Fun Size: Spacebreakers Teacher notes

Introduction
This is similar to a well-known TV game for pupils. Questions in this version are mainly physical science.

Running the activity
Print the playing grids onto OHT sheets. There are twenty spaces on the grids. Players must answer a series of questions to win a line that starts in one coloured zone and reaches to the other zone of the same colour. Team 1 plays top to bottom, Team 2 plays left to right. A session consists of the best of three games using different grids.

The quizmaster chooses the first letter. The first team to put up a hand may answer. An incorrect answer gives a chance for the opposing side to respond. Shouting out automatically forfeits the chance to answer. A successful answer gives the right to choose the next letter. If no successful answer then the quizmaster selects the next letter.

The teacher keeps track of questions answered correctly by marking the hexagon with a shaped counter, round for Team 1, triangular for Team 2. Teachers will need to make about a dozen of each shape of these counters.

Select two teams. In the TV version one person plays against two others so the teams should not be of equal strength or size as Team 1 has only to answer four questions to win a game where as Team 2 has to answer five.

Safety
Not applicable.

More ideas
Pupils write their own questions at the end of a topic.

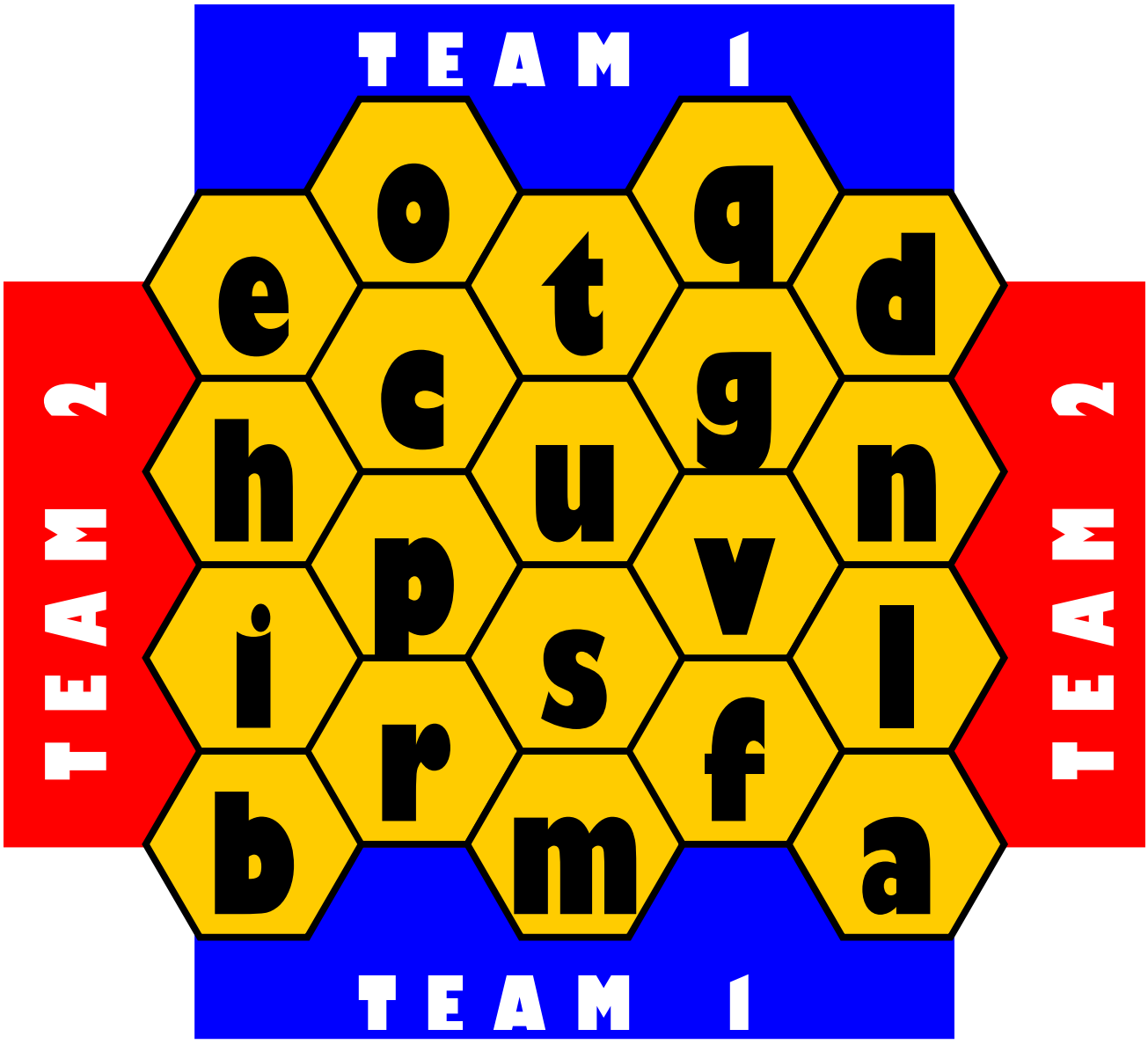
Learning outcomes
- Recall testing and vocabulary

Where the activity fits in
Review of physics KS3 topics.

