



S4 Decolonising the Curriculum Teacher Resource: Space Science and Astronomy

Dear colleagues,

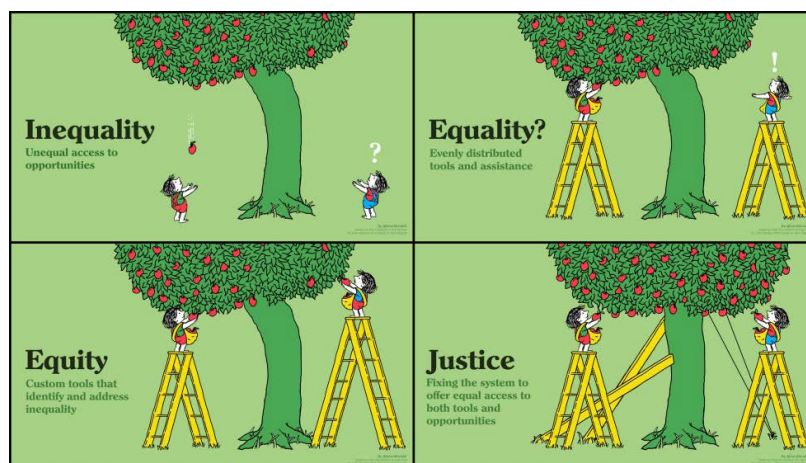
As some of you will know the recent Black Lives Matter campaign has included a movement to 'decolonise' the educational curriculums we all use.

You can read more about what this means [here](#), [here](#) and [here](#).

Broadly, decolonising means:

1. Making sure the teaching examples, people, research and activities we use reflect racial balance and include Black and Minority Ethnic scientists, scholars and writers.
2. Asking ourselves how our assumptions (even unconscious ones) are reflected in our teaching. Maybe we don't use phrases like 'backward' or 'undeveloped' any more in reference to communities and countries, but decolonising asks us to reflect more deeply on the assumptions we make based on our skewed 'colonial' viewpoints. (A useful shorthand is to ask ourselves, would we consider it to be acceptable if the only people who wrote about, talked about or discussed 'feminism, gender issues and women's perspectives, were men?')
3. Thinking about the impact of living in a society with structural inequalities based on race (you can read more about this [here](#)) we need to consciously work to give our students equal opportunities to flourish and succeed. This includes actively dealing with racism.

In these teacher guides we will introduce some resources for decolonising teaching on specific science subjects.



Resources for decolonising the teaching of Astronomy and Space Science.

Astronomy is currently one of the least diverse subjects within science, with white males making up the majority of the people working in astronomy and space science (find out more [here](#)).

In the USA , only 30 Black women have ever received a PhD (a postgraduate degree that academic 'Dr's hold) in astronomy.

However, Black history is full of crucial contributions to space science and we all have a responsibility to include these stories in our teachings of the history of astronomy and space science [find out more [here](#)].

Here are some great people, resources and stories to help us all decolonise the astronomy curriculum.

We hope that this helps to amplify the voices of Black and Minority Ethnic people working in space sciences.

Some notable names in Astronomy, Astrophysics and space exploration:

Benjamin Banneker – An astronomer, mathematician and inventor. Largely self-taught, Banneker is regarded as one of the first African American scientists. He accurately predicted solar and lunar eclipses and published yearly almanacs between 1792 and 1797, which included his own astronomical calculations as well as opinion pieces, literature and medical and tidal information. Find out more [here](#).

Dr. Mae Jemison - An American astronaut, physician and engineer. She was the first “Woman of Colour” (Dr Jemison’s term) to travel into space when she served as a mission specialist aboard the Space Shuttle Endeavour in 1992. Follow Dr Mae on Twitter at [@maejemison](#)

Dr. Carl A. Rouse - The first African American astrophysics researcher. Dr Rouse made very important contributions to computational physics, nuclear fusion and solar physics. Most notably, he created a new mathematical model of the interior of the Sun and devised a new method to measure the presence of helium in the sun’s atmosphere. Find out more [here](#).

Dr. Beth A. Brown – A NASA Astrophysicist and the first African American woman to receive a PhD in astronomy from the Department of Astronomy at the University of Michigan. Dr Brown conducted research into elliptical galaxies by studying them in different wavelengths. She was also heavily involved in educational outreach, working with school students. Find out more [here](#).

Dr. Neil de Grasse Tyson – World-renowned astrophysicist, presenter, author and science communicator. In 1996, he became the Director of the Hayden Planetarium at the Rose Center for Earth and Space in New York. Find out more [here](#).

Dr Barbara A. Williams – The first Black American woman to receive a PhD. In astronomy. Her research focused on radio astronomy and the study of galaxies. Find out more [here](#).

Stargazing Outside the Western World:

In the Western world, we have 88 official constellations. The names, stories and imagery used for these constellations stem mainly from ancient Greek and Roman mythology. In the US and here in the UK, these are the constellations and star lore most commonly used. However, many other cultures use their own set of constellations which have evolved from local myths and legends in a similar way to the Western set.

Below are some resources on the constellation mythologies in different cultures and how constellations were used for navigation by Harriet Tubman and the Underground Railroad.

<http://www.datasketch.es/may/code/nadieh/>

<https://www.rmg.co.uk/discover/explore/south-african-star-myths>

<https://assa.saa0.ac.za/astronomy-in-south-africa/ethnoastronomy/>

<http://digitaliseducation.com/blog-post-20180925>

<https://www.nps.gov/articles/drinkinggourd.htm>

Black in Astro now:

It is #BlackInAstro week (June 22nd to 26th). Here are some important modern-day Black astronomers, astrophysicists and science communicators to engage with, share and follow:

<https://twitter.com/solarrsystem>

https://twitter.com/That_Astro_Chic

<https://twitter.com/ravenscimaven>

<https://solarsystem.nasa.gov/people/1380/derrick-pitts/>

<https://www.bbc.co.uk/programmes/profiles/3trm0Y2037DNmqMyjm5gQvS/dr-maggie-aderin-pocock>

Find more [here](#).



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(S4) Funded by the European Social Fund and the Welsh Government.