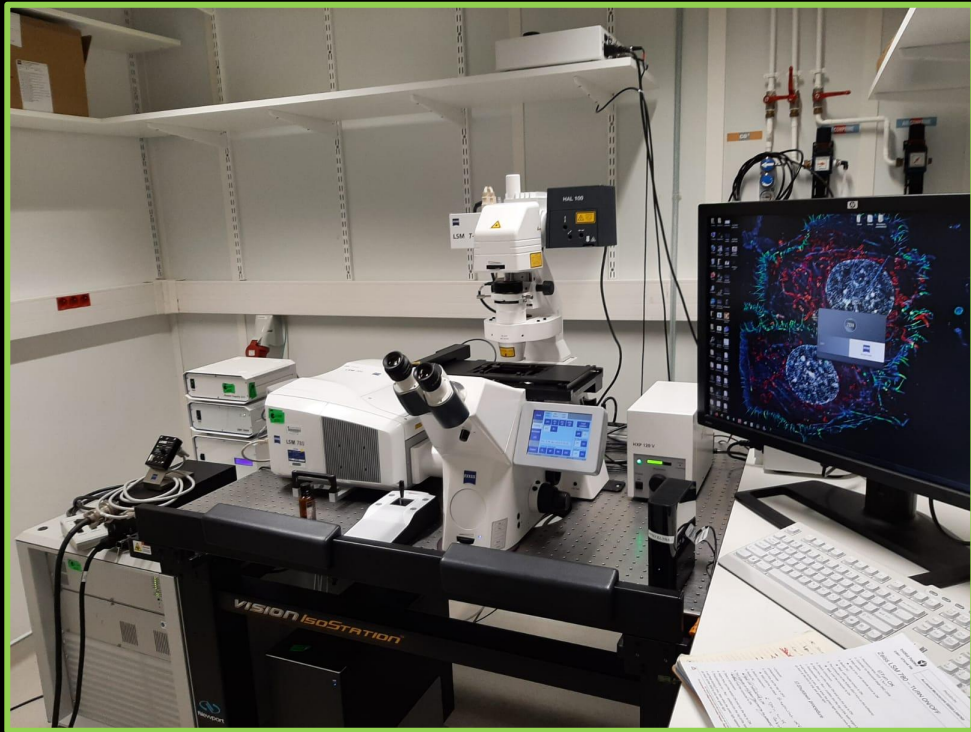
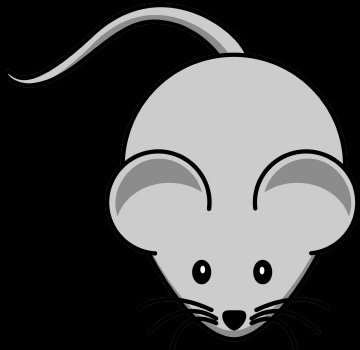


