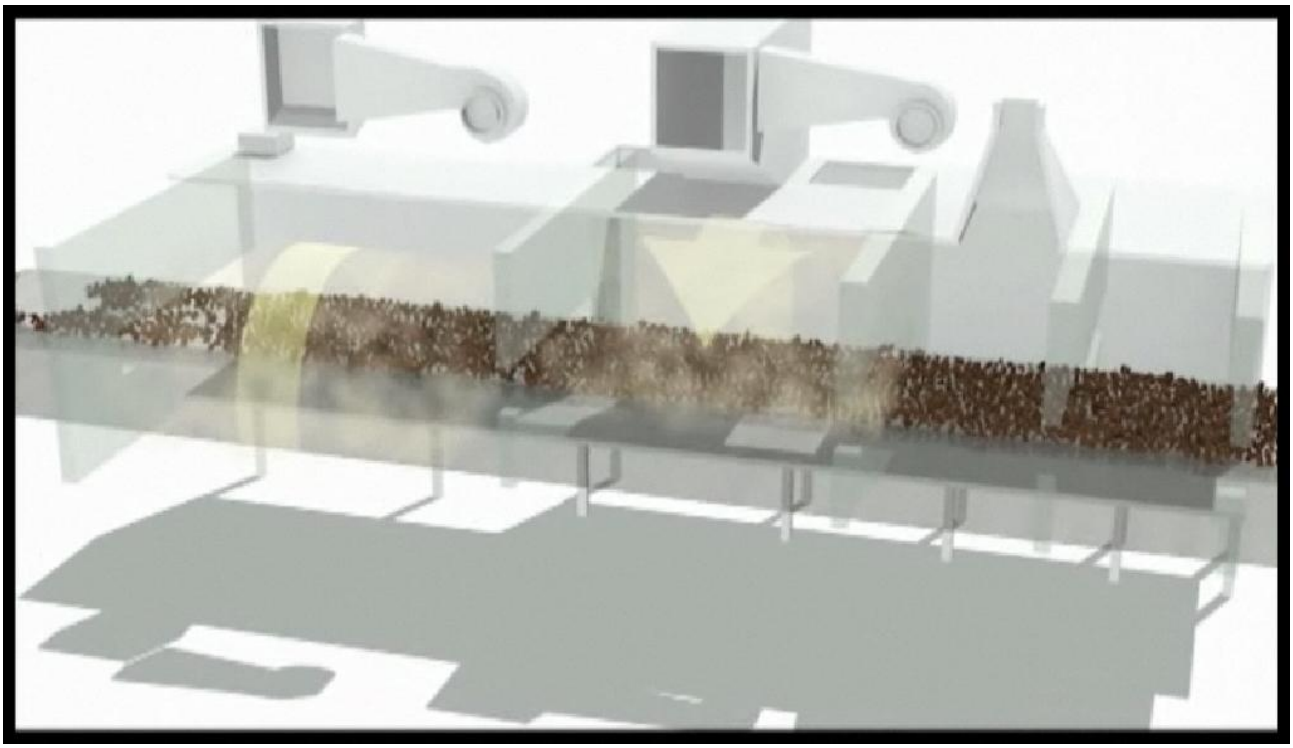
# Dehydration of oil shale experiment

## Experiment

Oil shale contains between 17 and 25% water, most of which can be evaporated by heating to 110 degrees Celsius. We will use a 150°C oven to ensure that the rock temperature reaches at least 110°C.



## Aim

In this experiment we will measure the mass of water in oil shale.

## Equipment

- Oil shale
- Laboratory balance
- Domestic oven
- Oven trays
- Oven gloves

## Safety

Write a list of safety considerations and procedures to minimise danger in this experiment.

## Procedure

1. Preheat oven to 150°C.
2. Accurately measure and record the mass of your oil shale in grams using a lab balance.
3. Place your oil shale on an oven tray in the oven for one hour.
4. Allow it to cool.
5. Remeasure and record its mass.

## Questions and conclusions

1. Calculate the loss in mass of your oil shale.
2. Account for the loss in mass of your oil shale (explain where it went).
3. Calculate the loss in mass as a percentage of the initial mass.
4. Construct a table to record the initial, final and loss in mass of the oil shale of everyone else in your class.
5. Calculate the total loss in mass as a percentage of the total initial mass for the class.
6. Compare your answer to question 5 with the expected water content of oil shale of 17 to 25%. Account for any differences in your finding.
7. Why is it more reliable to use the class result in question 5 than your personal result in question 3?

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