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# Gas Classroom activities

Resources for teachers



Historic England



# Classroom activities

The National Grid gas heritage resources have been designed primarily to support history learning and the development of enquiry skills. They can also be used to support learning in English, PSHE and Art & Design, to prompt discussion and debate, and to develop skills in critical thinking and creativity. Classroom activities can be used as described or adapted to suit the particular needs of your students.

Use these activities with our [themed resources](#). Each resource is packed with historical images and fascinating information:

- ◆ [Gas lighting](#)
- ◆ [Heating & cooking with gas](#)
- ◆ [Gas Gadgets](#)
- ◆ [Gas – how was it made?](#)
- ◆ [The changing role of women](#)
- ◆ [Vehicles & transport](#)

## Using the images

Each pack includes a set of high-quality images. Project the images onto a whiteboard to look at them really closely, print them out, cut them up or add them to presentations, word documents, collages and other digital applications.

## Look closer

Spend some time exploring some of the images closely. What can students find out just from looking carefully? Each image is accompanied by information to support discussion, and questions to help students look closer. Here are some more:

### Objects

- What colour is it?
- What is it made from?
- Might it make a noise?
- What might it smell like?
- What was it made to do?
- Who was it made for?
- Are there any moving parts?
- Is it decorated?
- What is it?
- Do you think it is safe?

### Paintings and photographs

- Look very closely at the whole image, including all four corners. Describe what you see.
- What do you think is happening in the picture?
- Are there any people in the picture?
- What are they wearing?
- What do their clothes tell you about them?
- Can you see the expressions on their faces? What does this tell you?
- Are they holding anything?
- If you could step inside the picture what do you think you might hear, smell, feel, taste?
- What might have happened just before the scene in this picture? What might have happened afterwards?



# Classroom ideas

These activities help develop students' historical and chronological knowledge and understanding, and their enquiry and critical thinking skills. Unless indicated, most activities are open-ended and can be adapted to suit students at Key Stages 1, 2 or 3.



# Mystery Objects

## Mystery objects 1

Students work in two groups. Give the first group a set of images of objects from the [themed resources](#). The group explores and researches the images - they can use observation and 'look closer' questions, information in the resource, and their own online research. They then write a museum label for each object containing as much information as possible but without including the object name. They could include:

- What it's made from
- Who used it
- How it was used
- How it works

**The second group must match the labels to the correct objects.**

These sources make particularly good mystery objects:

- [Mini iron](#)
- [Clockwork timer](#)
- [Waffle maker](#)
- [Hairdryer](#)
- [Mantles](#)
- [Radiator](#)
- [Copper geyser](#)

Information about these objects - and more - can be found in our [Gas Gadgets](#), [Lighting](#) and [Heating & Cooking](#) themed resources.



## Mystery objects 2

Students work in two groups. Give each group an image of an object from the [themed resources](#), and a small piece of information about it. The students look carefully at each object and invent three fictional but believable names, uses and owners for the object. They give these to the other group, along with the real name, use and owner of the object. The other team then thoroughly examines the object image using observation and 'look closer' questions, and decides which of the four descriptions is correct.

These sources make particularly good mystery objects:

- [Mini iron](#)
- [Clockwork timer](#)
- [Waffle maker](#)
- [Hairdryer](#)
- [Mantles](#)
- [Radiator](#)
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Information about these objects - and more - can be found in our [Gas Gadgets](#), [Lighting](#) and [Heating & Cooking](#) themed resources.



# Timelines

Students can make their own 'gas' timeline, using the images and information from the different [themes](#), and their own online research. Younger children can simply arrange images in order, while older students research, label and create their own timeline. Timelines can relate to one theme, such as 'cooking', or 'light' beginning with the use of candles and oil lamps in the late 1700s and bringing it up-to-date with lights powered by renewable energies. They could be made through drawing, printing out images or using a simple digital app like 'Timeline Notebook'.

They could extend this by adding in key world events (such as the invention of the lightbulb, the first aeroplane flight, World Wars I and II) and events in their own lives (birth of a grandparent, their block of flats was built) to provide relevance and context.