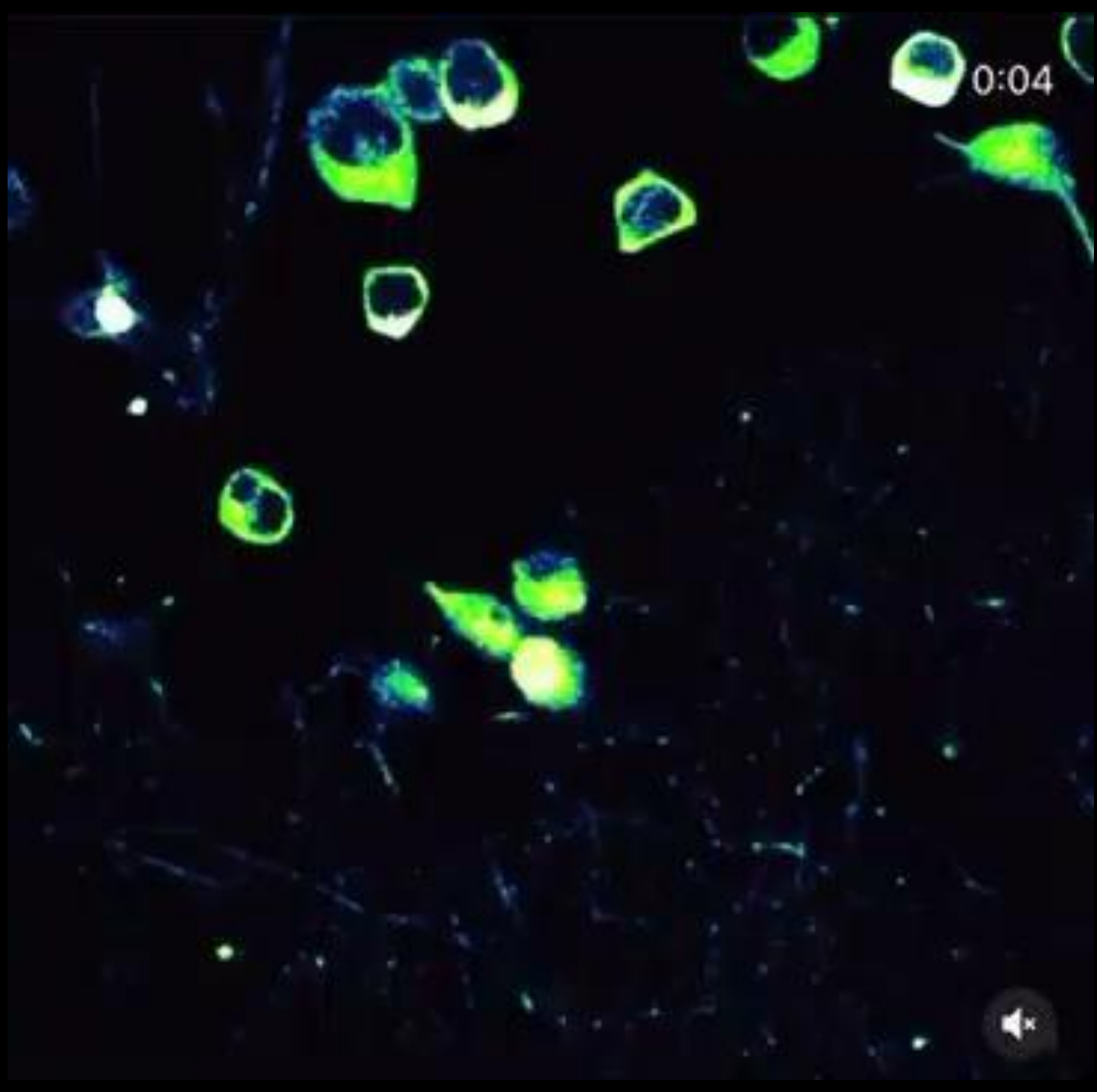


# English Science Presentations

## Introduction Part 1

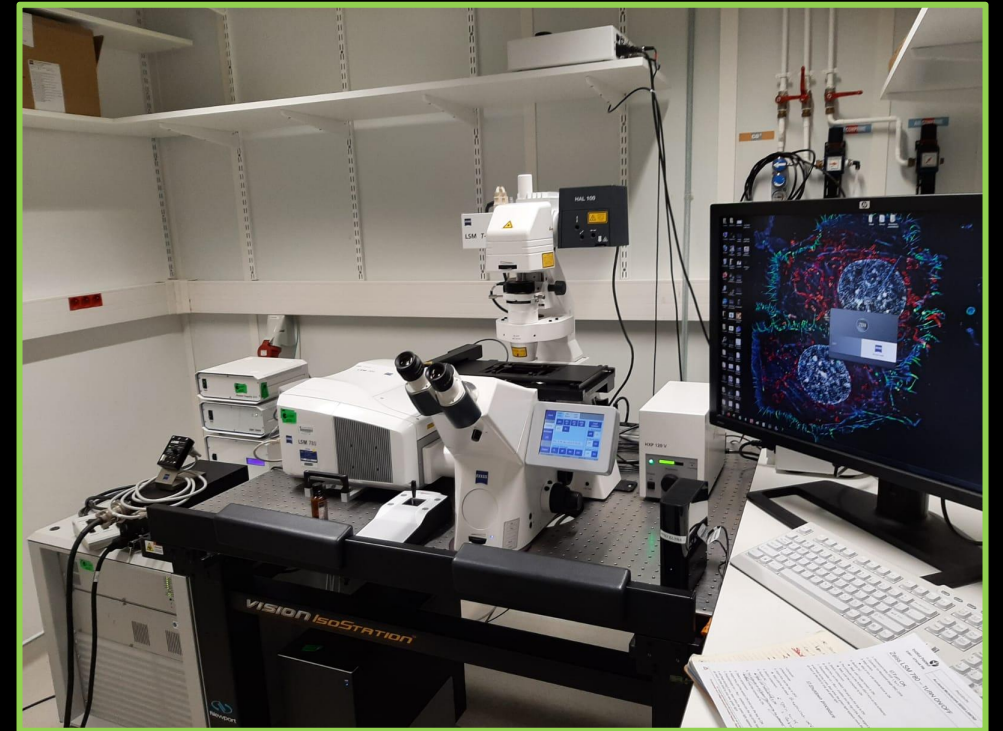


# 顯微鏡



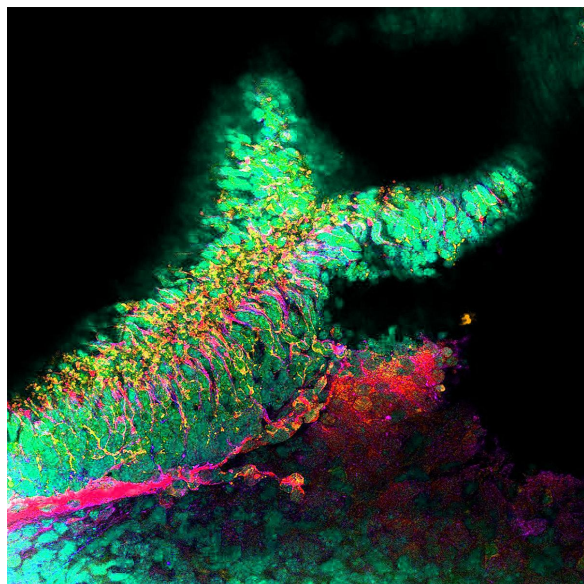
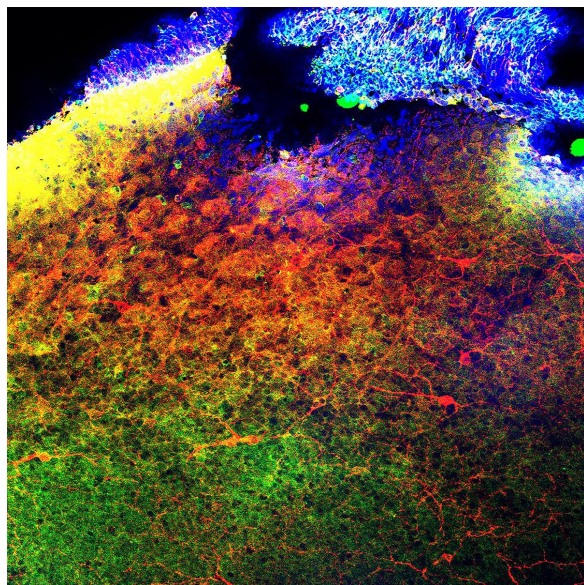


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# 顯微鏡





## Where You Cut Matters: A Dissection and Analysis Guide for the Spatial Orientation of the Mouse Retina from Ocular Landmarks.

**Sondereker KB**, Stabio ME, Jamil JR, Tarchick MJ, Renna JM.

J Vis Exp. 2018 Aug 4;(138):57861. doi: 10.3791/57861.

PMID: 30124662 [Free PMC article.](#)

## Melanopsin Retinal Ganglion Cells Regulate Cone Photoreceptor Lamination in the Mouse Retina.

Tufford AR, Onyak JR, **Sondereker KB**, Lucas JA, Earley AM, Mattar P, Hattar S, Schmidt TM, Renna JM, Cayouette M.

Cell Rep. 2018 May 22;23(8):2416-2428. doi: 10.1016/j.celrep.2018.04.086.

PMID: 29791852 [Free PMC article.](#)

## A novel map of the mouse eye for orienting retinal topography in anatomical space.

Stabio ME, **Sondereker KB**, Haghgou SD, Day BL, Chidsey B, Sabbah S, Renna JM.

J Comp Neurol. 2018 Aug 1;526(11):1749-1759. doi: 10.1002/cne.24446. Epub 2018 Apr 29.

PMID: 29633277 [Free PMC article.](#)



# Today's Goals!

Learn vocabulary used in science presentations

Understand the purpose of the parts of a research paper

What question  
could you ask  
about this?

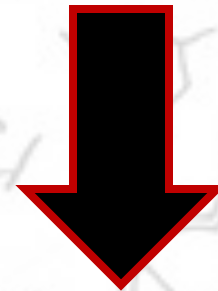
What do  
you want to  
know?





