Learning Objective
To write a newspaper report using a range of devices to structure writing.

Resources Required
• Smartphone/device or computer to access Zap code (optional)
• Selection of newspaper articles
• Books and internet access for research purposes

Background to this Activity
The James Webb Space Telescope is our most advanced space telescope to date, helping us understand the Universe we live in. Scientists from across the world use Webb to study objects in space, so that we can learn more about our home planet and the history of our Universe.

But without the help and skills of science writers – sometimes called scientific journalists – the important findings of Webb can’t be presented to the broader community, including other scientists, researchers and the general public. Since we can’t all be space experts, we rely on scientific writers to provide a link between Webb’s discoveries and the community. Communication plays an important role in helping us fully benefit from the important information Webb is collecting.

Literacy and visual literacy are excellent ways to engage students who may not be confident in STEM. This activity asks students to combine science and the arts by creating a four-page publication of space news.

Running the Activity
Prior Learning
This task should be the final stages of a short series of writing lessons focusing on the genre of report writing.

Students should have opportunities to study a number of newspaper reports in class, prior to writing their own report. Here is a suggested plan for preceding lessons:

Lesson 1:
Look at a selection of newspaper articles and identify features which can be found in several of the examples (headlines, paragraphs, facts, speech, photos etc). Make a list of these.

Lesson 2:
Look at some examples of catchy headlines in local newspapers. Focusing on headlines, encourage students to think of short and snappy headlines for a range of scenarios (cat stuck in tree, flooding, celebrity visiting town etc). They could work in groups to develop puns/catchy headlines to match the different scenarios.

Lesson 3:
Have students look at the five ‘Ws’ (who, what, when, where, why) and try to identify them in the different newspaper report examples (typically the introductory paragraph includes this information).

Deep Space Daily Task
Success Criteria
Pupils should be familiar with the features of newspaper article writing and should work with their teacher/educator to devise success criteria for their writing. Suggested success criteria include:

• headlines
• facts (not opinions)
• quotations
• photos and captions
• paragraphs
• connectives.

Newspapers use headlines to grab your attention. Headlines try to tell the story in as few words as possible.
Headlines may use alliteration/catchy slogans/puns.

Quotations tell us what has been said and who said it. They can help to tell the story by giving the reader the opinions of the people involved.

Photos help to tell the story by giving readers a snapshot of what happened, where it happened or who it happened to. Photos also need a caption underneath them. A caption is a short sentence explaining what is happening in the photograph.

Paragaphs help the reader clearly understand the information in the story. Each new paragraph could also be given a subheading. This is a very short title that tells the reader a little about what the paragraph will be about.

Research

Students’ newspaper articles will obviously be based around discoveries in space. Depending on your class, you may decide to leave this task more open-ended or you may prefer to narrow students’ choices to a few particular discoveries. Either way, before beginning to plan their article, students will need to carry out research using books and the internet to find out relevant facts to include in their article. Allow students to print out and collate notes for their newspaper reports.

Planning

Students will need time to plan their newspaper articles before they begin to write. A template has been included (discoverydiaries.org/toolkit/article-planner-template/), but you may wish to modify this or create your own, depending on the needs within your classroom.

Following this planning time, it may be a good idea to set aside some time for students to write the ‘speech’ parts of their articles, following separate success criteria for writing direct speech, for example.

Independent Writing

Students will use their plans to begin writing their newspaper articles. Remind them to keep an eye on the success criteria which you agreed on together as a class. Students could draw their own pictures, use pictures from the internet or create digital images using drawing software or apps.

Encourage students to use a dictionary and thesaurus throughout this task to improve the quality of their writing. You may also decide to provide a range of connectives in a word bank.

Self-Assessment

Students should check and edit their work as per the usual practice.

Have students revisit the success criteria when they are finished and make improvements where necessary. To inform Assessment-for-learning, you may want students to make a note of changes they have made at this point.

Peer-Assessment

With a copy of the success criteria in front of them, ask students to read and evaluate a peer’s writing. Share examples between students of similar ability and use positive feedback techniques (e.g. two stars and a wish or similar).

