



# “Solar and Lunar Eclipse”




**Web Based Instruction on Solar Eclipse and Lunar Eclipse  
for Deaf and Hard of Hearing People**


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# “Solar and Lunar Eclipse”






The animation present to natural science education .

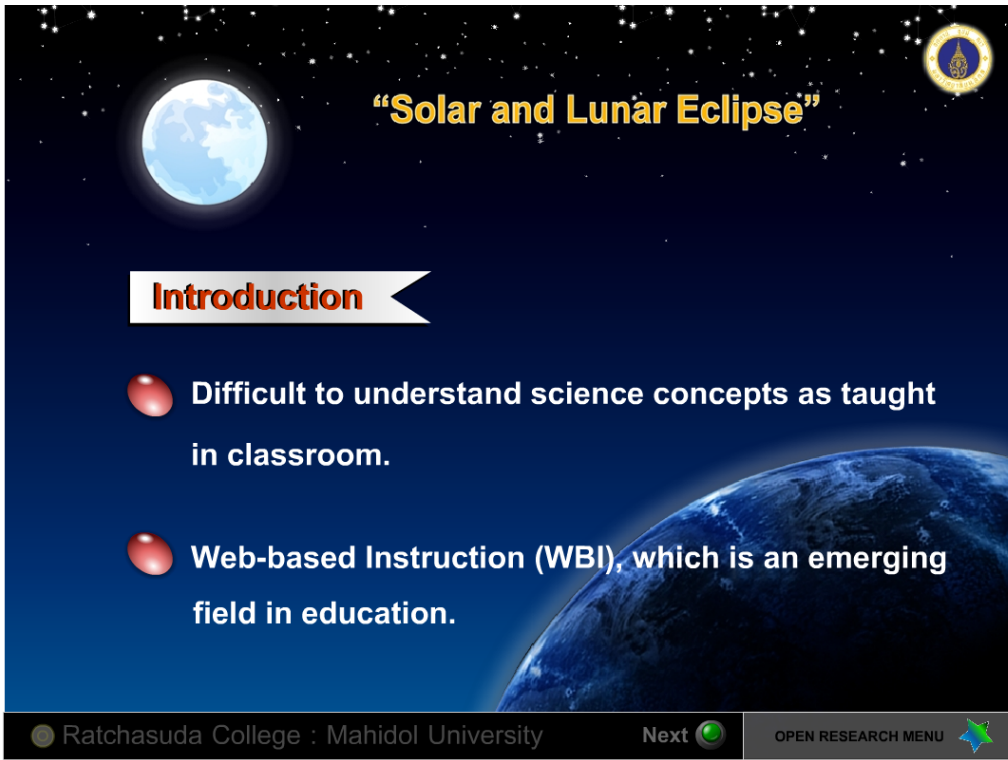
**RESEARCH MENU**


-  Introduction
-  Methodology
-  Web- Based Instruction Development
-  Evaluation
-  Conclusion
-  Future Research