# Science Starts with a Question!

Ask a question about  
something you are  
interested in



Find the answer and  
make a presentation!

**What are the parts (部分)  
you need to write a science paper  
or presentation?**



# Let's Explore!

**Title:** \_\_\_\_\_

## Introduction

Humans spend one-third of their life asleep, usually at night. However, sharks sleep during the day and are awake at night. We know that most animals sleep, but it is difficult to know what happens while animals sleep. Learning more about how animals sleep can help us understand more about why sleep evolved.

## Question

Why do sharks sleep?

## Hypothesis

We think sharks sleep during the day to save energy because they need to be active at night.

## Methods

We observed six sharks in a tank for three days (12 hours day, 12 hours night). We wrote down if the sharks' eyes were open or closed, how much they moved, and their metabolic rate.



# Research Paper Vocabulary

shark - サメ

evolve - 進化する

observe - 観察する

tank - 水槽

metabolic rate - 代謝率

breathe - 吸う

hunt - 狩りをする

predator - 捕食動物

What are the important parts of a science paper?



# What does it mean?

1. What are the important parts of a research paper? Write them below!

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_
- i. \_\_\_\_\_

- a. 質問
- b. 結果
- c. 参考文献
- d. 図
- e. 方法
- f. タイトル
- g. 導入
- h. 仮説
- i. 結論

3. What did they want to know? Look at the

部分

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4. What did they think they would learn? Look at the

部分

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5. How did they do the experiment (実験)? Look at the

部分

6. What did they find? Look at the

部分

and

部分

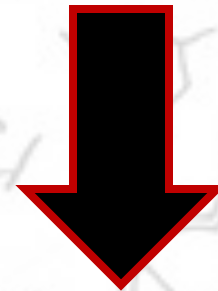
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# Science Starts with a Question!

Ask a question about  
something you are  
interested in



Find the answer and  
make a presentation!



# Today's Goals!

Learn vocabulary used in science presentations

Understand the purpose of the parts of a research paper





# English Science Presentations

## Introduction Part 2



# Today's Goals!

Review the parts of a science presentation

Learn how to build a science presentation

# Science Starts with a Question!

Ask a question about  
something you are  
interested in



Find the answer and  
make a presentation!



# Let's Review!

What are the  
parts (部分) you need  
for a science paper or  
presentation?

# What did you learn last week?

**Title:** \_\_\_\_\_

## **Introduction**

Humans spend one-third of their life asleep, usually at night. However, sharks sleep during the day and are awake at night. We know that most animals sleep, but it is difficult to know what happens while animals sleep. Learning more about how animals sleep can help us understand more about why sleep evolved.

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## **Methods**

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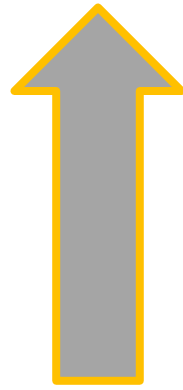
# What do you need?

1. What are the important parts of a research paper? Write them below!

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_
- i. \_\_\_\_\_

- a. 質問
- b. 結果
- c. 参考文献
- d. 図
- e. 方法
- f. タイトル
- g. 導入
- h. 仮説
- i. 結論





what we want to know

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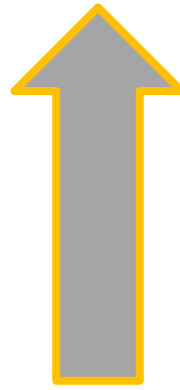
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QUESTION (質問)



what we want to know



3. What did they want to know? Look at the

Question

They wanted to know why sharks sleep

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4. What did they think they would learn? Look at the

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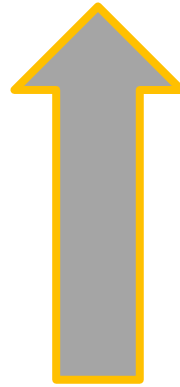
5. How did they do the experiment (実験)? Look at the

6. What did they find? Look at the

and

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**BEFORE** the experiment  
(実験) what did we **think**?

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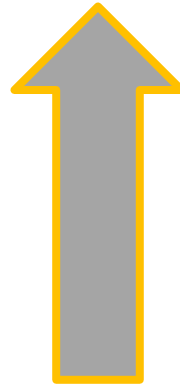
## Methods

We observed six sharks in a tank for three days (12 hours day, 12 hours night). We wrote down if the sharks' eyes were open or closed, how much they moved, and their metabolic rate.





