Name: Date:

**Verb Tenses in Academic Writing**

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| Instructions |

1. *Read each of the following sentences and decide what tense the underlined verb is in.*
2. *Explain why you think the writer chose this verb tense?*
3. *Finally, decide whether or not a different verb tense could be used, and if so, rewrite the sentence using this new tense*

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| IMRaD Identification Exercise |

1. To overcome these problems and enhance performance, many research groups have demonstrated indium-free TCLs using metal nanowires, metal-assisted ITO layers, and graphene-combined ultrathin ITO layers only to find that the proposed solutions showed worse performance than the thick ITO [9–11].

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| Tense | Justification for using this tense |
| Present perfect | Summarizing effects of research on current understanding of ITO layers |
| Rewritten sentence: Many research groups **demonstrated** indium-free TCLs using metal nanowires, metal-assisted ITO layers, and graphene-combined ultrathin ITO layers; however, their proposed solutions showed worse performance than the thick ITO. | |

1. Current climate models use very crude aerosol models, because accurate modeling of aerosol evolution often increases the computational burden too much in practice.

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| Tense | Justification for using this tense |
| Present simple | The author seems to have misunderstood that the word 'current' should be used in the present form..(staring/showing currently what is a common fact for the field.) |
| Rewritten sentence: use -> used | |

1. However, previous studies have reported that the high Ni2+ concentration in the TM layer is conducive to Li-ion diffusion.

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| Tense | Justification for using this tense |
| Present perfect | Because writer think that research continues, so writer use ‘Present perfect’.  (showing/summarizing findings of studies that affect current research..[that the high concentration of ni2+ influences Li-ion diffusion and this is relevant to their research.]) |
| Rewritten sentence: reported | |

1. Recently, high-entropy alloys (HEAs) have been drawing\* much attention as new structural materials due to their structural stability and excellent mechanical properties.

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| Tense \* | Justification for using this tense |
| Present perfect continuous (progressive) |  |
| Rewritten sentence: are drawing | |

1. The vacancy migration energy in the HEA was similar to the SIA migration energy, while there was a big difference between those quantities in pure Ni.

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| Tense | Justification for using this tense |
| Past simple | Because the results of the experiment came out in the past.. |
| Rewritten sentence: was->is, was -> is | |

References

Shahmoradi, E. Talebi, P. Roghanchi and M. Hassanalian, "A Comprehensive Review of Applications of Drone Technology in the Mining Industry", Drones, vol. 4, no. 3, p. 34, 2020. Available: 10.3390/drones4030034.  
  
Zhu, Y.; Huang, Y.; Du, R.; Tang, M.; Wang, B.; Zhang, J. Effect of Ni2+ on Lithium-Ion Diffusion in Layered LiNi1−x−yMnxCoyO2 Materials. Crystals 2021, 11, 465. <https://doi.org/10.3390/cryst11050465>  
  
Do, HS., Lee, BJ. Origin of radiation resistance in multi-principal element alloys. Sci Rep 8, 16015 (2018). <https://doi.org/10.1038/s41598-018-34486-5>  
  
Min, Jung-Hong, et al. "Very thin ITO/metal mesh hybrid films for a high-performance transparent conductive layer in GaN-based light-emitting diodes." Nanotechnology 28.4 (2016): 045201.

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| Instructions |

1. *Open one of the research articles that has a methods section*
2. *Copy and paste a sentence using the appropriate tense including the following*
   1. *Reference of original article*
   2. *Which section of the article was the sentence found in*
   3. *Which tense is being used*
   4. *Why you think the* [*tense*](https://docs.google.com/presentation/d/e/2PACX-1vQyTGrdrRyqGP55lc4JKNDPXMicevwisdf3ivsp4L6qAuJkGxGsOmsfBLAHxWpQdyP6qeN8bMugE0QV/pub?start=false&loop=false&delayms=3000) *is being used*

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| Verb ID Exercise |

1. Present 2. Past 3. Perfect

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|  | **Answer** |
| Original Sentence | * .. many research groups **have demonstrated** indium-free TCLs using metal wires, metal assisted ITO layers and graphene-combined ultrathin ITO layers only to find that the proposed solutions . . . |
| Tense | * Present perfect tense |
| Reason for this tense | * Present recent research that shows state of knowlege or current limitations in the field |
| Section of the article  (Intro, Method, Results, Discussion, Conclusion) | * Introduction |
| Reference Article Info | * Min, Jung-Hong, et al. "Very thin ITO/metal mesh hybrid films for a high-performance transparent conductive layer in GaN-based light-emitting diodes." Nanotechnology 28.4 (2016): 045201. |
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| Original Sentence |  |
| Tense |  |
| Reason for this tense |  |
| Section of the article  (Intro, Method, Results, Discussion, Conclusion) |  |
| Reference Article Info |  |
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| Original Sentence |  |
| Tense |  |
| Reason for this tense |  |
| Section of the article  (Intro, Method, Results, Discussion, Conclusion) |  |
| Reference Article Info |  |
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| Original Sentence |  |
| Tense |  |
| Reason for this tense |  |
| Section of the article  (Intro, Method, Results, Discussion, Conclusion) |  |
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| Original Sentence |  |
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| Reason for this tense |  |
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| Tense |  |
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| Original Sentence |  |
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