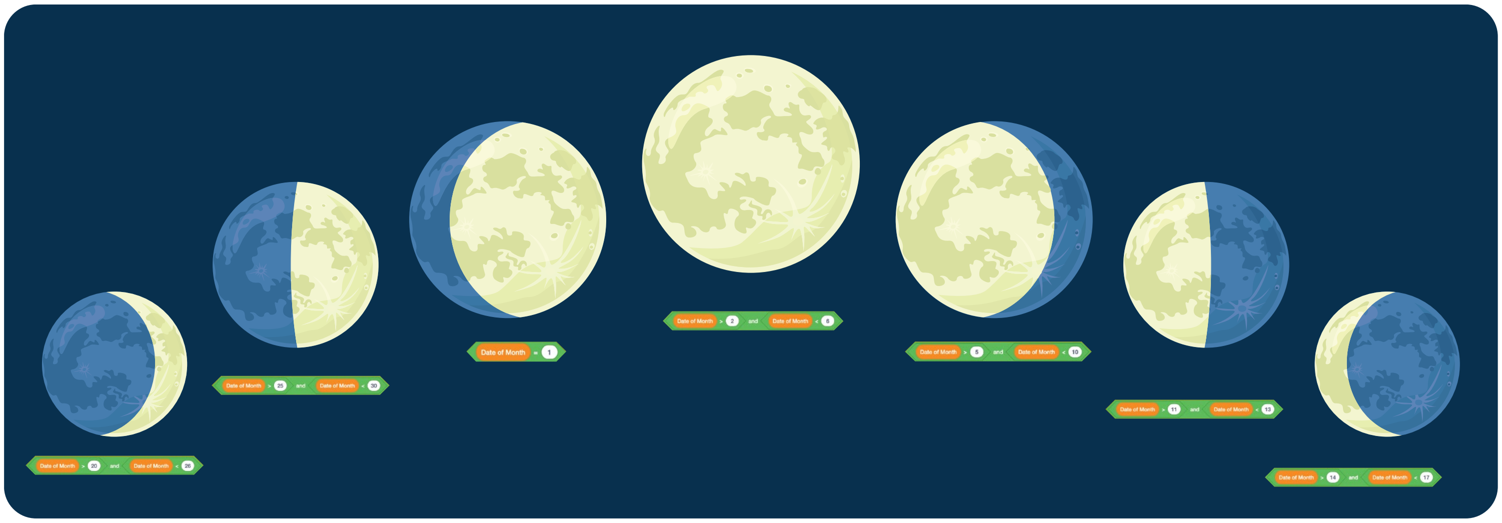
LESSON

Patterns of the Moon

Grade Levels: 3-5
Duration: 135 min

Computational thinking is a problem-solving process that is used in everyday life as well as in computer programs. In this lesson, students apply their computational thinking skills to understand the patterns of the moon. Students will use past data patterns to predict a new month's moon cycle. They will then use these patterns to modify a Scratch program and showcase their learning.


Date of Month > 20 and Date of Month < 26
Date of Month > 25 and Date of Month < 30
Date of Month = 1
Date of Month > 2 and Date of Month < 6
Date of Month > 5 and Date of Month < 10
Date of Month > 11 and Date of Month < 13
Date of Month > 14 and Date of Month < 17

Outline

(Optional) Moon Phase Observation

During the month prior to the lesson, students observe and record what the moon looks like every night.

Session 1: Unplugged Activity | 45 min

Students will use computational thinking to recognize patterns in the phases of the moon. They will create a flowchart representing this cycle for a specific month.

Session 2: Plugged Design Challenge | 90 min

Students will modify a computer program using the flowchart they created.

Grade Levels: 3-5

Duration: 135 min

Concepts/Skills

Computational thinking, computer programming, pattern recognition, algorithms, conditionals, moon phases

Objectives

Students will:

- Analyze the moon cycle of a previous month.
- Use the data patterns to predict the current month's cycle.
- Apply conditionals to an algorithm.
- Modify a Scratch program to demonstrate the current moon cycle.