 CLOSE








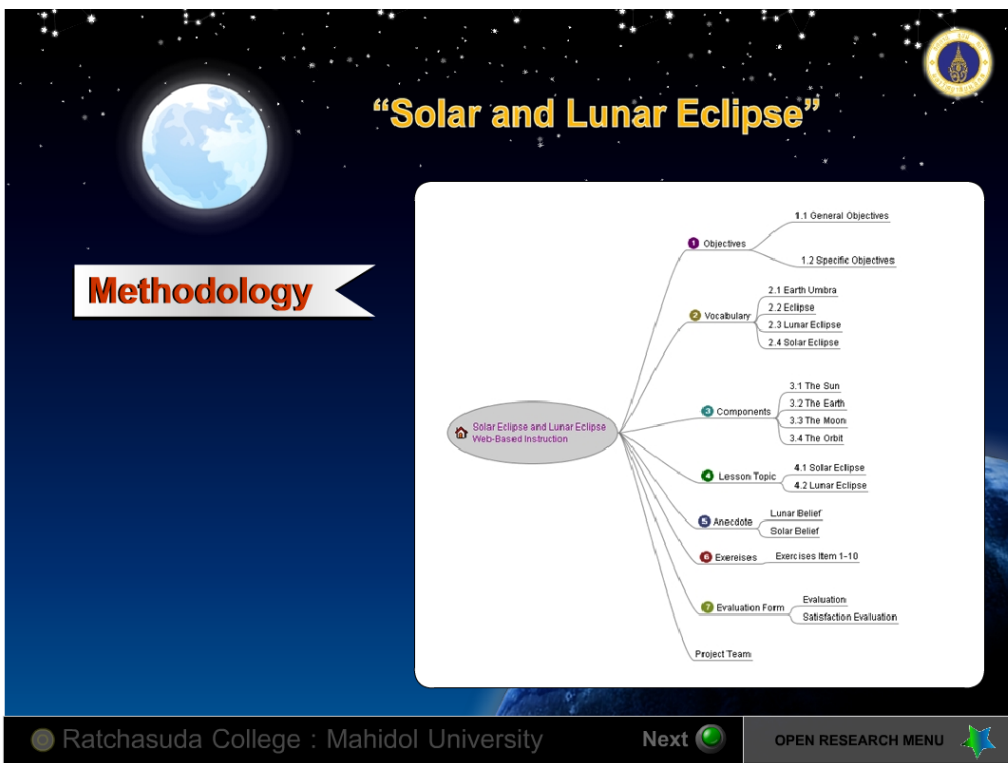



# “Solar and Lunar Eclipse”




- Difficult to understand science concepts as taught in classroom.
- Web-based Instruction (WBI), which is an emerging field in education.

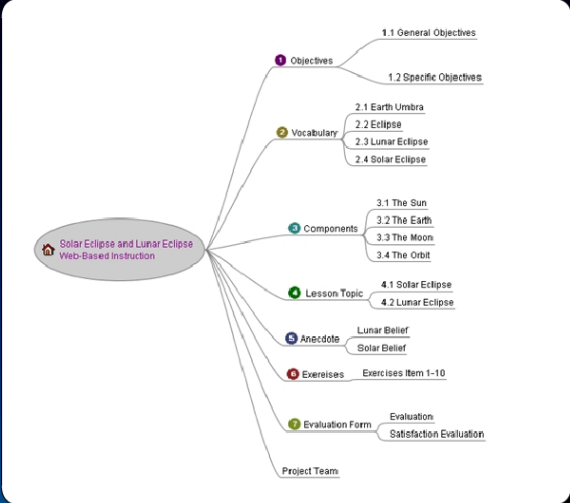
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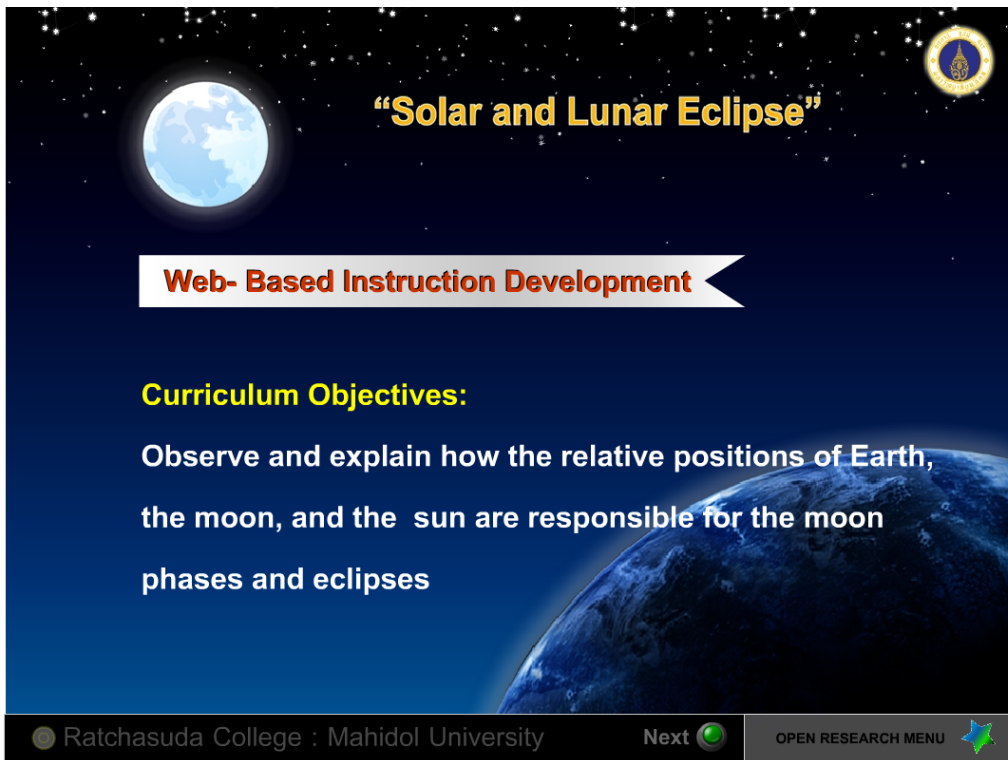




