

Home Sweet Dome

KS2 Science Fiction - Lesson 3

Evidence-Based Learning

Using simple stories to develop advanced learning skills

An extensive review of educational research has identified the 8 key **Evidence-Based Learning** (EBL) skills

Five of these EBL skills are developed in this lesson through *Science Fiction*

Thinking Skills

Self-Regulation

Collaboration

Peer Assessment

Independent Learning



This lesson looks at:

settings in a science fiction story in detail, and it includes answering higher and lower order questions on the settings of a science fiction story, reading extracts from science fiction stories and identifying the setting of these extracts.



Our EBL resources will develop all eight key thinking and learning skills

Our EBL resources will develop the eight key thinking and learning skills identified by extensive educational research as necessary for developing the highest levels of thinking and learning.

The ideal vehicle with which to develop these eight key skills are simple stories because once pupils know a story well, it is possible for them to think about and manipulate that story in increasingly complex ways.



Our EBL resources will also develop teaching skills


This lesson also contains an overview of EBL
plus
a 5 minute evidence-based teacher CPD activity



What is Evidence-Based Teaching and Learning?

Evidence-based teaching and learning is based on the principle that teachers should use research to make informed decisions with regards to learning

*Evidence-based approaches to learning and teaching – Mar 2020
European University Association – eua.eu*

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Five-Minute CPD for Teachers: Peer Assessment	

	A different emoticon is used for each of the eight EBL skills to reinforce for pupils which skill they are currently learning.
	There is also a 5 minute evidence-based CPD activity for teachers to add to their own skill set.

Teaching Unit

The three main parts of a science fiction story are:



the **characters**

e.g. astronauts
from Earth...

the **setting**

...travel to a
faraway planet...

the **plot**

...where they clash
with aliens or robots.

The setting in a story is the place where a story is set

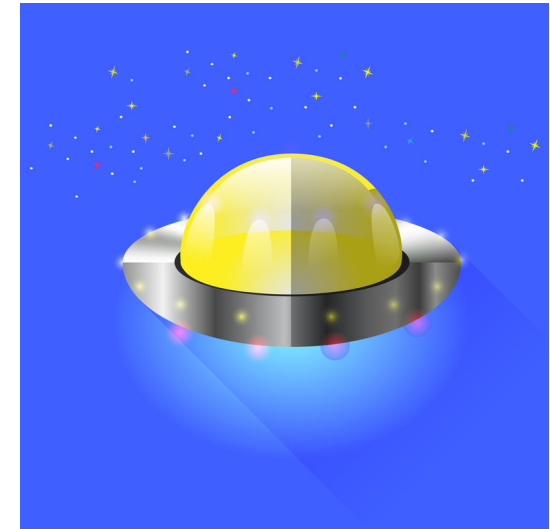
settings in a science fiction story might include:



