

Employer Set Project – Task 1

Lesson 4
Structuring a review

ETFOUNDATION.CO.UK

Starter

Use colour highlighters to identify the main **point**, the supporting **evidence**, the **explanation** and the **link** to the overall context.

Although biology today is benefitting from a host of technological developments, few may eventually have the paradigm-changing impact on basic research, drug development and clinical medicine as nanotechnology. By operating in the nanoscale realm, at the very scale of biomolecules, nanotechnology offers a wide range of tools and applications. Near-term applications include drug-delivery platforms (Quintana et al., 2002), enhanced image contrast agents (Morawski et al., 2004), chip-based nanolabs capable of monitoring (Tegenfeldt et al., 2004) and manipulating individual cells (Kirby et al., 2003), and nanoscale probes that can track the movements of cells (Voura et al., 2004) and individual molecules (Lian et al., 2004) as they move about in their environment. Such an unprecedented ability to observe and influence complex systems in vivo and in real time provides detailed information about the fundamental mechanisms and signalling pathways involved in the progression of disease and greatly extends the existing toolset for drug delivery and non-invasive drug monitoring.

Task 1

Part of point, evidence, explain and link (PEEL) is missing in the following paragraphs. Identify what is missing and add it to improve the article.

1. Public opinion on nanotechnology is mixed. Some people are convinced by the benefits to healthcare when titanium oxide nanoparticles are added to sunscreen. Others are worried about the risks associated with nanotechnology, as it is suggested that, when inhaled, nanoparticles could cause lung inflammation and accumulate in body tissue.

Overall, there needs to be further research into the benefits and drawbacks of nanotechnology if it is to be used in additional applications.

2. Sunlight can chemically break down plastics into tens of thousands of new compounds in just weeks, and many of these dissolve in water, a [study led by researchers from the Woods Hole Oceanographic Institution has found](#). The discovery dispels the prevalent theory that sunlight exposure simply physically fragments macroplastics into microplastics in the marine environment, turning them into smaller particles that are chemically similar to the original material and persist in the environment.

3. Scientists have produced the first dissolvable smartwatch

Electronic waste is difficult and hazardous to recycle, so it is often not worth doing for small electronics. To reduce this waste, scientists in China have developed a transient nanocomposite circuit board. Transient materials are not designed to last. Printable and transient electronic devices like this watch could provide a solution to increasing electronic waste – once they become more visually appealing.

4. Graphene could protect artwork from colour fading

A graphene veil can prevent up to 70% of colour fading, the researchers behind the work suggest. While the exact amount of protection depends on the colours and the pigment substrate, “this corresponds to approximately 200 years of exposure under the conditions encountered in museums or other exhibition environments”, says study leader [Costas Galiotis](#) of the Foundation for Research and Technology Hellas in Greece.

Task 2

Brief

Investigate the most suitable method that could be used to test for coeliac disease at home. You need to consider the reliability of the tests and what materials you would need in the kits.

Information on coeliac disease and testing

Select two sources. Complete the grid.

What is your main **point**?

Select information from **evidence**, form an **explanation** and **link** back to the brief.

Point	Evidence	Explanation	Link

Information on coeliac disease and testing

https://en.wikipedia.org/wiki/Coeliac_disease

<https://www.nhs.uk/conditions/coeliac-disease/treatment/#gluten-free-diet>

<https://www.medicalnewstoday.com/articles/gluten-intolerance-test>

<https://www.nhs.uk/conditions/coeliac-disease/diagnosis/>

<https://www.biospace.com/article/at-home-celiac-testing-kits-demand-increasing-at-8-percent-cagr-following-advent-of-rapid-test-solutions-for-gluten-intolerance-fact-mr-concludes-in-a-latest-market-study/>

<https://www.nice.org.uk/guidance/ng20/>

<https://gutscharity.org.uk/advice-and-information/conditions/coeliac-disease/>

Task 3

Information on different kits

Select two sources. Write in continuous prose.

What is your main **point**?