Older students could make a game for younger students by making these into a set of cards to match to dates or arrange in date order.



*They could be made through drawing, printing out images or using a simple digital app like 'Timeline Notebook'.*



# Suitable for younger students

## Then and now

Children can find images online of modern-day equivalents to the lamps, cookers, heaters or other appliances in the [Light, Heating and cooking](#), or [Gas Gadgets](#) themes. Make a class list of all the similarities and all the differences they can spot. Discuss some of these differences and why these changes have been made, focusing on materials or safety for example.

Students can make a class list of all the things in their homes and school that run on gas. They could make a similar chart for electricity and compare them.

## Twelve candles

In the 1800s, the quality of gas produced by different companies varied - the better the quality, the brighter the gas light. In 1860, the quality of gas was standardised - one gas light had to burn as bright as at least 12 candles. But how bright is 12 candles?

Teachers can carefully test how bright this is with the children by lighting 12 'nightlight' candles at once. **\*\*To keep this activity as safe as possible, surround the candles with sand and have a bucket of water ready. Place a table between the candles and the children.\*\***

Close the blinds and turn out the lights – what can the children see around them? Is this a good source of light?

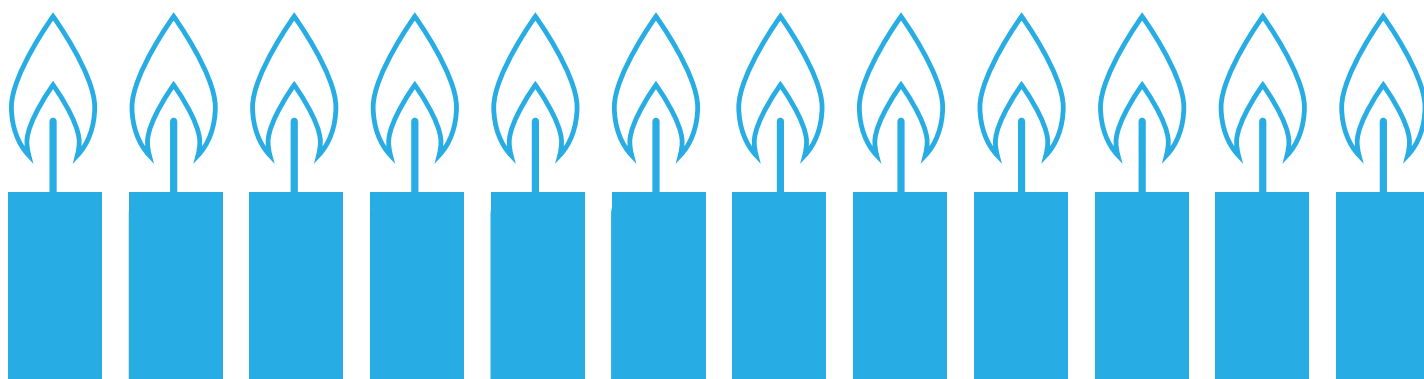
Ask children to guess and then test which other light sources will be dimmer/brighter than the light from 12 candles e.g.

- A torch
- The light from a computer screen
- The light from a phone screen
- A child's nightlight
- A gas lamp for camping
- What other light sources can children think of?

Today, we measure light in 'lux'. The light from one candle is about 10 lux.

Extend this activity by measuring the brightness of the different light sources. You can do this using a simple Light meter app on a phone or tablet. Students can take it in turns to hold the light meter about 30cm (the length of a long ruler) away from the light source. Keep the room as dark as possible (without being unsafe). How many lux is the light source? What is the equivalent in candles (divide the number of lux by 10)?

Students can place the light sources in order of brightest to dimmest.



# Cookery demos

The gas industry employed demonstrators from as far back as the 1800s, to show potential customers just how easy it was to use their appliances – especially cookers. They gave cooking demonstrations at exhibitions, in showrooms, even on **'floats'** as part of local parades. They also visited customers at home to help troubleshoot after they had bought a gas appliance. At first, these demonstrators were exclusively women, and their work aimed exclusively at 'housewives'. Today the industry is far more inclusive!