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graph LR
    Root["Solar Eclipse and Lunar Eclipse  
Web-Based Instruction"] --- Obj["1 Objectives"]
    Root --- Vocab["2 Vocabulary"]
    Root --- Comp["3 Components"]
    Root --- Lesson["4 Lesson Topic"]
    Root --- Anecdote["5 Anecdote"]
    Root --- Exer["6 Exercises"]
    Root --- Eval["7 Evaluation Form"]
    Root --- Team["Project Team"]
    
    Obj --- Obj1["1.1 General Objectives"]
    Obj --- Obj2["1.2 Specific Objectives"]
    
    Vocab --- Vocab1["2.1 Earth Umbra"]
    Vocab --- Vocab2["2.2 Eclipse"]
    Vocab --- Vocab3["2.3 Lunar Eclipse"]
    Vocab --- Vocab4["2.4 Solar Eclipse"]
    
    Comp --- Comp1["3.1 The Sun"]
    Comp --- Comp2["3.2 The Earth"]
    Comp --- Comp3["3.3 The Moon"]
    Comp --- Comp4["3.4 The Orbit"]
    
    Lesson --- Lesson1["4.1 Solar Eclipse"]
    Lesson --- Lesson2["4.2 Lunar Eclipse"]
    
    Anecdote --- Anecdote1["Lunar Belief"]
    Anecdote --- Anecdote2["Solar Belief"]
    
    Exer --- Exer1["Exercises Item 1-10"]
    
    Eval --- Eval1["Evaluation"]
    Eval --- Eval2["Satisfaction Evaluation"]
    
    Team --- Team1["Project Team"]
    
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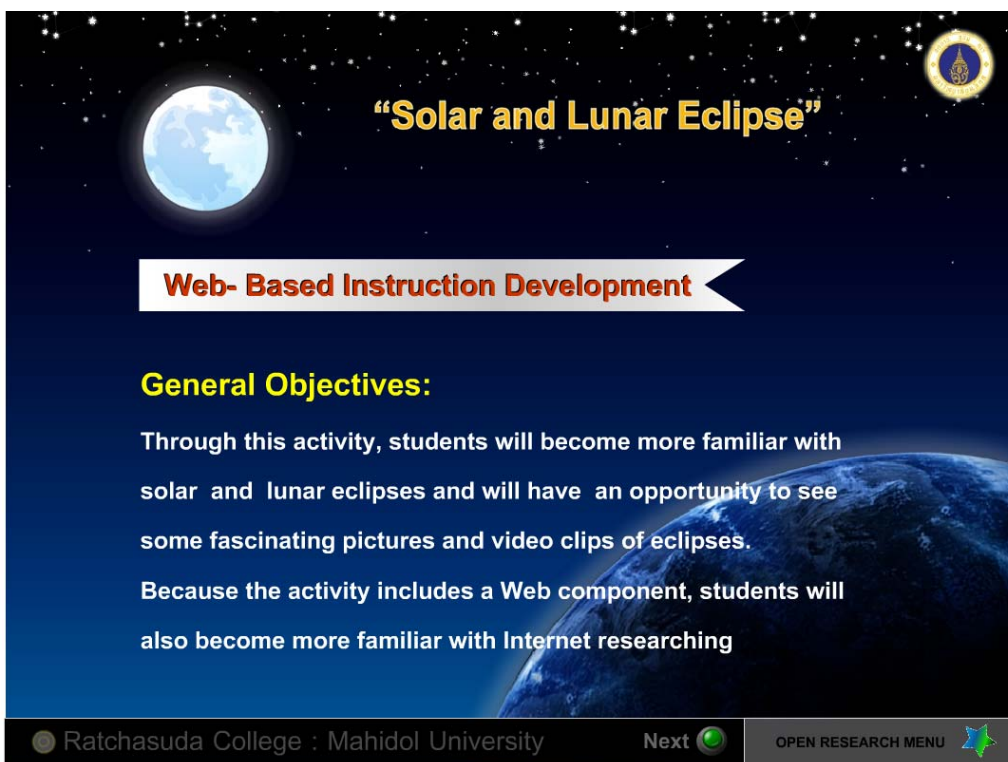
## “Solar and Lunar Eclipse”

**Web- Based Instruction Development**

**Curriculum Objectives:**

Observe and explain how the relative positions of Earth, the moon, and the sun are responsible for the moon phases and eclipses

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## “Solar and Lunar Eclipse”

**Web- Based Instruction Development**



**General Objectives:**

Through this activity, students will become more familiar with solar and lunar eclipses and will have an opportunity to see some fascinating pictures and video clips of eclipses.