Questions for the Class

- What are the main features we can find in newspaper articles?
- Who is the audience you are writing for?
- What are connectives? Can you identify any in your articles?
- What are the five ‘Ws’ (who/what/where/when/why) within your report?
Additional Challenges / Extension Activities

Working together, the class could compile a newspaper by drawing pieces from all class members, and produce copies of it to distribute to other classes in the school.

Ideas for Differentiation

Support:
- Group work/shared writing with the teacher/educator or paired work
- Provide students with word banks for challenging vocabulary
- Give students a particular ‘discovery’ to write about
- Voice recorders could be used during the planning session to help students develop their ideas
- Pupils with Specific Learning Difficulties could use dictation software

Challenge:
- Students to type up and present their newspaper report using MS Publisher
- Students to read their report to another class
- Students to include a relevant web-link in the article
- Students to record sources in a bibliography to be handed in with the article

Useful Links

Students interested in pursuing a career in science writing, communication or scientific journalism can read interviews with professionals here:

discoverydiaries.org/5-minutes-with-lucy-hawking-author/
http://www.biochemist.org/bio/03002/0041/030020041/

ZAP!

Students can independently access multimedia resources using the Zappar mobile/tablet app. See Zappar instructions at the link below and note that the mobile/tablet will need to be on a WIFI connection:
discoverydiaries.org/toolkit/discovery-diaries-zappar-instructions/

If you don’t have access to the internet in the classroom, all Zap code content is available to download on the activity’s web page (see link to the left) as a PowerPoint presentation or as bundles of images.

Useful Links

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Find more great space-themed STEM resources at https://www.stem.org.uk/esero
Learning Objective

To learn and practise spelling scientific vocabulary.

Resources Required

- Smartphone/device or computer to access Zap code (optional)
- Dictionaries – online and print
- Drawing materials

Background to this Activity

As students complete each of the four word searches in the Deep Space Diary, ask them to add the words they find to their dictionary. They can then research the definitions of those words and write them in the corresponding space and draw a picture.

Running the Activity

Start by building a word bank using the words found in the word searches. Students can contribute other scientific words they might have come across in completing other activities in their diary, which could be noted on cardboard or a whiteboard. Students can then use dictionaries to find the definitions of words, building their scientific vocabularies.

Once students have located the definitions of words, discuss as a class why we sometimes represent the meaning of words with symbols or images. Can students contribute examples of visual representations of words? Are there any examples in the classroom (e.g. an exit sign, a recycling guide, a sign indicating the location of a First Aid Kit)? What about other areas of the school (e.g. the signs on bathroom doors)? Note these down on a whiteboard to help support learning.

In small groups or pairs, students can then discuss how the meanings of the word search solutions might be represented visually. More capable students can use peer assessment to test how well a word has been represented visually.

Solutions from Word Searches

Word Search Chapter 2: Light, Prism, Reflect, Spectrum, Infrared, Optical, Gradient, Absorb

Word Search Chapter 3: Discovery, Construct, Experiment, Structure, Mirror, Method, Engineer, Payload

Word Search Chapter 4: Program, Commands, Deploy, Encryption, Calibrate, Instrument, Decode, Sequence

Word Search Chapter 5: Astronomer, Galaxy, Protostar, Data, Infographic, Celestial, Planet, Atmospheric

For additional words and definitions, see the Deep Space Glossary: discoverydiaries.org/toolkit/deep-space-glossary/

Questions for the Class

- Why is it important to have definitions for words?
- What other scientific words do you know?
- What are some examples of when we represent words with symbols or images?
- Why do we sometimes represent words with images?

Additional Challenges / Extension Activities

Ask students to create acrostic poems, using the words in their Visual Dictionary.

Ask students to rearrange the letters of words from their dictionary, then test a partner to see if they can unjumble the words.

Ideas for Differentiation

Support:

- Work as a class or in groups to find definitions, assigning words to students.
• Work as a class or in groups to generate ideas around images that could be used to visually represent words.

• Students who are not confident drawers could cut pictures from magazines or source them from the internet to use as their visual representation.

Challenge:

• Ask students to use printed dictionaries, rather than searching online for definitions.

• In small groups, more capable students can review images, analysing their effectiveness and drawing conclusions as to why or why not.

Useful Links

Deep Space Glossary: discoverydiaries.org/toolkit/deep-space-glossary/

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