Year 11 Science: Science claims: who is saying it and why

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. A Facebook post from a fitness influencer says a protein powder "burns fat while you sleep" and gives a discount code. What is the main purpose?

2. A university research team publishes a study on kauri dieback in a peer-reviewed journal. Who is the source?

3. A news site runs a story that, at the bottom, says it was supplied by the company that makes the product. Who is the source?

4. A company paid for a study showing its toothpaste whitens teeth. Name the convention this raises, and its effect on the claim.

Exam-style question: a sunscreen advert

Resource: SunShield Ltd's website says "Our new SPF 50 lotion is scientifically proven to block 98% of UVB rays. Dermatologist tested. Trusted by 10,000 Kiwi families." A footnote says the lab test was done on 20 volunteers by a lab SunShield hired, and was not published in a journal. There is a "Buy now" button.

5. (a) Who published this information?

6. (b) Why was it published?

7. (c) State one science-related claim the resource makes.

8. (d) Identify the science language or conventions used to support the claim.

9. (e) How well do they support the claim? Use evidence from the resource.

Fix the mistake

10. Correct this statement: "The source is Google, because that is where I found it."

11. Correct this statement: "The company sells the product, so the claim is false."

12. Correct this statement: "It was peer reviewed, so it is proven."

13. Correct this statement: "I know from experience that honey does not work, so the claim is wrong."

Answer key (for parents and tutors)

1. A Facebook post from a fitness influencer says a protein powder "burns fat while you sleep" and gives a discount code. What is the main purpose?
   To sell the protein powder (and earn from the discount code); persuading, not informing.
2. A university research team publishes a study on kauri dieback in a peer-reviewed journal. Who is the source?
   The university research team that did the study.
3. A news site runs a story that, at the bottom, says it was supplied by the company that makes the product. Who is the source?
   The company, because it created the article; the news site only published it.
4. A company paid for a study showing its toothpaste whitens teeth. Name the convention this raises, and its effect on the claim.
   A conflict of interest: the company gains if you believe it, so it might leave out unhelpful results, making the claim less believable.
5. (a) Who published this information?
   SunShield Ltd, the company that makes and sells the sunscreen (Achieved).
6. (b) Why was it published?
   To persuade people to buy the lotion, while informing them about UV protection (Achieved).
7. (c) State one science-related claim the resource makes.
   The lotion blocks 98% of UVB rays (Achieved).
8. (d) Identify the science language or conventions used to support the claim.
   Language: SPF 50, UVB, dermatologist tested, scientifically proven. Conventions: a percentage result, a lab test, a sample of 20 people, no peer review, a conflict of interest (Achieved for naming these).
9. (e) How well do they support the claim? Use evidence from the resource.
   Merit: SunShield sells the lotion, so it gains if people believe it and may only report good results, which weakens the claim; words like "dermatologist tested" make it sound expert, but we are not told what the test found. Excellence: the 98% figure and the hired lab make the claim look scientific, but 20 people is a small sample, so the result could be a fluke, and because the test was not peer reviewed nobody independent has checked the method. "Trusted by 10,000 families" is a testimonial, which is popularity, not evidence. Overall the claim is only weakly supported; it would be stronger with a larger test by an independent lab, published and peer reviewed.
10. Correct this statement: "The source is Google, because that is where I found it."
    The source is whoever created or paid for the information, such as the company or researchers, not the search engine or app.
11. Correct this statement: "The company sells the product, so the claim is false."
    A conflict of interest makes a claim less trustworthy, not automatically false; say what evidence might be missing.
12. Correct this statement: "It was peer reviewed, so it is proven."
    Peer review makes a claim more reliable, but science is never proven for good; new evidence can still change it.
13. Correct this statement: "I know from experience that honey does not work, so the claim is wrong."
    Judge the claim on the evidence in the resource, not your own opinion or extra research; markers do not credit that.