Because the activity includes a Web component, students will also become more familiar with Internet researching

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# “Solar and Lunar Eclipse”





**Vocabulary**

Select No. 1 2 3

2.1 ปรากฏการณ์


เงา คือ บริเวณที่ว่างที่มีวัตถุทึบแสง เช่น ดวงจันทร์กั้นทางเดินแสงไม่ให้ส่องไปถึง



รูปที่ 2.1.1 ปรากฏการณ์สุริยุปราคา

เงาเต็ม (Totality) เป็นเวลาที่ดวงจันทร์บดบังดวงอาทิตย์จนมองไม่เห็นดวงอาทิตย์เลย

เงาบางส่วน (Partiality) เป็นเวลาที่ดวงจันทร์บดบังดวงอาทิตย์บางส่วนไว้บางส่วน



รูปที่ 2.1.2 ปรากฏการณ์จันทรุปราคา

เงา คือ บริเวณที่ว่างที่มีวัตถุทึบแสง เช่น ดวงจันทร์กั้นทางเดินแสงไม่ให้ส่องไปถึง



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# “Solar and Lunar Eclipse”


**Vocabulary**

Select No. 1 2 3

2.1 ปรากฏการณ์

ปรากฏการณ์ที่ดวงจันทร์โคจรเข้าไปบังแสงจากดวงอาทิตย์ที่ส่องลงมายังโลก

เงาเรียกว่า สุริยุปราคา (Solar Eclipse)



รูปที่ 2.1.1 ปรากฏการณ์สุริยุปราคา

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# “Solar and Lunar Eclipse”



**Vocabulary**

Select No. 1 2 3




“จันทรุปราคา” เกิดจากการที่ดวงจันทร์โคจรผ่านเข้าไปในเงาของโลก  
เราจึงมองเห็นดวงจันทร์ค่อย ๆ แหว่งมากขึ้น จนหมดดับดวงและโผล่กลับขึ้นมาอีกครั้ง

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# “Solar and Lunar Eclipse”



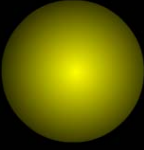
**The Sun**

**Componente**

Select No. 1 2 3





natural sun




visual sun



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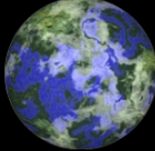


 **“Solar and Lunar Eclipse”** 

**The Earth**



**Componente**



Select No. **1** **2** **3**

natural earth      visual earth

**Web- Based Instruction Development**



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 **“Solar and Lunar Eclipse”** 

**The Moon**



**Componente**

Select No. **1** **2** **3**

natural moon      visual moon

**Web- Based Instruction Development**

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**“Solar and Lunar Eclipse”**

Animation present to **Solar Eclipse**

1. Lunar Phase = New moon

what we would see from Earth.

**Solar Eclipse**

New moon

Web- Based Instruction Development

Animation 1 2 3

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**“Solar and Lunar Eclipse”**

Animation present to **Lunar Eclipse**

4. Lunar Eclipse = Waning gibbous

what we would see from Earth.

**Lunar Eclipse**

Waning gibbous

Web- Based Instruction Development

Animation 1 2 3

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**“Solar and Lunar Eclipse”**

Animation present to **Moon of earth**

3. First quarter

View Of Moon From Earth

**Web- Based Instruction Development**

**Animation** Select No. 1 2 3

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**“Solar and Lunar Eclipse”**

**Anecdots**  
Solar Eclipse in thailand

Solar Eclipse take photo by king of thailand

**Web- Based Instruction Development**

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**“Solar and Lunar Eclipse”**

**Conclusion**

Overall, the solar eclipse and lunar eclipse was created with the purpose to enable D/HH users to learn about natural science, to test the user’s knowledge, perform example tasks, and evaluate satisfaction form. The evaluation shows that the course is indeed usable and presents no major usability issues.

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This slide features a dark blue background with a starry sky. On the left, there is a glowing blue Earth. On the right, a large, detailed image of the Moon's surface is visible. The title "Solar and Lunar Eclipse" is in yellow. The "Conclusion" section is highlighted in a white banner with orange text. The footer contains navigation and menu options.

**“Solar and Lunar Eclipse”**

**Future Research**

- Future research should focus on increasing the sample size of the study in order to increase the generalize ability of the findings.
- Learning Outcome Assessment.

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This slide features a dark blue background with a starry sky. On the left, there is a glowing blue Earth. On the right, a large, detailed image of the Moon's surface is visible. The title "Solar and Lunar Eclipse" is in yellow. The "Future Research" section is highlighted in a white banner with orange text. The footer contains navigation and menu options.

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**Thank you + Questions**

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