Materials and Preparation

Materials

- ☐ Writing utensils (pencils, crayons, etc.) (2-3 per pair)
- ☐ **Moon Phase Observation Calendar:** Choose one of the following for your class:
  - ☐ **Blank**: Have students observe the moon themselves and complete the handout in the month before the lesson
  - ☐ Pre-Filled: Provide a sample completed calendar of phases. You can use this moon phase generator from "**Moon Calendar**," Calendar-365 website, to select the month in which you are interested.
- ☐ Tech Interactive "**Patterns of the Moon**," Scratch website
- ☐ Devices for students to do pair programming on Scratch
- ☐ **Flowchart Template**
- ☐ *Optional*: **Computational Thinking Elements posters** (English and Spanish)
- ☐ Programming Moon Phases on Scratch:
  - ☐ **Essentials** *(12:08 min)*
  - ☐ **Extensions** *(5:35 min)*
    (See playlist for Spanish captions.)

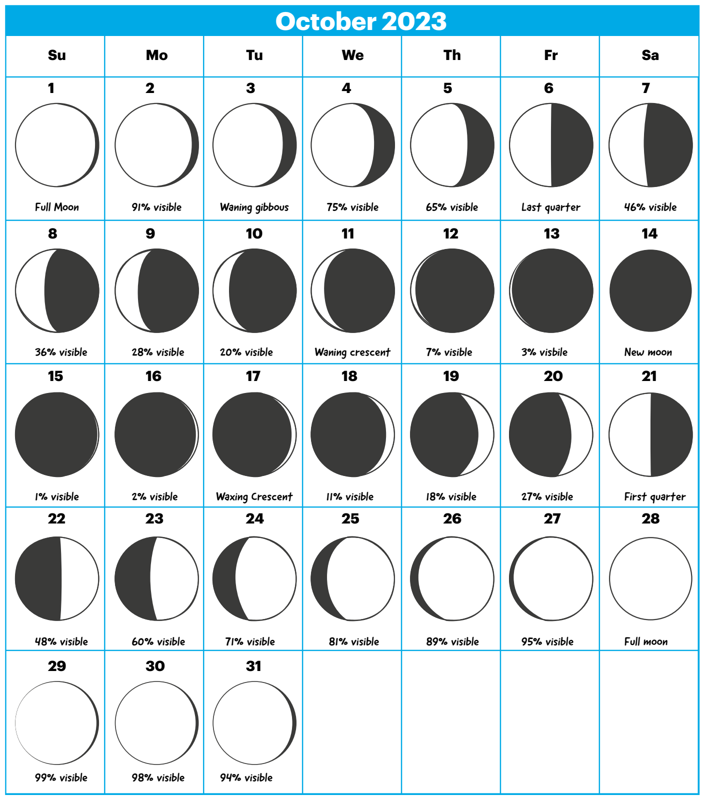
Preparation

1. Students will need a Moon Phase Observation Calendar for this lesson. There are a few options for this:
   - **Option 1**: Have students record their own observations using the **Blank Moon Phase Observation Calendar** at least one month before doing the lesson.
   - **Option 2:** Use a moon phase generator from "**Moon Calendar**," to make sure that all students have a completed and correct moon phase calendar for the month you are exploring.

Note: Students can draw what the moon looks like. They will need to note the names and dates of the eight phases that will be used in the Scratch program, but it is not necessary to include visibility for every day.

2. *Optional*: Hang up The Tech's Computational **Thinking Pattern Recognition and Algorithm Poster** (English and Spanish).
3. Review the Plugged Design Challenge and watch the educator resource videos introducing the programming concepts in Scratch.
   - If you and your students are unfamiliar with Scratch, practice doing the activity "**Patterns of the Moon**," before students modify the Scratch program for the updated month.
   - Review and plan for extensions as needed.