on a spaceship
travelling to
another planet

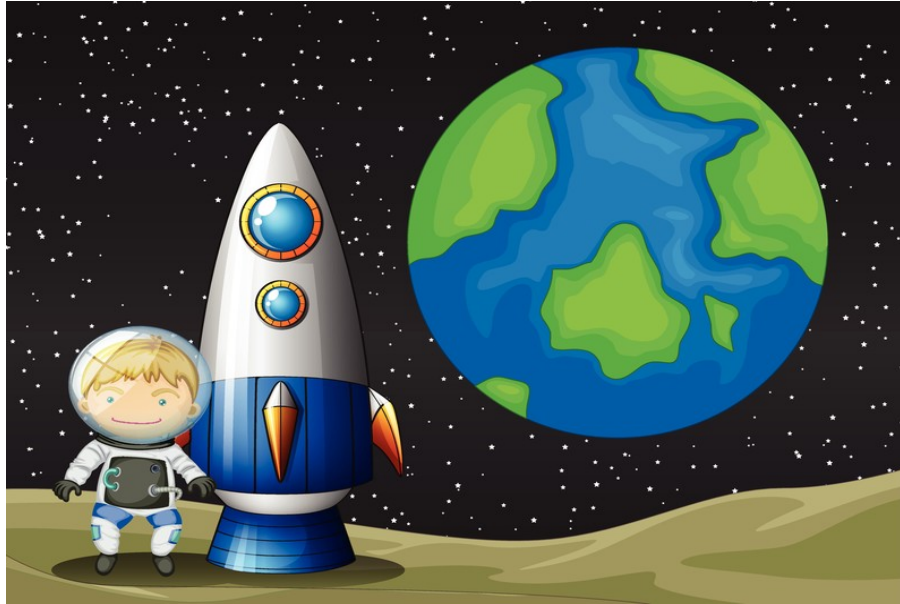


on a distant
planet



on an alien
spaceship

The setting of a science fiction story often changes during the story



Max was on Earth



then he was in a spaceship



now he in on the Moon

Adjectives are needed to describe settings in science fiction stories. They can be used to tell us different things including:



the colour	how many	what size
the orange planet	millions of stars	the huge craters

- Read the story extracts on the following pages and then answer the questions about them.



The planet was dry and dusty. The temperature was so hot I would have been burnt alive without my spacesuit. It was the year 2092. The planet that I had travelled to was called Zeta.

Many people from Earth now live on Zeta because Earth had become so overcrowded. In order to live here, the people had to adapt to living in glass domes called 'complexes'. No-one ever ventured beyond these complexes. Once outside of the protection of a complex, the heat or the lack of oxygen would kill you instantly.



I was one of the few scientists still remaining on Earth. I had been sent to Zeta to monitor the conditions there.

A series of underground tunnels took you from the city domes to the relaxation domes. Fake blue skies were added above these so that the people on Zeta felt that they lived in the open air.

You were quite safe on Zeta as long as you never went outside these domes.



The complexes with their indoor beaches, swimming pools and beautiful forests, were very pleasant places to live, but I would not like to live somewhere totally indoors and never go outside.

I wouldn't like to live on a planet like Zeta.

Collaborative Thinking Skills Activity

Work with a partner. Working with a partner will help you to learn more because you can discuss the questions and work out the answers together.



1	Where is this story set?				
2	What year is it?				
3	When is this story set?	the present		the future	
4	Settings can be real or imaginary. Is this setting a real or an imaginary place?	imaginary		real	
5	Name three adjectives that were used to describe the planet.	a			
b					
c					
6	Which planet is overcrowded?	Earth		Zeta	

- Read this sentence from the story again:

In order to live here, the people had adapted to living in glass domes called 'complexes'.

7	What does the word adapted mean?				
	to live in a glass dome		to get used to something		
8	Which adjective has been used to describe the forests?				
9	Give two reasons why it is dangerous to go outside the complexes.				
	a		b		
10	Copy two nouns from the story.	a		b	

- Read this sentence from the story again:

The temperature was so hot that I would have been burnt alive without my spacesuit.

Finish this sentence with a different ending to the one above:

11	<i>The temperature was so hot that I would...</i>		

- Read this sentence from the story again:

No-one ventured beyond the living complexes, as once outside of these, the heat or the lack of oxygen would kill you instantly.

12	What does the word ventured mean?			
	to stay indoors		to make a trip that is dangerous	

- Look at this graphic of the planet Zeta:



13	A synonym is a word that means the same or almost the same as another word.			
	What synonym could be used instead of the word hot to describe Zeta?			

14	An antonym is a word that means the opposite of another word.			
	What is an antonym for the word hot ?			

15	Name two attractions of the indoor complexes.	a		b	

Individual Self-Regulation Activity

- You are now going to work on your own to evaluate how you can be a better partner.

<p>Use these numbers to rank the four statements below</p> <p>1 = I think I did this really well</p> <p>2 = I could have done this better</p> <p>3 = I need to learn how to do this</p> <p>4 = I did not do this as well as I could</p>		<p>Now create your goal</p> <p>you are going to create a goal for the statement that you gave a number 4. This goal can be set for the next time you work with a partner.</p>	
	I was a good listener.		Next time I will listen to my partner more carefully.
	I gave my partner some ideas.		Next time I will give my partner some useful ideas.
	I gave my partner feedback about their ideas.		Next time I will respond to my partner's ideas.
	I stayed focused on the task.		Next time I will not get distracted from the work.
<p>My goal is</p>			

Collaborative Learning Activity

Work with a partner on the following two activities:

1

I stepped out of the spaceship and walked carefully down the steps to the landing pad. The sun was shining and the sky was blue. Newspaper reporters were waiting to interview me and I could not believe that I was home safe and sound. It was so good to be back after such a long and perilous mission to that strange and terrifying planet.

a

Where is this extract set?

on another planet

on Earth

b

Do you know this or do you think this?

c

Explain your answer.