Skills
Team-work, vocabulary.

Acknowledgements
Thank you to the producers of similar games who suggested this activity.

Please send your fun size games to nigel.heslop@scienceyear.com for inclusion on future CD ROMs.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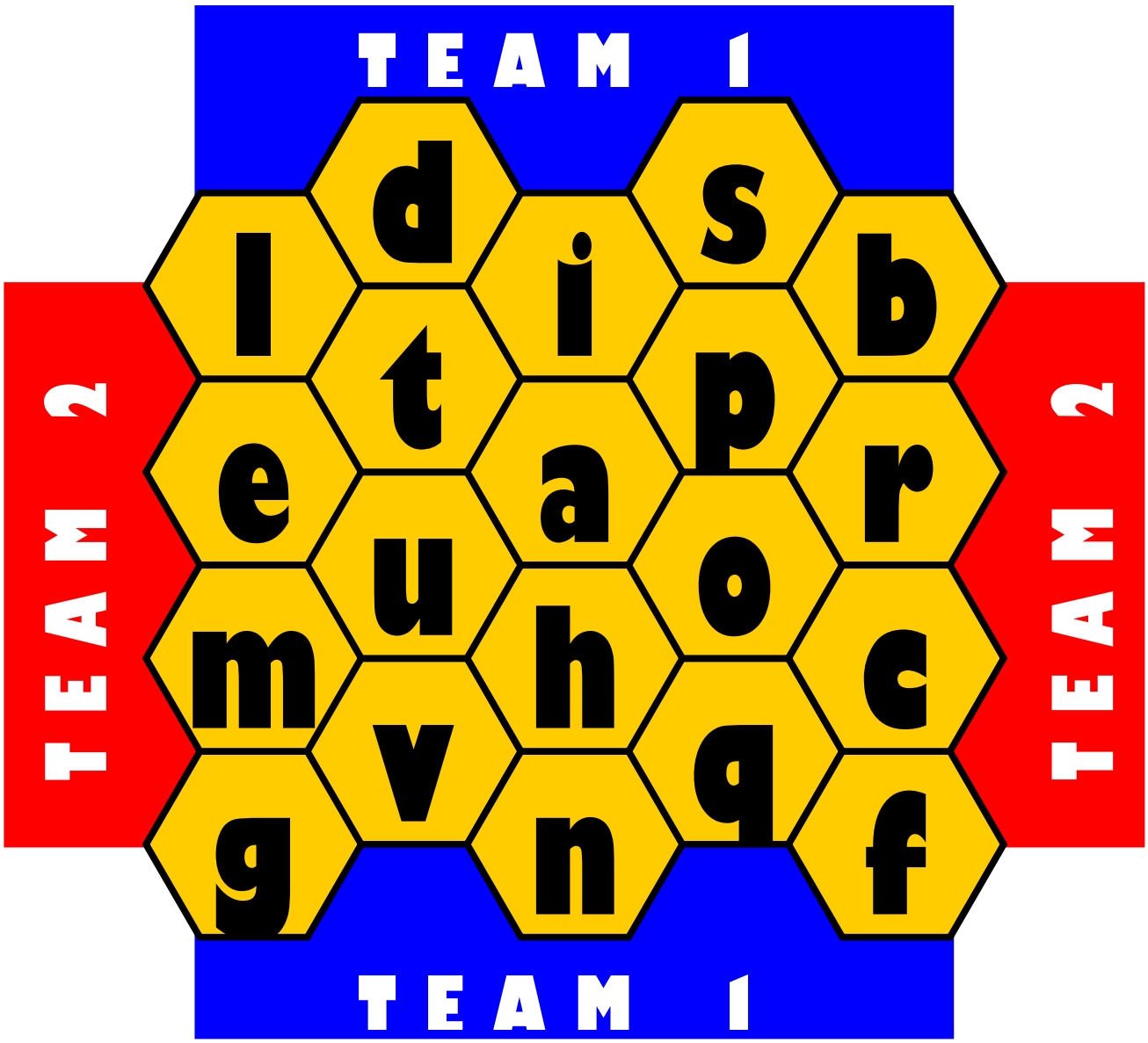
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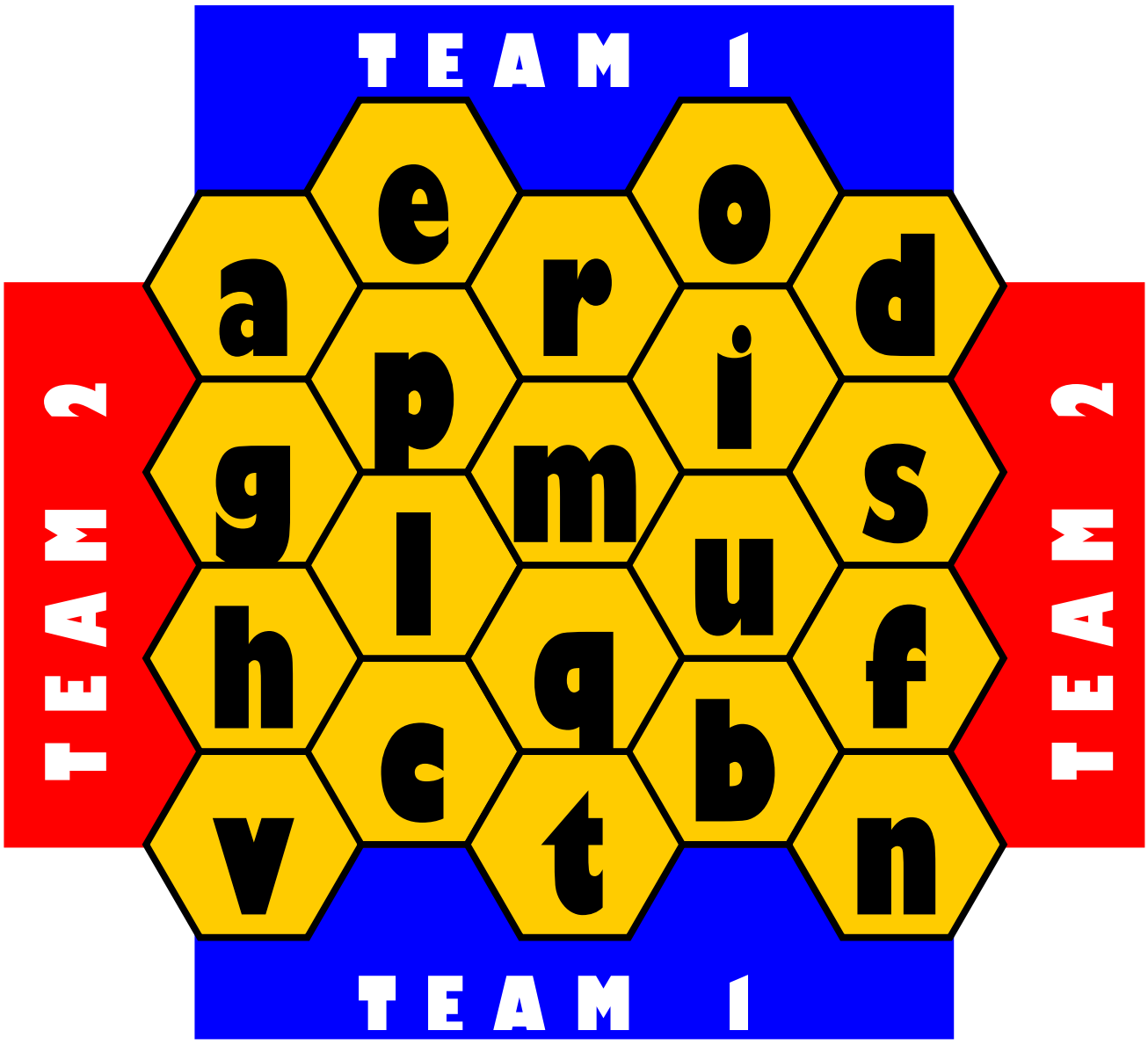
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Spacebreakers Questions