Select information from **evidence**, form an **explanation** and **link** back to the brief.

Different kits

<https://homehealth-uk.com/all-products/prima-home-coeliac-celiac-disease-wheat-gluten-intolerance-test>

<https://www.healthcheckshop.co.uk/store/coeliac-disease-test>

<https://www.letsgetchecked.co.uk/home-coeliac-test/>

<https://www.personaldiagnosics.co.uk/Products/CoeliacScreen.html>

<https://www.londondoctorsclinic.co.uk/services/blood-tests/coeliac-disease>

<https://loretogallo.com/uk/mytest-celiac-kit>

<https://www.cooppharmacy.coop/products/pharmacy/home-screening-test-kits/selfcheck-Gluten-test>

<https://www.verywellhealth.com/gluten-detectors-and-test-kits-comparing-the-options4126736.coeliac.org.uk/information-and-support/coeliac-disease/getting-diagnosed/home-tests/>

Task 4

Examples of different commercial kits

Select three sources. Write in continuous prose.

What is your main **point**?

Select information from **evidence**, form an **explanation** and **link** back to the brief.

Include references to cost of kits and technical specifications.

Information on the kits

https://www.ed.ac.uk/files/atoms/files/reducing_single-use_laboratory_plastics_0.pdf

<https://www.healthline.com/health-news/test-your-food-for-gluten>

<https://www.gardnerdenver.com/en-gb/tricontinent/solutions/lab-solutions>

<https://www.davids-bio.com/data/orderforms/monoclonal-antibody-production.pdf>

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Alternative task 2

Brief

Investigate the most suitable method that could be used to test water quality at home. You need to consider the reliability of the test and what you would test for.

Information on water quality and testing

Select two sources. Complete the grid.

What is your main **point**?

Select information from **evidence**, form an **explanation** and **link** back to the brief.

Point	Evidence	Explanation	Link

[Water pollution facts and information \(nationalgeographic.com\)](https://www.nationalgeographic.com/environment/water/quality/facts/)

[Together, for Rivers | The Rivers Trust](https://www.rivers.org.uk/)

[Environment Agency boosts water quality monitoring to help tackle pollution on the River Wye - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/environment-agency-boosts-water-quality-monitoring-to-help-tackle-pollution-on-the-river-wye)

[Water Quality in the Nation's Streams and Rivers – Current Conditions and Long-Term Trends | U.S. Geological Survey \(usgs.gov\)](https://www.usgs.gov/monitoring-assessments/water-quality-in-the-nations-streams-and-rivers-current-conditions-and-long-term-trends)

[Water Quality Drinking water guidelines](https://www.epa.gov/dwqa/dwqa-guidelines)

[Importance of Water Quality and Testing | Public Water Systems | Drinking Water | Healthy Water | CDC](https://www.cdc.gov/healthywater/drinking/publicwater/index.html)

Alternative task 3

Information on different kits

Select two sources. Write in continuous prose.

What is your main **point**? Select

information from **evidence**, form an **explanation** and **link** back to the brief.

Use sites from those listed below or consider other information sources.

[Watersafe UK: Drinking Water Test Kits for Lead, Bacteria, Metals, Nitrates \(watersafetestkits.co.uk\)](https://www.watersafetestkits.co.uk/)

[▷ Professional laboratory water testing | Water analysis kits, featured on TV and radio \(ivario-hometest.co.uk\)](https://www.ivario-hometest.co.uk/)

[Water Quality Testing Kits | Fisher Scientific](https://www.fisher-scientific.co.uk/water-quality-testing-kits/)

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Alternative task 4

Examples of different commercial kits

Select three sources. Write in continuous prose.

What is your main **point**?

Select information from **evidence**, form an **explanation** and **link** back to the brief.

Include references to cost of kits and technical specifications.

[Water Services | SOCOTEC UK](#)

[Water Treatment & Purifying Specialists | Excel Water](#)

[Water Testing and Laboratory Analysis | WCS Group \(wcs-group.co.uk\)](#)

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