Example of what a completed Moon Phase Observation Calendar could look like:



October 2023

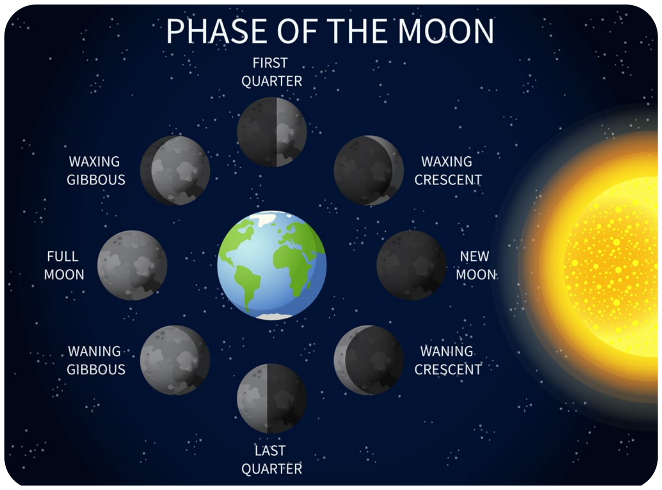
Su	Mo	Tu	We	Th	Fr	Sa
1 Full Moon	2 91% visible	3 Waning gibbous	4 75% visible	5 65% visible	6 Last quarter	7 46% visible
8 36% visible	9 28% visible	10 20% visible	11 Waning crescent	12 7% visible	13 3% visbile	14 New moon
15 1% visible	16 2% visible	17 Waxing Crescent	18 11% visible	19 18% visible	20 27% visible	21 First quarter
22 48% visible	23 60% visible	24 71% visible	25 81% visible	26 89% visible	27 95% visible	28 Full moon
29 99% visible	30 98% visible	31 94% visible				

Background Information

Moon Phases

Students should understand basic facts about the moon such as:

- The moon orbits the Earth.
- Depending on the time of year, month, and/or day, the moon has different positions.
- There are eight phases of the moon and the pattern of those phases is the same every cycle.
- The reason we see the moon "light up" is because it's reflecting the sun.
- Phases of the moon are the same everywhere in the world. Check out "**Top Moon Questions Inside and Out**," National Aeronautics and Space Administration (NASA) website, for more information.



Computational Thinking

Computational thinking is a problem-solving process that is used in everyday life as well as in computer programs. This activity focuses on the computational thinking elements of pattern recognition and algorithms, cornerstones of computer modeling.

Pattern recognition: Recognizing if there is a pattern and determining the sequence.

Real-world examples of patterns:

- Playing games like UNO
- Schedules, e.g., you might play a sport that only happens during a specific season
- Music, e.g., songs usually follow a pattern or they have a chorus that repeats

Algorithm: Step-by-step instructions to solve a problem. When solving a problem, it is important to create a plan for your solution.

Real-world examples of algorithms:

- Recipes
- Instructions for making furniture
- Plays in sports
- Directions for building blocks sets
- Directions to a place on a map

See The Tech's **Computational Thinking Tech Tip** for more information.

Recognizing patterns is critical when looking at the phases of the moon. If students understand the pattern that the phases follow, they can determine and eventually predict when the next phase will happen using an algorithm. Although students might be able to predict when the next full moon will happen, astronomers have turned to computer science to write algorithms based on the observed patterns. This is why we can select a specific date in the near or far future and know what phase the moon will be in.

Tip: See our **website** for more computational thinking resources, including lesson plans and Tech Tips for:

- Computational Thinking
- Unplugged Activities
- Computer Programming

Content Connections:

Change over time

- This lesson pairs well with cycle investigations and concepts that have the underlying idea of change over time. ***Example***: weathering cycle, movement of matter in the ecosystem, energy cycles, timelines in social science, technology, etc.
- As needed, adjust the lesson to visualize change over time in a different content area.
  - See **Butterfly Algorithms** for a K-2 example of an adaptation focused on life cycle.