Students could role-play or make their own demonstration film with a simple video app on a tablet, using these films as inspiration [National Grid: 200 years of gas](#). They could work together to plan, storyboard and script this first. They could:

- Set it in a particular time period
- Look carefully at gender stereotypes and make a comic feature of this in their own film
- Make a modern version that challenges these and other stereotypes of the time
- Think about language and vocabulary – how will they 'sell' the product they are demonstrating, what is their key message?





# ▶ Did you know?

Students research an object from the resource and annotate the image with 'fascinating facts' about how it was used or made. They should consider what might make a fact truly 'fascinating' for someone who knows very little about the theme. Try linking facts to people and their everyday lives, or to something very famous; try expressing weights or distances in forms people can relate to e.g. "it weighed as much as two elephants... that's as far as Edinburgh to London...that's the same as £5 in today's money...etc". They could do this using a printed image or using a simple app like Photo label.

Students could undertake a similar activity by adding their own speech bubbles to the '[A peep at the gas lamps in Pall Mall](#)' cartoon. What might the different people be thinking or saying? They could turn this into a 'street' soundscape (see below).

## True or False

Extend the above activity for older students: ask them to use the images and accompanying notes in the resource to research one of the themes. They write a series of statements – some true, some false – and give them to a partner to guess which is which.

Students can be encouraged to find true facts that are unusual or hard to believe. Their false statements must be believable and historically accurate based on age-appropriate knowledge.



A PEEP AT THE GAS LIGHTS IN PALL-MALL.

# Objects personified!

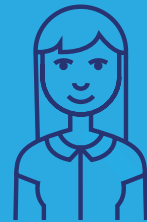
Show children an object from an object from the [themed resources](#). Investigate it together using the questions above. Spend some time talking about the object, what it is, how it was used and who used it. Use the object's accompanying notes to help with this.

With this information in mind, work together to 'personify' the object, writing the students' different ideas on the whiteboard:

- If it could talk what would it say?
- What might it see, hear, smell?
- If it had feelings how might it feel – about the job it was made to do, about the people who used it?
- Who might its friends be?
- Who or what might it like or dislike?
- What might it do in its spare time?
- What might it get up to when no-one's looking?
- What might it like to eat or drink?
- What might it wish..?

Students can turn their ideas into an individual or class story or 'day in the life' account in the first person, or a personification poem.

Here are some ideas to start with. You can find out about these objects and more in the [Gas Gadgets](#) resource.



# Soundscapes

Students could use instruments, their voices and other materials to create a soundscape to accompany an image. They could record these using a simple app like 'Voice recorder' or 'Garageband'. For example:



## A peep at the gas lamps in Pall Mall -

what might the people be saying? What might their voices sound like? What other sounds might you hear on this street?



## Drawing the retorts at the Great Gas Light

Establishment – what might you hear in a busy gas retort house? What instruments would make good 'industrial' sounds?



## Women making gas meters in the machine shop during World War II –

what sounds might you hear in a factory like this? What might the workers be saying to each other – remember the voices will be mainly female...



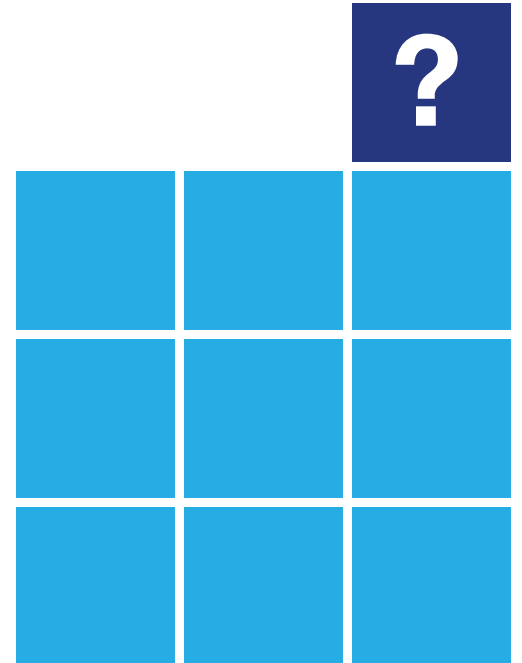


# Who am I?

Place pictures of around ten different gas-powered objects on the white board from the [themed resources](#). One child secretly chooses one and the rest of the class must guess which it is by asking a series of 'yes/no' questions – for example, 'Are you made of metal?' rather than 'What are you made from?'

