

Plumbum - A Hex game for Plumbers - Level 3

A game for two to four players or teams of players. The activity is best suited to paired and small group work. This game is suitable to teach and reinforce environmental awareness issues to plumbing and related discipline students.

Object of the game

Learners are given the task of matching the correct answers to the correct questions. Once they have achieved this, the triangles together will represent a hexagon shape, with the outside of the hexagon not having any questions or answers on it.

Level

Level 3

What is included

1. A template of the activity, the triangles need to be cut out to give you a set of 24 triangles.
2. Tutor's answers.

Additional Requirements

1. None.

Rules of the Game

Players take turn to see if they can match an answer to a question, in the same manner as dominoes. The matched questions and answers will form a hexagon shape. The outside of the hexagon will be a blank side of the triangle.

Notes

Some of the statements may sound controversial or simplistic and are intended to stimulate debate.

The game can be personalised to decide how long a player can take to answer a question.

This game can be played in teams, where the question is discussed and players take it in turns to give the answer decided on.

In a large class of students more than one game can take place at a time.



1	Ground source heat pumps predominantly utilise which type of energy: geothermal or solar.	Solar
2	Solar thermal panels are most efficient when facing which direction?	South (at an angle of 30°East - 40° West)
3	What are used to calculate the money earned by a PV system putting power back into the national grid?	Feed in Tariffs
4	Name one of the two types of solar thermal panels that can be used to energy to heat for domestic hot water systems	Evacuated tubes
5	What is the function of a flat plate panel used on solar thermal systems?	Collect energy
6	For wind turbines to be effective they need a minimum annual wind speed of at least how many meters per second?	4
7	In the UK, are Micro Hydro systems suitable for use in most domestic premises?	No
8	Can biomass boilers using wood pellets to produce heat be also used for supplying heating and hot water?	Yes
9	The average roof in the UK is able to collect how many kWh per m ² ?	1200
10	The average solar thermal domestic hot water heating system reduces carbon dioxide emissions by how many kg per year?	400 - 600
11	Rape seed oil is used to produce a form of?	Bio diesel fuel
12	Is charcoal a form of biomass fuel?	Yes (as it is made from wood)
13	What is anaerobic digestion used for?	Produce bio-gas
14	Woodchips used for biomass boilers should have a maximum moisture content of?	20 - 30 %
15	Ground source heat pumps work by...	Converting low grade ground source heat to a higher temperature
16	The co-efficient of performance for a GSHP is...	The ratio of useful heat output produced to electrical input used
17	Most homes have a heat pump which works in reverse, what is it?	A refrigerator
18	The slinky system used with a GSHP is.....	A coiled version of the horizontal ground loop heat collector
19	The ideal heat emitters to be used with GSHP systems are...	Under floor heating circuits
20	Vertical bore holes used for GSHP systems are normally how many meters deep?	75 - 100
21	The condenser and evaporator in a heat pump contain?	Refrigerant gas
22	GSHP provides a more stable COP than air source heat pumps because?	The ground temperature remains consistent all year
23	Wind turbines are available with which two types of rotor blades?	Vertical and horizontal axis
24	Domestic wind turbine kW outputs range from...	2.5 - 15
25	Power produced by a wind turbine is...	Proportional to the sweep area of its rotor
26	Photovoltaic systems use an inverter to...	Convert the energy collected from DC to AC
27	Two types of PV systems can be used, they are...	Stand alone or grid connected
28	Is planning permission generally required before installing solar panels?	No
29	Is a twin coil cylinder recommended for solar thermal DHW systems?	Yes
30	Storage capacity for a solar thermal DHW system should be?	30% larger than normal

