to buy an electric system.
3. Describe a situation in which it would be better to buy a natural gas system.
4. Describe a situation in which it would be better to buy a geothermal system.
5. If Manitoba Hydro pays a $\$ 12,000$ subsidy on the purchase price of a geothermal system, after how many years will it become the best of the three options?
6. Based on your choice of home, name three potential energy improvements to check before buying. Give one advantage of each energy improvement. Other than installing a new heating system, name and describe three energy improvements that you can make to lower your heating bill.

| Energy Improvement | Description |
| :--- | :--- |
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