

## Science of fireworks

### Worksheet 1

1. Do you like fireworks? When was the last time you saw the fireworks display? When do people set off fireworks in your country?

2. Divide into two groups and prepare a short presentation about :

- ❖ 4<sup>th</sup> of July celebrations in the USA
- ❖ 5<sup>th</sup> of November celebrations in the UK

3. Watch a National Geographic film about fireworks:

<http://video.nationalgeographic.com/video/i-didnt-know-that/idkt-fireworks?source=relatedvideo>

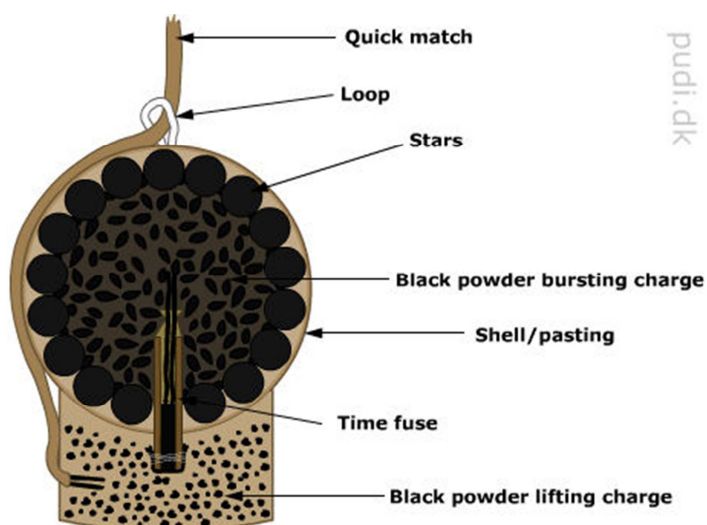
Did you learn anything you didn't know?

4. Let's learn some more, find the answers to these questions:

- ❖ What are the fireworks made of ?
- ❖ How do they explode?
- ❖ How are the colours created?

5. Look at the aerial shell diagram and watch a film about fireworks :

[http://www.youtube.com/watch?v=nPHegSull\\_M](http://www.youtube.com/watch?v=nPHegSull_M)



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<http://www.instructables.com/id/How-to-Make-Fireworks/>

[http://news.bbc.co.uk/cbbcnews/hi/newsid\\_4360000/newsid\\_4361500/4361562.stm](http://news.bbc.co.uk/cbbcnews/hi/newsid_4360000/newsid_4361500/4361562.stm)

<http://science.howstuffworks.com/innovation/everyday-innovations/fireworks1.htm>

<http://scifun.chem.wisc.edu/chemweek/fireworks/fireworks.htm>

<http://chemistry.about.com/od/fireworkspyrotechnics/a/fireworkcolors.htm>

6. Listen to Katy Perry's song "Firework", look at the lyrics and underline all the words and expressions connected with today's lesson

<http://www.youtube.com/watch?v=QGJuMBdaqlw>

### "Firework"

Do you ever feel like a plastic bag  
Drifting through the wind, wanting to start again?  
Do you ever feel, feel so paper thin  
Like a house of cards, one blow from caving in?

Do you ever feel already buried deep six feet under?  
Screams but no one seems to hear a thing  
Do you know that there's still a chance for you  
'Cause there's a spark in you?

You just gotta ignite the light and let it shine  
Just own the night like the 4th of July

'Cause, baby, you're a firework  
Come on, show 'em what you're worth  
Make 'em go, "Aah, aah, aah"  
As you shoot across the sky-y-y

Baby, you're a firework  
Come on, let your colours burst  
Make 'em go, "Aah, aah, aah"  
You're gonna leave 'em all in awe, awe, awe

You don't have to feel like a wasted space  
You're original, cannot be replaced  
If you only knew what the future holds  
After a hurricane comes a rainbow

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Maybe a reason why all the doors are closed  
So you could open one that leads you to the perfect road  
Like a lightning bolt, your heart will glow  
And when it's time you'll know

You just gotta ignite the light and let it shine  
Just own the night like the 4th of July

'Cause, baby, you're a firework  
Come on, show 'em what you're worth  
Make 'em go, "Aah, aah, aah"  
As you shoot across the sky-y-y

Baby, you're a firework  
Come on, let your colours burst  
Make 'em go, "Aah, aah, aah"  
You're gonna leave 'em all in awe, awe, awe

Boom, boom, boom  
Even brighter than the moon, moon, moon  
It's always been inside of you, you, you  
And now it's time to let it through-ough-ough

'Cause, baby, you're a firework  
Come on, show 'em what you're worth  
Make 'em go, "Aah, aah, aah"  
As you shoot across the sky-y-y

Baby, you're a firework  
Come on, let your colours burst  
Make 'em go, "Aah, aah, aah"  
You're gonna leave 'em all in awe, awe, awe

Boom, boom, boom  
Even brighter than the moon, moon, moon  
Boom, boom, boom  
Even brighter than the moon, moon, moon

<http://www.azlyrics.com/lyrics/katyperry/firework.html>