Academic vocabulary

This lesson is full of academic vocabulary including computer science terminology. One strategy we recommend is frontloading the vocabulary to boost language acquisition. See the **Appendix** for the vocabulary and concepts that are used throughout the lesson.

Frame the Activity

Frame the Activity	10 min total
Activate Prior Knowledge	5 min
Introduce Computational Thinking	5 min
Unplugged Activity	**35 min total**
Moon Phase Calendar Check-in	5 min
Finding Patterns	10 min
Computational Thinking and Programming Concepts	15 min
Debrief	5 min

Activate Prior Knowledge *(5 min)*

1. Lead a discussion to help students access prior knowledge about moon phases and patterns. Ask **Guiding Questions** such as:
   - *What can you tell me about how the moon looks?*
   - *What kind of patterns does the moon have?*
   - *How long does it take for the pattern to repeat?*
   - *Where else do you see natural patterns on Earth?*
2. During the discussion, encourage students to share personal observations or experiences they have had looking at the moon.
   - Students may make observations about the shape of the moon, seasons, night and day, and the connection between high and low tides and the moon.
3. Briefly introduce the **design scenario:**

You are applying for a ***computer programming*** *position at NASA Ames. Before they can hire you, they want you to complete a performance task: identify the pattern of how often the moon changes phases based on data, and then create a simple moon phase program showing all phases of the moon for the current month.*

Introduce Computational Thinking *(5 min)*

1. Ask students if they have heard of **computational thinking**: *When I say computational thinking, what does that make you think of? What words do you recognize in computational thinking? You may have noticed the words "computer" and "thinking," how does a computer think?*
   - Write down key words or draw ideas used to describe computational thinking.
   - There will be a variety of answers and ideas. Lead students to the following understanding:
     - *Computational thinking is a way to solve problems that uses logic and thinking that a computer can understand. We use these same ways of solving problems in our everyday life, too.*
2. Explain to students that for this activity they are going to focus on two computational thinking elements: **pattern recognition and algorithms.**
   - Share the definitions and the real-world examples so that they can see how they already use these skills every day. (See **Background Information**)
   - It may be useful to post these definitions and examples up on the board.
   - *Option*: If you have the Tech's **Computational Thinking Pattern Recognition and Algorithms posters** up, refer to them at this time.

Unplugged Activity

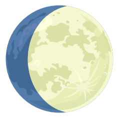
Moon Phase Calendar Check-in *(5 min)*

1. Place students in pairs and have them review the **Moon Phases Observation Calendar.**
   - If you chose **Option 1** and students made observations on their own, have them compare their chart with their partner.
   - If you chose **Option 2**, give each pair two to three minutes to make any observations of the pre-filled moon phase calendar you provided.

Note: Refer back to **Step 1 under Preparation.**

Finding Patterns *(10 min)*

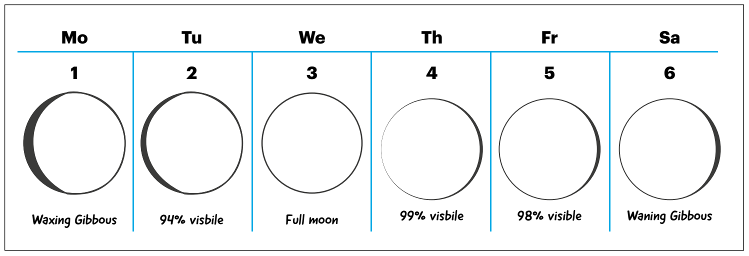
1. The activity is outlined as a design problem, with desired features and limitations below. Explain it to students and address any questions they might have.

Design Problem	Identify and explain how often the moon changes phases.	
Desired features (Criteria)	Identify and explain the **pattern** using data (from the moon calendar) of how often the moon changes phases.	■ ▲ ■ ▲ ■ ▲
Limitations (Constraints)	Use a flowchart to create an algorithm that shows when the moon changes phases.	

