Academic English: Intermediate

First animal to survive in space

- Choose a discussion leader.
- Read the ‘first viewing’ questions to your group.
- Watch: https://youtu.be/7W194GQ6fHI
- Answer the questions.

Academic English Intermediate

First viewing
As you watch the video answer the following questions:

1. What is the tardigrade?

2. Why are tardigrades sometimes called “water bears”?

3. What type of environments can the tardigrade live in? Where can people find tardigrades?

4. What is “cryptobiosis”?

Second viewing
Consider this list of extremophiles. What classification does the tardigrade belong to and why?

- Acidophile – high pH
- Alkaliphile – low pH
- Anaerobe – no need for oxygen
- Endolith – lives inside rocks
- Halophile – requires salt
- Piezophile / Barophile – requires high pressures
- Radiodurant – can live with high radiation
- Thermophile – lives in 40°C or higher
- Xerophile – limited water supply
- Psychrophile – lives in 15°C or lower

Expansion questions

1. How are tardigrades similar to other animals? How are they different?

2. Why do scientists think it is useful to study tardigrades and other extremophiles?

3. What can we learn about possible life on other planets by studying extremophiles on earth?

4. Design an experiment to study some aspect of tardigrade life. What question would you investigate? How would you find out the answer to your question?

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- Consider the extremophile classes listed in 'Second viewing'. Do you know any examples?

- Watch the video again. What classification does the tardigrade belong to?

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- What classification does the tardigrade belong to? Why do you say so?

- Discuss the ‘Expansion questions’.

On Paragraphs

- Trade paragraphs with a member of your group.

- Read your partner's paragraph.
  - What did you like best about it?
  - Was anything hard to understand?
  - Give your partner advice to make it even better.
  - *Grammar & clean copy matter a little – but just a little.*

On papers

Grade: O / 10	Very good	Good	OK	Needs improve
English: O / 5				
Clear, focused topic sentence				
One idea per paragraph				
Coherent word use				
Logical order				
Grammar, words, spelling, etc.				
Science: O / 5				
Clear purpose or theme				
Evidence or results				
Adequate development				
Ideas logically connected				
Specific conclusion				

Writing lab reports

- "A lab report is how you explain what you did in an experiment, what you learned, and what the results mean" (Helmenstine 2015).

Helmenstine, Anne Marie. 2015. How to write a lab report. About Education. chemistry.about.com/od/chemistrylabexperiments/a/labreports.htm

Writing lab reports

- Title
  - Names what you did
  - Less than 10 words
  - Point of the experiment

Writing lab reports

- Introduction (first paragraph)
  - Explain objective or purpose.
  - State the hypothesis (what you expected to find).
  - Briefly summarize the experiment.
  - State the conclusion (what you found).

Writing lab reports

- Materials
  - List everything you used.
- Methods
  - Describe the steps you followed.
  - Enough detail for a reader to do what you did
  - Diagrams may be helpful.

Writing lab reports

- Data, Results
  - State the information you found.
  - Information noted during the experiment
  - Just the facts, not what it means

Writing lab reports

- Discussion or Analysis
  - What do the results mean?
  - Do the results support the hypothesis? How do you know?
  - Any mistakes you may have made
  - Reasons the hypothesis might not have been proved
  - Other, possibly better ways to do the study
  - What have you learned from the experiment?

Writing lab reports

- Conclusion
  - One paragraph summary
  - Was the hypothesis accepted or rejected?
  - What does this mean?

Writing lab reports

- References
  - Don't forget to cite information from sources.
  - For example:

Bowring, Ian. 2014. *Our Place in the Universe*. Tokyo: Seibido.

Helmenstine, Anne Marie. 2015. How to write a lab report. About Education. chemistry.about.com/od/chemistrylabexperiments/a/labreports.htm

Vice. 2012. "First animal to survive in space" (video). YouTube. https://youtu.be7W194GQ6fHI