OUR LOCAL IMPACT

ACTIVITY:

LEARNING AIMS:

- To provide an understanding of the impact we, and the buildings/facilities we use, have on our environment

TIME:

20 minutes

RESOURCES:

- Pictures provided:
- Haven Point
- Jarrow school (or school with a pool)
- Houses/Residential Street (street lights/cars in image)
- South Shields Town Hall
- The Word
- Wind farm
- True / False sign

ACTIVITY DESCRIPTION

PART 1

Split the class into small groups and hand each group a different image for discussion. Ask students to look at the image provided and discuss the following question in their small groups:

- How do these buildings, and the people who use them, contribute - both positively and negatively – to the impact on our environment? (10 minutes)

Prompts for discussion:

- What equipment/ facilities you might find inside and outside each building (e.g. swimming pool, car park, gym equipment, café, IT facilities, washing machines, lighting, etc.)
- How people get to/from the building?
- What building materials may have been used?

Allow up to 10 minutes for discussion then ask each group to feed back their findings.

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GROUNDWORK CHANGING PLACES CHANGING LIVES

PART 2 – 'True or False'

Once all groups have presented their feedback, use a 'continuum' to explore the 'True or False' questions below.

First, create your continuum: place a sign saying 'TRUE' at one end of the room, and one saying 'FALSE' at the other. Ask students to stand on the 'continuum line' between the two signs. They should then move independently along the line (towards either True or False, depending on what they think) in response to each of the follow statements:

1. Cows emit more methane from their burps than they do from their pumps – **True or False?**

True - Our furry friends are the biggest emitter of greenhouse gasses in farming. As they consume and digest grass, they emit methane. Yes, from the end they are most renowned for(!), but actually even more from their burps. The negative effect of methane on the climate is 23 times higher than that of CO2.

2. Haven Point has the largest carbon footprint of all council buildings – **True or False?**

True – Haven Point is the largest of the Council's leisure facilities. Due to its nature and size, it has the highest consumption of all Council buildings.

South Tyneside Council has recognised this and put in place a range of measures to help reduce the energy demand of the building. The 'low carbon and renewable solutions' employed include: Solar PV, a Combined Heat and Power system (CHP), Building Management Systems (BMS), and LED Lighting.

3. South Shield's Town Hall and Offices uses more gas than electricity **True or False?**

False – The Town Hall and Offices uses more electricity. Figures for 2019/20 consumption show the split between electricity and gas and was 60% to 40%.

South Shield's Town Hall is the main location of South Tyneside Council and home to most Council staff. As a result, there is a large volume of computers and other electricals appliances in operation (i.e. printers; display screens, etc) during the working day.

However, as part of the Council's continuing carbon reduction programme, South Shields Town Hall has undergone a major modernisation and refurbishment scheme, this includes: new lighting, heating upgrades, new windows, and installation of 'Brise Soleil' (this is a type of solar shading system that uses a series of horizontal or vertical blades to control the amount of sunlight and solar heat that enters a building)

4. School Buildings – in 2019/20 the gas consumption from 1 Secondary School amounted to the equivalent consumption of 8 Primary Schools - **True or False?**

True - 1 secondary school in the Borough consumed the same amount of gas as 8 primary schools combined.

Secondary schools are significantly larger buildings than primary schools, some also include a swimming pool. They have a lot more electrical equipment and have a greater number of pupils.

To improve the efficiency of school buildings you can implement awareness programmes and 'switch off' campaigns to help change behaviour and cut down on waste. Other areas are to consider are renewable solutions such as installing PVs, which can be further supported by battery storage. In some cases you can sell unused electricity back to the grid to generate an income (this could be useful in school holiday periods such as the 6 weeks holidays).

5. Houses /Residential Streets – Emissions from the Housing Sector account for 44% of total emissions across South Tyneside - True or False?

True – Emissions from the housing sector account for 44% of total emissions (231.2ktCO2 in 2017), with Gas consumption accounting for 72% of the total emissions. The Government is currently looking at how we can move away from using gas in our homes with plans to see a transition towards using more renewable sources to heat our homes, e.g. replacing traditional gas boiler heating systems with the installation of ground source and air source heat pumps

6. The Word – when comparing gas consumption against electricity consumption at The Word, Gas only accounts for 23% of the total consumption - True or False?

True – using 2018/19 consumption figures the emissions from gas only account for 23%, with the remaining 77% coming from electricity.

The main reason for such a large variation is due to the fact that the building is heated using heat pumps (electricity rather than gas).

To help address the electricity consumption at the site, a PV installation has been installed resulting in renewable electricity generation on-site.

7. Street Lights - The Council has removed over 1000 tonnes of CO2 from our street lightings across South Tyneside - True or False?

True – The Council has removed 1765 tonnes of CO2 emission across its street lighting portfolio.

South Tyneside Council has upgraded over 27% of street lights to LEDs, with further capital investments planned to support further emission reductions.

The benefits of LED street lights include: -

1. LED lights reach full brightness instantly - They do not require time to warm up, which makes them a flexible light source.
2. Far more environmentally friendly - They do not contain lead or mercury and do not emit any poisonous gases. They also create less CO2 emissions.
3. Reduced light pollution - LED street lights work in a way that reduces light pollution compared to traditional street lighting.

8. By 2030 at least half of all new cars sold in the UK will be electric - True or False?

True – The UK Government's 'Road to Zero' strategy sets out ambitions for at least 50% - and as many as 70% - of all new car sales to be ultra-low emission by 2030, alongside up to 40% of new vans.

https://www.gov.uk/government/publications/reducing-emissions-from-road-transport-road-to-zero-strategy

TRUE

FALSE


Haven Point