2. Once they understand the challenge, students should discuss what they know about the moon and any patterns they have observed with their partner.
   - Review the phases as needed with students.
3. As they discuss, students should look for patterns in the **Moon Phase Observation Calendar.**

Example: In this calendar for the month of June 2023, the moon phase on June 1, 2023. is Waxing Gibbous. Then there is a Full Moon on June 3, 2023. followed by a Waning Gibbous on June 6, 2023..

Based on the first six days of June, it seems the moon is changing phases every three days.

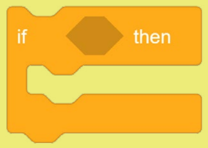


4. Once most pairs have identified a pattern, ask for a couple of volunteers to share their pattern and the reasons why they chose that pattern.
5. Encourage students to use sentence frames when sharing:
   - *At the beginning of the month the phase is _____ and after ___ days the moon phase changes to _____. The pattern continues because _____.*

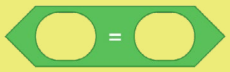
Computational Thinking and Programming Concepts *(15 min)*

1. Next, tell students that now that they understand the pattern, they are going to use it to develop an **algorithm** (set of instructions for a computer).
2. They are going to think like computer scientists and use the language and logic a computer would need to understand an algorithm (**code**).
   - Refer back to the scenario and remind them that they are going to create a simple **computer program** (algorithm) that shows the phases of the moon for the current month, so they'll need to think about the pattern they use to organize the dates of the month.
   - Tell students they are going to use two programming concepts called **conditionals** and **operators** in their program.
     - Conditional statements are essential to any computer program. They allow for something to happen as a result of an action. ***Example***: If the "File" menu on a document is clicked, then a drop down menu will appear.
     - Operators are mathematical symbols or logical statements that allow a rule to be followed.

Conditional: Something that needs to happen in order for something else to happen.
Real-world Conditionals:
- **If** you finish your homework early, **then** you can play outside with the neighbor.
- **If** you eat your dinner, **then** you get dessert.
- **If** the weather is rainy, **then** you need an umbrella.



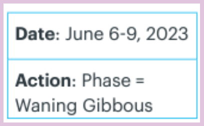
Operators: Arithmetic blocks that have math operations (x, + , -, etc.) and logical operators (and, or, not).



When are operators used in the real world?
- When you go grocery shopping and buy five boxes of the same cereal and instead of scanning each, the checkout person only scans one and multiplies it by however many you have.
- Think about the following statements and how they change based on logical operators:
  - "You can have cake **OR** cookies." versus "You can have cake **AND** cookies."
  - "We can go to the mall **OR** the movies." versus "We can go to the mall **AND** the movies."

3. To help plan their program, tell students that they will create a **flowchart**. Define the term and explain that programmers sometimes use flowcharts to help them organize their algorithm and notice patterns.
   - Pass out and explain the [Flowchart Template]() handout. Each rectangle represents the set of dates when the moon has a specific phase.

Notice that there are nine Time/Action blocks and there are also nine conditional blocks ("if/then" blocks) in the Scratch file.



Date: June 6-9, 2023

Action: Phase = Waning Gibbous

4. Give pairs about 10 minutes to complete their flowchart based on the patterns they identified in their Moon Phase Calendar.
   - If students finish early, have them find another pair and share their algorithms with each other.

$$\begin{tikzcd}
\text{Start} \arrow[r] & \boxed{\begin{array}{l}\textbf{Date}\text{: June 1-2, 2023} \\ \hline \textbf{Action}\text{: Phase =} \\ \text{Waxing Gibbous}\end{array}} \arrow[r] & \boxed{\begin{array}{l}\textbf{Date}\text{: June 3-5, 2023} \\ \hline \textbf{Action}\text{: Phase = Full} \\ \text{Moon}\end{array}} \arrow[r] & \boxed{\begin{array}{l}\textbf{Date}\text{: June 6-9, 2023} \\ \hline \textbf{Action}\text{: Phase =} \\ \text{Waning Gibbous}\end{array}}
\end{tikzcd}$$

Note: Typically flowcharts use different symbols to represent the program's progression. The **Flowchart Template** has been simplified so every rectangle represents the date and the phase the moon will be in. This will support students when they code.