Only when they are absolutely sure they have the right answer and have eliminated all the other possibilities can they make a guess. When they make their guess, they must back up their answer: "I think it's a Victorian gas stove because it's made of iron and is very heavy".

Make the game more difficult by adding in images of modern-day equivalents and/or only focusing on one type of appliance such as lights or cookers.



# Making Headlines



Students can write a news report about a key moment in the history of gas – e.g. [the first street lighting](#), [women working in the gasworks](#) during World War I or World War II, or a new invention such as the [gas bath](#).

They could use a simple app, such as Green Screen, to report 'live' from the event. Students film themselves standing in front of a green screen (a piece of plain green fabric works well for this) and giving their report. They combine this with an image from the resource to make it look as though they are really there. They could interview a classmate in role as someone from the time – a lamplighter or a stoker perhaps.

# ▶ Advertising posters

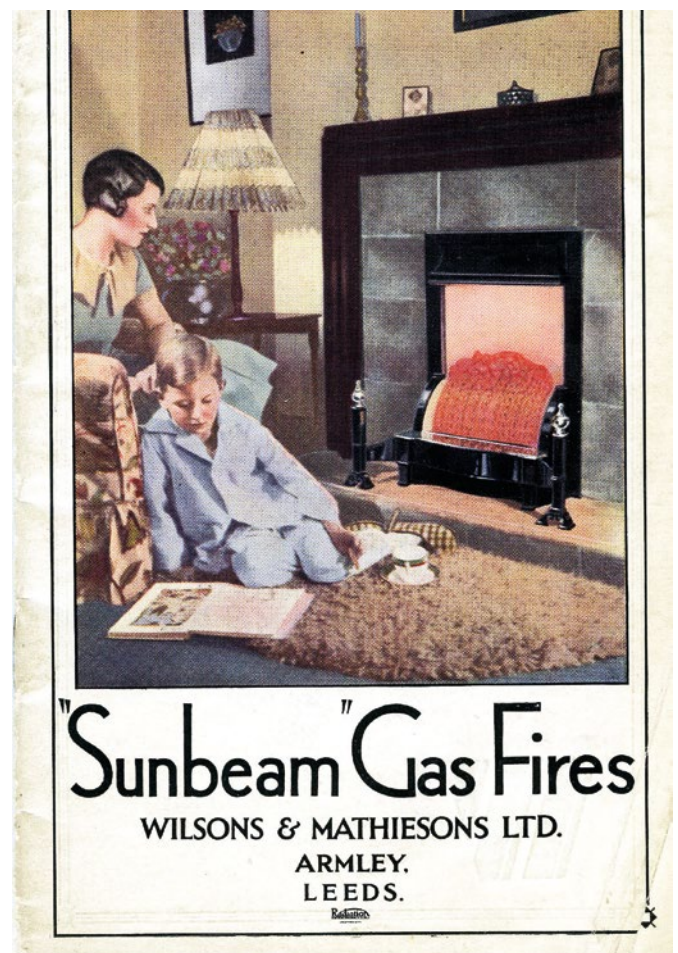
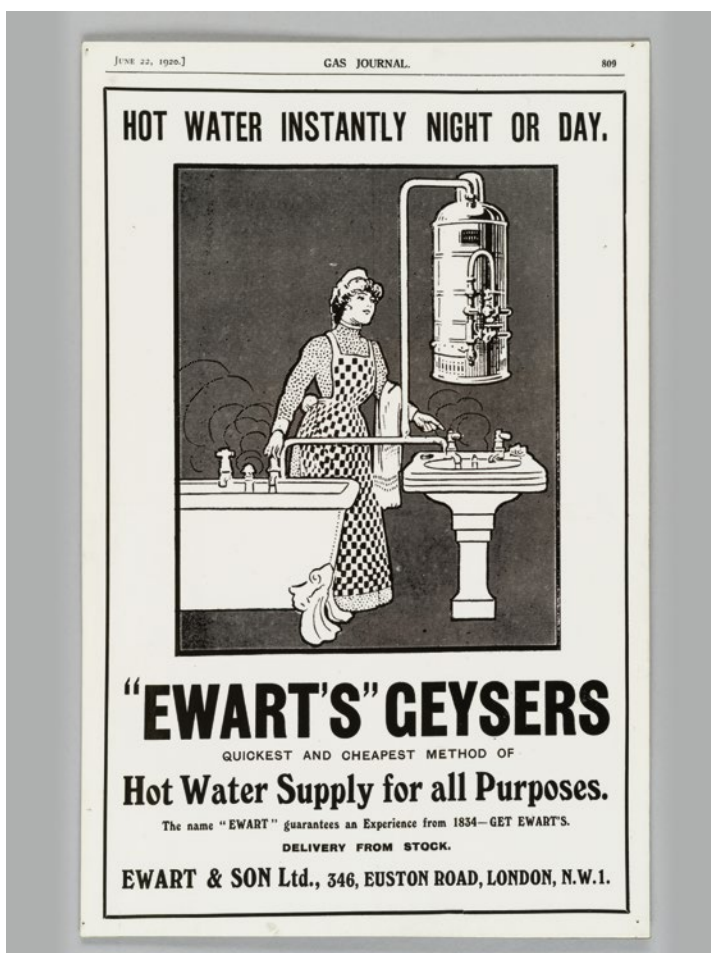
In the 1930s, the gas companies faced competition from electricity. Students could design an advertising poster to encourage homeowners to buy and use gas appliances. They could look at these examples before creating their designs and discuss key messages, imagery and how these posters might be different today (particularly in relation to the imagery and role of women):

