

Electricity

Date:

Name:

Class:



Task 1 – Using the words in the list below, fill in the gaps in the following sentences

candles ~ flame ~ Thomas Edison ~ gaslights ~ arc light ~ heat ~ electric

In 1880, **Thomas Edison** patented an incandescent bulb. This had been a long journey of invention starting with Humphry Davy's **arc light** almost 80 years before.

By the early 1900s **electric** lighting was commonplace in homes. Before that, homeowners had to use other light sources like **candles** and gas or oil lamps. These also released a small amount of **heat** energy as well as light energy.

The problem was that these light sources used a naked **flame** which sometimes resulted in fires and explosions. This was a particular problem in public places like theatres where **gaslights** were used to light the front of the stage.

Throughout history, different fuels have been burned to create light. Put a **tick** in the box next to the fuel which **was not commonly burned in a lamp** to create light.

Bees wax

Animal fats

Alcohol

Kerosene

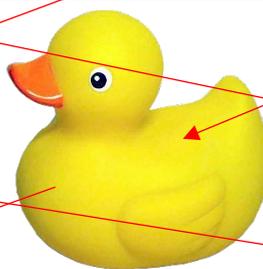


Task 2 – Use a line to match the extraction methods, products and fossil fuels below

Natural gas

Coal

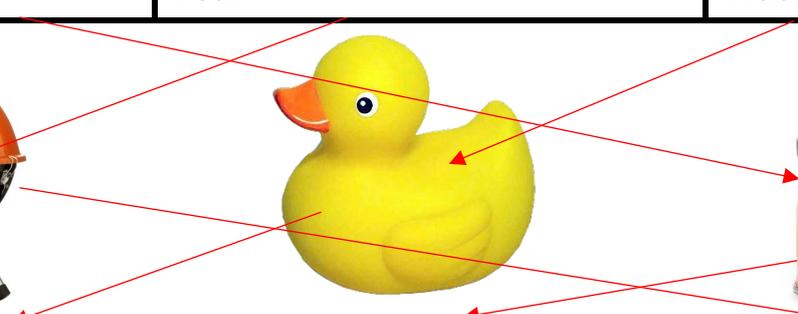
Crude oil



Drilling wells

Fracking

Mining



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Task 3 - Identify the types of **renewable energy** from the sources pictured below, describe how the sources are **harnessed**

The first one has been done as an example...

Wood chips	Steam	Water	Sunshine	Wind
<i>Biomass is organic material. It can be made from a crop grown specially or a biproduct of another industry like sawdust</i>	Geothermal energy is natural heat energy stored under the earth's crust	Hydro power harnesses the kinetic energy running water or the gravitational energy of falling water	Solar power is the conversion of energy from the sun into electricity	Wind power comes from the natural kinetic energy of the wind
Outcome	Outcome	Outcome	Outcome	Outcome
<i>It can be made in to pellets and burned to create heat and electrical energy</i>	The steam is used for domestic heating and to drive turbines to create electricity	The force of the water turns a turbine to create mechanical energy	Photovoltaic cells are used to convert light into electric current	Wind turbines are used to create mechanical energy which turns a generator creating electrical energy



Task 4 – In the space below, write a short paragraph describing how you think the landscape could **look** in future if we meet the targets set by the **Climate Change act 2008**

Indicative content

- More renewable energy sites – including more solar parks and wind farms (on and offshore)
- Greater use of solar panels on houses and offices as well as to power transport and personal devices
- Cycle paths
- Fewer cars on the road
- Electric transportation (personal and public)
- Increased biodiversity, less mass farming, more wild places
- More green areas in cities
- Less visible pollution