HYPOTHESIS (仮説)



予測

**BEFORE** the experiment  
(実験) what did we **think**?

3. What did they want to know? Look at the

Question

They wanted to know why sharks sleep

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4. What did they think they would learn? Look at the

Hypothesis

They thought that sharks sleep during the day to save energy because they need to be active at night

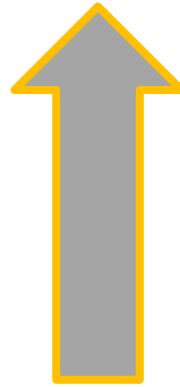
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5. How did they do the experiment (実験)? Look at the

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**How we did the  
experiment (実験)**



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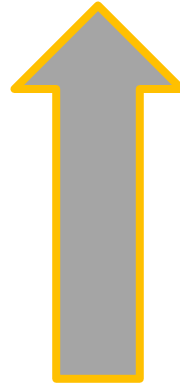
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**METHODS (方法)**



**How we did the  
experiment (実験)**

3. What did they want to know? Look at the

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Methods

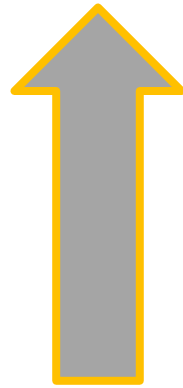
6. What did they find? Look at the

and

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**AFTER** the experiment (実験),  
what did we **find out** / **learn**?

## Results

Sharks are more active at night when they are awake. However, we found that sharks do not close their eyes when they sleep. Also, because sharks need to move in order to breathe, they keep moving while they sleep. But, sharks actually move less when they are asleep than when they are awake. Because of this, their metabolic rate is lower (Figure 1). This probably helps sharks to save energy for hunting at night.

## Conclusion

We found that sharks sleep during the day because they have a lower metabolic rate when they sleep. Therefore, sleeping helps them to save energy so they can hunt at night. So, sleep may have evolved because it helps sharks to be better predators.

## References

1. Why do Sharks Sleep? Biomedical Science Journal for Kids. 2022.
2. Sharks Apparently Do Sleep, Even With Their



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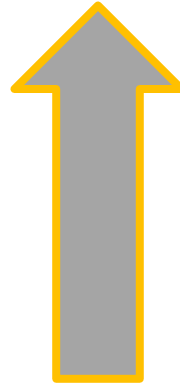
1. Why do Sharks Sleep? Biomedical Science Journal for Kids. 2022.
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RESULTS (結果) and  
CONCLUSION (結論)

FIGURE (図)



**AFTER** the experiment (実験),  
what did we **find out** / **learn**?

3. What did they want to know? Look at the

Question

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Methods

6. What did they find? Look at the

Results

and

Conclusion

&  
Figure

They found that sharks sleep during the day to save energy so that they can hunt at night

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# TITLE (タイトル)

2. What is a good **title** for this paper?
  - a. Sharks don't close their eyes while sleeping
  - b. Sleep: How sharks save energy during the day
  - c. Measuring sharks' metabolic rate during sleep



# TITLE (タイトル)

2. What is a good **title** for this paper?

a. Sharks don't close their eyes while sleeping

b. Sleep: How sharks save energy during the day

c. Measuring sharks' metabolic rate during sleep


one-sentence summary (まとめ)

of the most important thing

# Parts You Need:

1. Title (タイトル)
2. Introduction (導入)
3. Question (質問)
4. Hypothesis (仮説)
5. Methods (方法)
6. Results (結果)
7. Figures (図)
8. Conclusion (結論)
9. References (参考文献)