- [Sunbeam gas fires](#)
- [Ewart's geysers](#)
- [With gas it's all done before noon](#)
- [Sugg's Aladdin reading lamp](#)
- [Richmond's latest cookers](#)



What might the advantages of gas have been?

Students could do this on paper, use a Word poster or leaflet template, or use graphic design software such as Publisher or Photoshop.



# ▶ Reliable evidence

Unlike many other historical artefacts, art works, such as paintings and drawings, need to be used with particular care as sources – they are not always reliable. The artist may have been asked to create a particular impression of a place or person, might not have been present at the time of an event or ever seen the very person or thing they are being asked to paint!

Students begin by using the prompts above to ‘look closely’ at the Drawing the retorts image below. They then make a list of all the observations and impressions they have gained from looking at it. Using a green pen, they underline all the results in their list which they can be certain about, from the evidence before them. Then, using a red pen, they underline all the things they are uncertain about – which are probably just ‘opinion’.

**What can we really find out just from the image? (Probably not very much!)**

**Were my opinions the same as others’?**

**How can we find out more?**

Students could read some of the information in the How was it made resource and do further research online to try and find out whether their impressions from the image, underlined in red pen, are correct.





# Enquiry questions

Students can use the images in the [themed resources](#), information and 'look closer' questions to research and answer the following enquiries. They must back up their findings with evidence. They could present their findings as an illustrated Powerpoint presentation to the class, a poster or annotated collage, or as an illustrated report.

- How did people use gas in their homes in the Victorian times?
- How did lighting change between the late 1700s and the early 1900s?
- How safe were gas appliances in the late 1800s and early 1900s?
- What jobs did people do in the coal gas industry?
- How did the role of women in the gas industry change throughout the 20th century? What were some of the influences on these changes?
- How did gas companies encourage people to use gas, instead of electricity or other sources of power?

**Students could form and research enquiry questions of their own.**

