LITTLE BIG FUTURES

Communities and fire safety

Learning outcomes

- explore a range of issues that affect fire safety in communities
- evaluate ways to improve fire safety in a community
- describe and design strategies to improve fire safety

Resources

- post-it notes or equivalent for students to group types of buildings together
- poster material for final challenge on improving fire safety
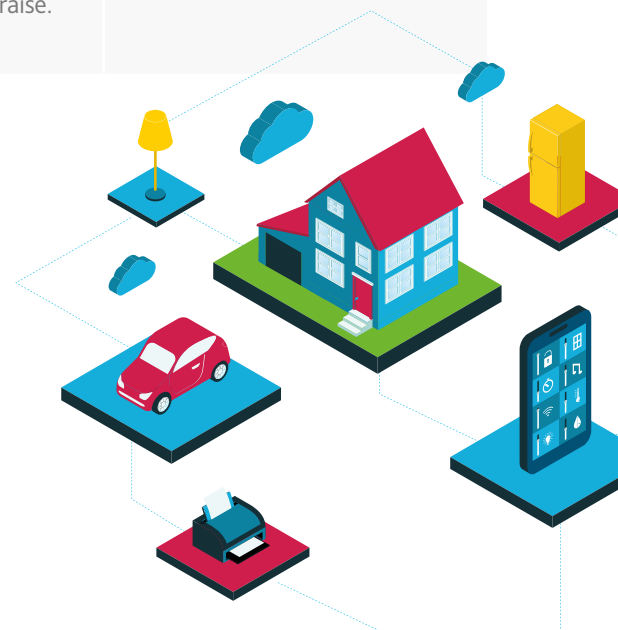- model making equipment

CISCO   STEM LEARNING

Lesson activities scheme of work
(5 hour duration; may be extended if appropriate)

	Activity	Resources
Activity 1 **(5 mins)**	Explain that previously unconnected devices are being connected to bring about huge changes in how the world works. This is the basis of the Internet of Things.	Streaming videos: General introduction to the 'Internet of Everything'
Activity 2 **(10 mins)**	**Fire safety factors** Ask the students what they think are the factors we need to think about when it comes to fire safety Some common ones might be ■ people ■ risk awareness ■ types of building ■ types and causes of fire ■ technology including communication and IoT ■ fire brigade awareness ■ understanding of fires	Post it notes, cards or hexagons from SOLO For think-pair-share activity or could be a simple brainstorming activity
Activity 3 **(30 mins)**	To get students thinking about the open ended task they will do on improving communities' fire safety, you can get them thinking about a historic incident. The most famous one is the Great Fire of London and the one that students will be most familiar about. Using the link to the Fire of London site (created for the 350th anniversary in 2016), get students to go through the history of the event and if age appropriate the interactive game. At the end get them into pairs to note down what they could have done to improve the situation before hand and afterwards (remember it's historical).	Access to laptops or tablets for viewing the history and games on the website. Could be done via a whiteboards as a whole group. www.fireoflondon.org.uk/story/the-fire/

Activity 4 (15 minute introduction and then 5 hours)	**Open ended challenge**	■ Laptops/tablets for research purposes
	This could be individual/pairs or small groups	■ Poster material
	If in small groups it may be worth getting them in to roles.	■ Model making material
	After the discussions from activities 2 and 3 students will be given details of an open ended investigation. The investigation is into making either existing communities or new communities safer in terms of fire safety.	www.gov.uk/workplace-fire-safety-your-responsibilities
	This has been put into a context of a government report and they will be using the community as an example for what fire safety can look like.	www.london-fire.gov.uk/FireSafety.asp
	They need to take into account the following points and report on them.	http://www.hse.gov.uk/toolbox/fire.htm
	Design of structures and how they work together	www.designingbuildings.co.uk/wiki/Fire_safety_design
	■ identify risk areas in a community	www.lumkani.com/
	■ causes of fires	www.london-fire.gov.uk/great-fire-of-london.asp
	■ responses to fire ■ information for the public	www.fireoflondon.org.uk/story/the-fire/
	■ technology	www.fireoflondon.org.uk/
	■ how the Internet of Things (IoT) can support improvements to these areas	www.bbc.co.uk/newsround/37222884
	They can produce plans, maps, models, reports, posters, safety guidance for the public and ideas for new technologies supported by IoT and designs.	www.london-fire.gov.uk/SafetyAtHome.asp
	At the end of the two hours' worth of time they need to present their suggestions to the government panel (rest of the STEM club).	www.firesafe.org.uk/
	Make them aware that they will need to present for a certain time (this will depend on the number of groups) and have something to show.	www.bbc.co.uk/news/uk-england-london-36774166
	There is also a selection of websites you could suggest to students to look at in their research ideas.	
	Be ready to prompt students with suggestions	
Activity 5 (60 mins)	**Feedback**	
	The last part of the activity is for students to feedback their suggestions and findings to the rest of the group.	
	Think about question prompts for them on the points they should raise.	

Additional notes

For the Crest Discovery award students will need to develop and demonstrate the following skills, it might be worth going through this with them and what they can include as evidence along with your own observations. This information can be compiled by students using their Crest Discovery Passport.

Assessment objective	Could include
Self-management	■ Readiness to accept responsibility ■ Flexibility ■ Effective time management ■ Motivation to improve own performance ■ Confidence when tackling tasks
Team-working	■ Respecting other people's work and views ■ Working collaboratively ■ Negotiating/persuading ■ Contributing positively to discussions
Problem-solving	Analysing circumstances and applying a creative approach to develop solutions
Research	Acquiring new knowledge relevant to the task and applying it appropriately
Communication	■ Following written and verbal instructions ■ Talking an listening to other team members ■ Producing a presentation which relates to the original brief and which reflects the creativity of the group
Reflective practice	The ability to recognise: ■ What knowledge and skills have been gained ■ Where they could have worked more effectively ■ Where they achieved/exceeded expectations This skill can be recognised using the Discovery passport