**Let's Build a  
Science  
Presentation!**





# GECKOS

ヤモリ





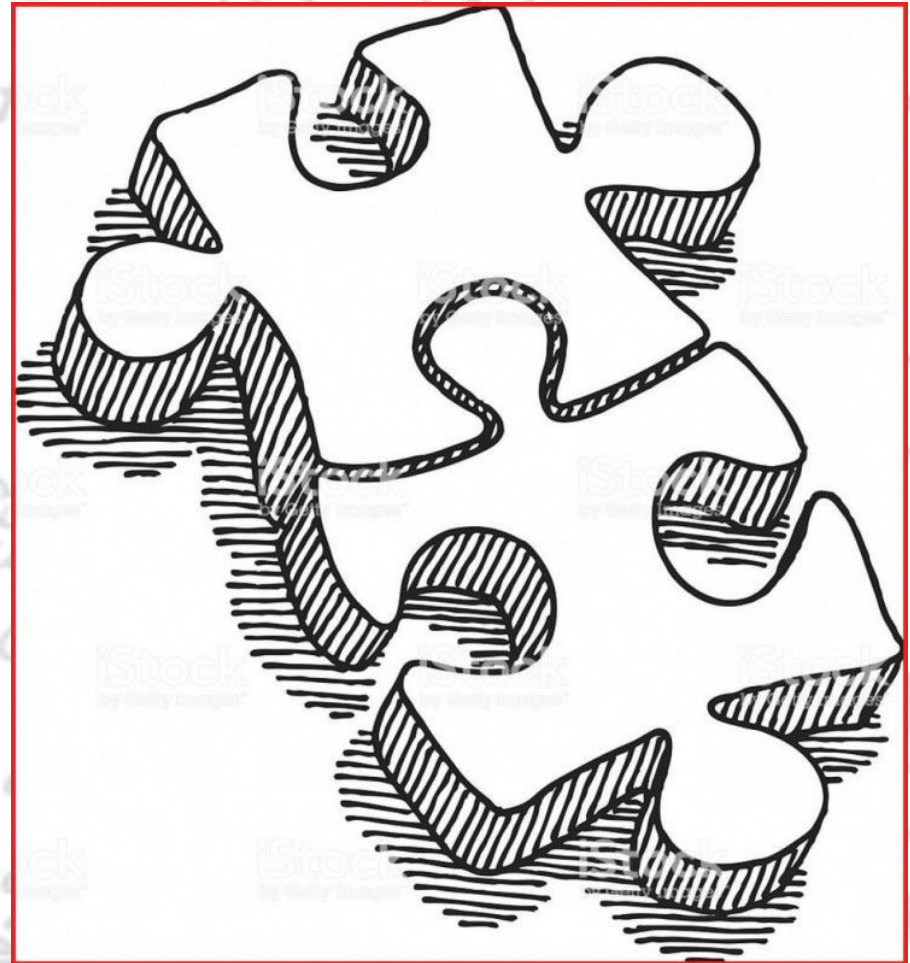


**Let's Read!**

**Look at pieces of  
a science paper**

**Label the pieces**

**Put the pieces in  
the correct order!**





①

label the piece

部分

B

Title  
Introduction  
Question  
Hypothesis  
Methods  
Results  
Figures  
Conclusion  
References

We think that geckos' feet have lots of very small suction cups that help them climb smooth surfaces.

From Beginning  
to End

②

put the piece in the  
correct order

部分

B

We think that geckos' feet have lots of very small suction cups that help them climb smooth surfaces.

Name: \_\_\_\_\_

Put the pieces of the science paper in the correct order!

Part of Paper

Letter (A, B, C, etc.)

1.

\_\_\_\_\_

2.

\_\_\_\_\_

部分

B

We think that geckos' feet have lots of very small suction cups that help them climb smooth surfaces.

Name: \_\_\_\_\_

Put the pieces of the science paper in the correct order!

Part of Paper

Letter (A, B, C, etc.)

1.

\_\_\_\_\_

2.

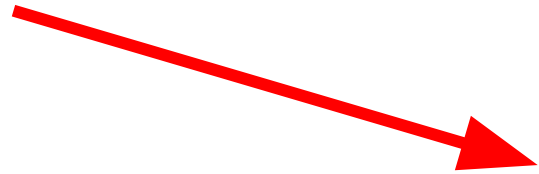
\_\_\_\_\_



①

label the piece

部分



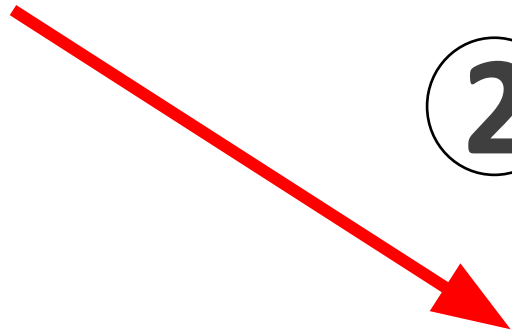
- Title
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②

From Beginning to End



put the piece in the correct order

# Today's Goals!

Review the parts of a science presentation

Learn how to build a science presentation