

**AI Prompt: Give the answers to these questions. (Only the answers)**

Alright, here are the answers to the homework exercises based on the "1. HowToStudyScientificPapersPostersAndGrants" folder:

**Multiple Choice Answers:**

1. c
2. c
3. b
4. c
5. b
6. d
7. b
8. c
9. c
10. b
11. b
12. c
13. b
14. b
15. b
16. c
17. c
18. c
19. b
20. b

**Fill in the Blanks Answers:**

1. Introduction
2. openly
3. Google
4. Discussion
5. fuzzball
6. amygdala
7. Talam
8. preprints
9. Quantitative
10. review

**Matching Answers:**

1. Match the scientific paper section with its description:
  - Abstract - b) Brief overview of the paper
  - Methods - c) Detailed procedure
  - Results - d) Objective presentation of data
  - Discussion - a) Interpretation of findings
2. Match the research type with its description:
  - Theoretical - b) Developing new concepts

- Experimental - a) Hands-on investigation
  - Computational - c) Using computer simulations
  - Observational - d) Watching and recording events
3. Match the concept with its meaning:
    - Reproducibility - c) Ability to replicate results
    - Peer Review - b) Expert evaluation
    - Open Access - a) Free availability
    - Publication Bias - d) Favoring certain outcomes
  4. Match the Carnatic music term with its description:
    - Raga - b) Melody
    - Talam - c) Rhythm
    - Arohanam - d) Ascending notes
    - Avarohanam - a) Descending notes
  5. Match the part of the brain with its function:
    - Amygdala - d) Emotion
    - Hippocampus - c) Memory
    - Cerebellum - a) Balance and coordination
    - Prefrontal Cortex - b) Executive functions

### Short Answer Answers:

1. Why is reproducibility important in scientific research?
  - To verify the results, ensure accuracy, and build upon solid findings. It increases confidence in the research and helps prevent errors or fraud.
2. What are two ways to find reliable scientific articles?
  - Google Scholar, using university library databases.
3. What is the difference between the Results and Discussion sections?
  - Results present the data objectively; Discussion interprets the data and explains its significance.
4. What are some challenges in analyzing Martian images for signs of life?
  - Scale, interpretation of ambiguous shapes, distinguishing between biological and geological processes.
5. What is the basic idea behind the fuzzball proposal for black holes?
  - Instead of a singularity, black holes are fuzzy balls of strings, which may help resolve some paradoxes.
6. What is peer review and why is it important?
  - Evaluation of research by experts in the same field. It is important for quality control, ensuring validity, and maintaining high standards.
7. What is the difference between quantitative and qualitative research?
  - Quantitative research uses numbers and statistics; qualitative research explores experiences and meanings.
8. What is the purpose of citing sources in a research paper?
  - To give credit to others, provide evidence, and allow readers to find the original sources.
9. How does the amygdala relate to the emotion of fear?
  - The amygdala is primarily involved in processing and responding to fear.
10. What is a preprint and how does it differ from a published article?
  - A preprint is a draft of a research paper uploaded before official journal publication; a published article has undergone peer review.

**True/False Answers:**

1. False
2. False
3. False
4. False
5. True
6. False
7. False
8. True
9. False
10. False