Pseudocode: Steps written in plain language with some programming terminology that explains what your program does.

If students need additional support writing their program, introduce them to this method that programmers sometimes use to explain to other humans what their program does.

Example:

- If Date of Month = 1, then switch to Waxing Gibbous
- If Date of Month > 2 **and** Date of Month < 6 then switch to Full Moon
- If Date of Month > 5 **and** Date of Month < 10 then switch to Waning Gibbous
- Continue using the pattern from above

Tip: Depending on the day of the month, the number might be one less or one more than the number you want when using inequalities.

Tips:

- Share the example and ask students if they see a pattern between steps.
  - ***Note***: Each step has an "if/then" statement which includes comparison of dates. The reason we use this is because it is **more efficient** to write the algorithm using greater than and less than signs instead of having all of the dates with equal signs.
- Program efficiency is also important because it reduces the completion time and there is less room for errors or bugs.
- Encourage students to verbally practice the conditional phrases.
- Students should understand the meaning of **greater** than and **less than**. For example: > 3 and < 7 refers to the numbers 4-6

Debrief *(5 min)*

1. Lead a short debrief with students which focus on their use of computational thinking, specifically around **patterns** and **algorithms**.
2. Help students make connections between the skills they used in this activity, the work of computer scientists, problem solving, and other processes in their daily life. Reinforce these real-world applications and build their ability to use computational thinking in any setting.

3. Possible **Debrief Questions** include:
   - *What patterns did your group observe to determine of when the moon would change phases?*
   - *Where else have you used patterns in your life?*
4. To deepen the connection with computer science, additional **Debrief Questions** can include:
   - *How did you use computational thinking to solve this problem? (How did you think like a computer scientist?)*
   - *Can you think of any other examples of "if/then" phrases you might use in your day to day life? E.g.,* ***If*** *I finish my homework early,* ***then*** *I can play video games.*

Note: Students will need to refer to their flowchart again during the Plugged Design Challenge in Session 2.

Educator Resources

The rest of this lesson will use the program "Patterns of the Moon,"on **Scratch website.**

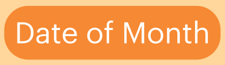
Before doing this plugged challenge with your students, check these step-by-step video resources:

- **Programming Moon Phases:** Essentials *(12:08 min)*
- **Programming Moon Phases:** Extensions *(5:35 min)*

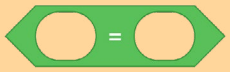
If you need more support, review:

- Tech Tip: Computer Programming
- "Getting Started," Scratch website
- "Scratch for Educators," Scratch website

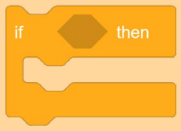
These are the names and functions of the blocks you will be using to code this program:



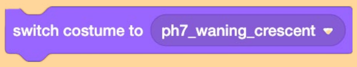
Variable (Date of Month): Variables store information and keep count of something. In this case, it's keeping count of the date of the month.



Operators: Arithmetic blocks that have mathematical operations and logical operators (and, or, not).



If/Then Conditional: Logic control blocks that are commonly used in programming languages. This block is used to check the validity of a condition. If the condition is true, then it will do something.



Switch Costume: Looks blocks allow the Sprite to look a certain way and can be customized. In this case, we are changing the Sprite to be an image of one of the phases of the moon.