2

The spaceship was about to take off. The crew took a last look at Earth. The next time they saw it, they would have travelled to Mars and back!

Seren felt a bit tense as the countdown started. Then Milo cracked a joke. No-one laughed; they had all heard it before, but it did make them feel more relaxed.

a

Where is this extract set?

in a spaceship on Mars

in a spaceship on Earth

b

How do you know this?

Peer Assessment Activity

Looking at your partner's work to see what was good about it and what might be improved is called peer assessment.

Peer assessment will help you to learn more because you will be checking an activity that you have just completed so you can see how another pupil did the same task.

You need to answer this question about your partner's work.

Which of their two responses was the best?



Copy and complete these sentences and show them to your partner when you are done.

- What I liked about your best response was...
- Their other response could be improved by...

Independent Learning Activity

- Now work on your own. Read the following extracts and then answer the questions.

1

The surface wasn't a bit like Earth. The ground was cracked and dry with thin, rubbery plants growing out of the cracks.

These plants had little red tentacles, almost invisible to the naked eye, which slowly opened and closed. It seemed as though they were looking at me. As I moved around, I could feel the tentacles following me. Was it my imagination or were they getting closer?

a

Where is this extract set?

on another planet

in another country

b

How do you know this?

2

It was a scorching hot day. Maya looked around – there was nowhere in this place to get a drink. Nothing to eat either, by the look of it. Still, she wasn't here to think about herself. She was here for more important things than that.

Suddenly, the door of the building opened. Out came an important alien - the ruler of this planet - to shake her hand and welcome her to their planet.

a

Where is this extract set?

on Earth

on another planet









b

How do you know this?

Teacher Overview

The first table shows the eight EBL skills identified by research as key to learning. Each skill has its own icon. The second table shows the skills that were developed in *this* lesson and their purpose.



The eight EBL skills proven to maximise learning



			
Collaborative skills	Thinking skills	Peer Assessment skills	Peer Teaching skills
			
Self-Assessment skills	Metacognitive skills	Self-Regulation skills	Independent Learning skills

This lesson has developed these EBL skills

peer assessment skills	to develop the assessment skills pupils need to give each other valuable feedback so they learn from, and support each other
thinking skills	to develop and consolidate higher and lower order thinking skills
self-regulation skills	to develop the highest levels of thinking with the most productive learning behaviours
independent learning skills	to develop the ability to seek out and gain new skills, new knowledge and new understandings
collaborative skills	to develop the most effective ways of working with peers

Five-Minute CPD for Teachers: Peer Assessment

<p>All eight EBL skills are research-driven.</p> <p>An example of the research that supports the peer assessment used in this unit is:</p>		
<p>Peers need to identify strengths and weaknesses in another's work</p>		
<p>Feedback needs to be given to each other by pupils working in pairs.</p> <p>Effective feedback will identify at least one of the strengths in their partner's work and the feedback should say why this part of the work was good.</p> <p>The feedback should also outline one area for future development and make a suggestion as to how this might be done.</p>		
<p><i>Learning about Learning Learning and Teaching Scotland</i></p>		
<p>Share this CPD with a colleague?</p>		

<p>Five-Minute Evidence-Based CPD</p>		
<p>A good question to ask yourself after using this EBL skill is "can I assess my pupils' efforts at peer assessment in a simple way?"</p>		
<p>You can move around your classroom as pupils peer assess and 'assess' their efforts in a simple way by asking "did pupils..."</p>		
<p>Identify their partner's best response?</p>		
<p>yes</p>	<p>no</p>	
<p>Say why this response was good?</p>		
<p>yes</p>	<p>no</p>	
<p>Identify the response that needed improvement?</p>		
<p>yes</p>	<p>no</p>	
<p>Say what improvement needed to be made?</p>		
<p>yes</p>	<p>no</p>	
<p>Action Step</p>		
<p>Provide more practice to your pupils on any aspects of peer assessment that elicited a red response above.</p>		