

## Duration

One-Time; Apr 3rd & 24th 2024

## What grade will I be working with?

Grade 4 & 6 of Alfred Zanetti Elementary School

## Summary

- Students will create pseudocode and their own user-interactive quiz using Python to solidify their understanding of solar eclipse

## Learning Goals

- *ISTE standards:*
  - 1.5.c Decompose Problems
    - Students will extract key information from their research about solar eclipse to generate questions.
    - Students will develop user-interactive quizzes and share them with peers to understand more about solar eclipse.
  - 1.5.d Algorithmic Thinking
    - Students will develop steps to create an user-interactive quiz by breaking 'quiz' into smaller steps by writing pseudocode:
      - Asking questions (taking input)
      - Assessing answers (using conditionals)
      - Providing output based on the result of assessment (producing output)
    - Students will test their automated solution by editing the pre-designed Python code to do what their pseudocode does.
    - Students will understand the pattern of code and make additional questions by adding blocks of conditional statements.

## Materials we need

- [Worksheet](#)
- Python Online Compiler
  - <https://www.programiz.com/python-programming/online-compiler/>

## Script

1. I did research about Solar Eclipse and found these fun facts:
  - a. It takes about 375 years to see a solar eclipse again in the exact same location.
  - b. To be the first person to view a solar eclipse, I have to be in Texas.
  - c. Total Eclipse cannot be seen in South and North Poles.
2. Since I thought these facts were pretty cool, I wanted to quiz my friends to see if they knew the answers! So, I decided to code a quiz!

3. I started by making a description about my code: **pseudocode**
4. Pseudocode describes what my code does in a simple and detailed way
5. (Simulating how to make pseudocode)
  - a. I started by giving a meaningful name to your program
    - i. Like saving Scratch files with meaningful names!
  - b. I wrote what I want my code to say for each question inside the quotation marks.
6. It's your turn!
7. Write down 3 things that you learned while doing research on the solar eclipse that surprised you. Things your classmates might not know!
8. Then, use a [worksheet](#) to make 'pseudocode'!
9. (Asking for a volunteer to share their pseudocode and I will turn it into an actual quiz)
10. Let's all try turning our pseudocode into an actual quiz!
  - a. Use my [example code](#) which should have a same structure as the pseudocode
  - b. You can first explore how the code works by pressing 'Run' button
    - i. To write an answer, type your answer and press 'Enter' key
  - c. After you explore them, edit the code so that it will do the same as what your pseudocode does.
  - d. After you edit the code, press 'Run' to test it.
    - i. Don't press 'Save' (although it's always important to save your code) because it will lead you to another website.
11. Share your quizz with your peers!
  - a. Once you finish making your quiz, switch computers with your peers and try each other's quizzes!

### Example Code

```
answer1 = input("1. How long does it take to see solar eclipse again in the exact same location?")
```

```
if (answer1 == "375 years"):  
    print("Hurray! You're right.")  
    print()
```

```
else:  
    print("Oh no. The answer is 375 years.")  
    print()
```

```
answer2 = input("2. Where should you be if you want to be the first person to watch solar eclipse?")
```

```
if (answer2 == "Texas"):  
    print("Hurray! You're correct.")  
    print()
```

```
else:
```

```
print("Oh no. You have to be in Texas to be the first person watching solar  
eclipse.")  
print()
```

```
answer3 = input("3. Where can you not see the total eclipse?")
```

```
if (answer3 == "South and North Poles"):  
    print("Hurray! You're right :) ")  
    print()
```

```
else:  
    print("Uh-oh. You cannot see the total eclipse in South and North Poles.")
```

## Worksheet

### Let's write Pseudocode!

Code Name: \_\_\_\_\_ Programmer: \_\_\_\_\_

1. The code will ask: " \_\_\_\_\_ "

If the answer is " \_\_\_\_\_ ", the code will say:

" \_\_\_\_\_ "

Else, the code will say:

" \_\_\_\_\_ "

2. The code will ask: " \_\_\_\_\_ "

If the answer is " \_\_\_\_\_ ", the code will say:

" \_\_\_\_\_ "

Else, the code will say:

" \_\_\_\_\_ "

3. The code will ask: " \_\_\_\_\_ "

If the answer is " \_\_\_\_\_ ", the code will say:

" \_\_\_\_\_ "

Else, the code will say:

" \_\_\_\_\_ "