Plugged Design Challenge

Plugged Design Challenge	90 min total
Introduce the Plugged Challenge	5 min
Model on Scratch	10 min
Programming	30 min
Programming Concepts	15 min
Sharing	20 min
Debrief	10 min

Introduce the Plugged Challenge *(5 min)*

1. Revisit the **design scenario**. Explain that, now that they used computational thinking, students will be creating a computer model.

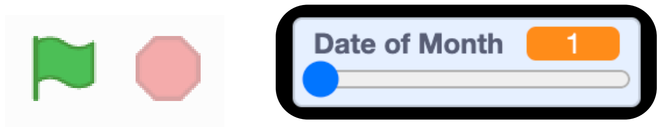
*You are applying for a **computer programming** position at NASA Ames. Before they can hire you, they want you to complete a performance task: identify the pattern of how often the moon changes phases based on data and then create a simple moon phase program showing all phases of the moon for the current month.*

2. Share the updated design problem, desired features, and limitations. Address any questions students have.

NEW **Design Problem**	Use the determined pattern to create a simple moon phase program of the current month.	
NEW **Desired features** (Criteria)	• Identify and explain the **pattern** of how often the moon changes phases using data. • Use conditionals and operators to show when the moon changes phases. • Test the computer model until it runs the algorithm successfully.	
NEW **Limitations** (Constraints)	• Write your algorithm in the block language on Scratch. • There's a time limit!	SCRATCH

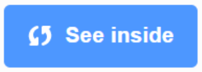
Model on Scratch *(10 min)*

1 Run the program, **["Patterns of the Moon,"]()** by clicking the green flag, then the space bar, and advancing through the days of the month on the slider bar.

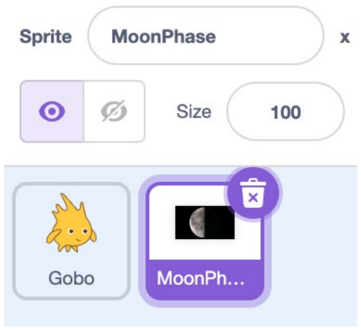


2 Ask students:
- *What did you notice about the computer program?*
- ***Note:*** *Did the phases and dates correspond to the month we are looking at?*
  - *Students should realize that the program is programmed for June 2023.*

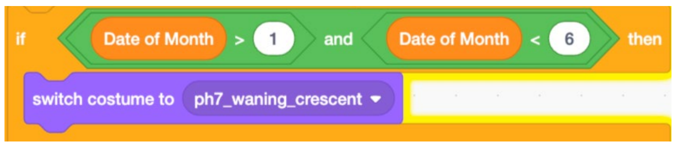
3 Click "See inside" to show students the code behind the program.



4 Click on the "MoonPhase" Sprite.



5 Focus on the "If/Then" conditionals in the code.



```
if <(Date of Month) > (1) and (Date of Month) < (6)> then
    switch costume to (ph7_waning_crescent ▾)
```

6 Ask students to read one or two conditional and operator blocks:
- *"If the date of the month is greater than two, and the date of the month is less than four, then switch costume to full moon."*
- *Where have you seen these words or symbols before?*

Students should realize that their flowchart is almost identical to the Scratch blocks.
- *Ask: What dates is this conditional block referring to?*
  - Students should notice that the conditional block is for June 3rd.

7 Ask students to explain how they could alter the conditional, operator, and Sprite costume to show a different time or phase of the moon
- Have a volunteer give an example from their own flowchart.

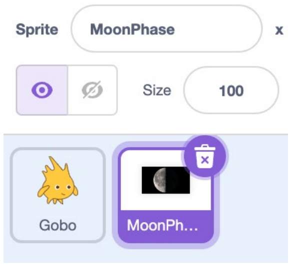
8 Show students how to test the program to ensure that it works as expected.
- Click the green flag, then press the space bar, and drag the slider bar to see if the images change for each phase.

Tip

Encourage students to review and read the blocks aloud in complete sentences and determine what dates the code is referring to. This allows students to practice both reading code and understanding number comparisons.
- ***Example***: "If the date of the month is greater than one" means that the date would be after June 2nd.