Contestant(s) choose a letter from the chart.
The teacher selects a suitable question for the team and marks it off.
Questions should be asked in the form 'This (A) means …'

acceleration	getting faster
accurate	very precise
alloy	mixture of metals
alpha	type of radioactive particle
aluminium	metal for kitchen foil
ammeter	measures current
ammonia	smelly gas – contains nitrogen
amplitude	the height of a wave
atmosphere	all round the Earth
atom	the smallest particle of an element
audible	you can hear it
barometer	measures air pressure
base	like an alkali
battery	lots of cells
beta	electrons as particles
biosphere	where we live
Brownian motion	random movements
camera	like the eye in structure
carbon dioxide	gas we breathe out
catalyst	makes a reaction faster
cell	one source of electricity in a battery
Celsius	temperature
charge	positive or negative
compound	pure chemical, not an element
concave	lens thin in the middle
conclusion	drawn from data
condensation	water on the windows
conduction	energy transfer through solids
contracts	colder and smaller
convection	hot air current
convex	lens in the eye
current	flow of electricity

decrease	get smaller
density	mass divided by volume
diffraction	waves spreading through a gap
diffusion	random mixing
dilute	few particles per litre
diode	conducts in one direction only
dissolve	sugar vanishes in tea
distillation	makes pure water
echo	sound comes back
effervescence	fizz
efficiency	energy out vs. energy in
electromagnet	magnet that can be turned on or off
electrons	outer particles of an atom
element	lots of the same atom
energy	makes things happen
equilibrium	reactions in balance
erosion	soil gets washed away
evaporation	water into vapour
expansion	getting bigger
field	can be magnetic or gravitational
filter	separates solid and liquid
fission	atom nucleus gets broken and releases energy
flammable	can burn easily
formula	symbols and numbers
fossil	once living, but the shape has been preserved
frequency	waves per second
friction	rubbing force that releases heat
fuel	energy store
fuse	weak link in electric circuit
galaxy	The Milky Way is ours
gamma ray	more penetrating than an X-ray
gas	no fixed shape, no fixed volume
generator	makes electricity
glucose	blood sugar
gravity	holds us down
half-life	time for radioactivity to fall by 50%
halogen	Group 7
hydrocarbons	methane and petrol are examples of these
hydrogen	acid plus metal makes this gas

igneous	rock from magma
increase	get bigger
indicator	shows pH
induction	makes electricity flow
inertia	helps you stay moving or stay still
infra-red	hot rays
insulation	keeps you warm
ion	charged particle
ionosphere	reflects radio waves
isotopes	two atoms of the same element with different masses
lava	comes out of volcanoes
liquid	no fixed shape, fixed volume
longitudinal	wave motion, along the direction of movement
loudness	sometimes called volume on the TV
luminous	describes any object that gives out light
magma	molten rock
magnesium	burns with white light
magnet	has a north and south
mass	stays the same in space
metal	a material that bends and conducts
metamorphic	rock changed by pressure
meter	for measuring
microwave	waves or satelites
mineral	single substance in a rock sample
molecule	small group of atoms
moment	turning effect of a force
motor	turns electricity into movement
negative	other end to plus
neutral	pH 7
neutron	mass but no charge
newton	unit of force
nitrogen	makes up most of the air
observation	what you see
ohm	unit of resistance
ore	rock for metal extraction
oxidation	adding oxygen
oxide	oxygen compound
oxygen	photosynthesis by product
ozone	poisonous oxygen

parallel	house lights circuit
pitch	how high the frequency is
planet	goes round the Sun
pollution	waste in the wrong place
polymer	any plastic chemical
positive	other end to minus
potential	gravitational energy
precipitates	solids from solutions
predict	say what will happen
pressure	force divided by area
prism	splits white light
proton	positive particles in the nucleus
radiation	energy from the Sun
radioactive	atom nucleus falls apart naturally
reaction	chemical change
reactivity	if it's high, then this element will displace another
reflection	bouncing back
refraction	bending light rays
renewable	constantly being replaced
repulsion	pushing away force
resistance	measured in ohms
resistor	hold up the flow
salt	acid plus alkali (minus the water)
satellite	goes round in free fall
sedimentary	rocks from weathering
series	Christmas tree lights circuit
Solar System	from the Sun to Pluto
solenoid	coil for magnetism
solid	fixed shape, fixed volume
soluble	can dissolve
solute	solid in solution
solution	a mixture and an answer
solvent	the liquid used to make solutions
spectrum	rainbow colours
sublimation	from solid to gas in one go
tectonic plate	a section of crust
temperature	measure of heat energy
terminal	battery end
thermometer	alcohol replaced mercury in these for safety
transformer	changes the voltage
transverse	wave motion, across the direction of movement

ultrasound	beyond hearing
ultraviolet	tans the skin, but beware
unsaturated	healthy food fat
Uranus	blue planet, orbits on its side
vacuum	nothing at all
valency	combining power
vapour	a name for gas, often water
velocity	speed in one direction
vibration	how sound goes through materials
water	the most common compound
watt	power of light bulbs
waves	these carry energy, made by winds
wavelength	distance between waves
weathering	breaking up rocks naturally
weight	mass and gravity together
welding	thermit is used for this on railways
wire	a thin piece of metal
wolfram	the old name for tungsten
work	energy can be used to do this, measured in joules
white light	a mixture of all the colours of light