Programming *(30 min)*

1. Have students get in pairs to share one computer and open **"Patterns of the Moon."**
2. Students should click on the **See inside** button and the MoonPhase Sprite and begin modifying the code to match the phases of the moon to the month that is being studied.
   - **Note**: Students are essentially changing the numbers to match the dates of the month and changing the costume block to match the correct phase.



3. Encourage students to use their **Flowchart** (and their pseudocode if they created one).
   - Remind students to continue to find and use patterns as they code.
4. Encourage students to test often to ensure that their algorithm (code) is doing exactly what they expected. If not, students should engage in debugging their code to find what needs to be fixed.

Programming Concepts *(15 min)*

1. Help students make connections between the skills they used in this activity and those of computer scientists Encourage students to share what they remember about the programming concepts used including conditionals and operators.
2. Have students explain how conditionals work by asking questions like:
   - *What would happen if we changed the month?*
   - *Why is it that only certain numbers (dates) change the phase?*
     - Students should understand that conditionals check if something is true or not so that's why certain numbers are attached to a phase.
3. To deepen understanding of the code ask:
   - *Why do you think we need the "forever" block?*
     - This is an example of a loop.
     - The forever block allows the user to go back and forth and see the different phases of the moon instead of only seeing them once. Try removing it and see what happens!
   - *What would happen if the operators were switched, how would the code change?*
     - Depending on which operator they use, the code could change drastically.
       Example: If they decided to use the = instead of < or >, then their code would be extremely long. The < and > provide some elegance and efficiency for the program.
   - *Are there other ways you can write the same code?*
     - There is always more than one way to write the code. If students are feeling up to the challenge, have them try it out.

Share Solutions *(20 min)*

1. Have students share their completed programs with each other
   - Remind them of the design scenario and let them know they will now share what they created with the NASA interview team.
   - Their goal is to make sure they have created a simple moon phase program showing all phases of the moon for the current month.
2. Have each pair take turns sharing their program to another team.
   - *Option*: If you have more time, have each team present to the class.
3. The presenting team should respond to any questions or comments from the audience.

Presenting Team	NASA Interview Team (audience)
• Run the program.	• Notice what is happening with the program.
• Explain how you worked as a team. Who did what? • Explain what was challenging and how you solved it or if there was no solution, what support did your team use to try and solve it?	• Provide positive feedback such as: – *I like when your program…* – *Your program does ____ really well.* • Ask questions about things you are curious about: – *How does ____ work?* – *Why did you choose ___?* – *What part of the code does ___?*
• Explain what additional features (sound, text, etc.), if any, were added	• Ask questions about why they chose those features: – *Why did you select ___?* – *What inspired you to ___?*

Additional Programming Concepts

If you want to focus on more of the programming concepts that are present in the program, you might have students explore and identify the following:

- Sequencing
- Events
- Variables

Debrief *(10 min)*

1. Lead a short debrief with students which focuses on programming, patterns, algorithms, operators, and conditionals.
2. Possible **Debrief Questions** include:
   - *What patterns helped you write your code?*
   - *How were number comparisons used in your code?*
   - *How well did your algorithm work?*
   - *What programming concepts did you use today?*
   - *What did you find interesting about the process? What did you find challenging?*

Extensions

- **Tinker:** Have students add text or sounds to the program as well so that they appear when the slider is moved. They can have this text and audio give facts about the content.
- **Sea Level Rise:** Have students apply this process to adjust the program to another change over time concept. Images from "**Sea Level Rise and Coastal Flooding Impacts**," National Oceanic and Atmospheric Administration (NOAA) website, of the San Francisco International Airport starting with the year 2018 in ten year increments, show the effect that sea level rise is having on SFO.

Optional Resources

- See the **Extensions video** *(xx min)* for detailed directions.
- Check out these Scratch tutorials for tips as well:
  - **"Add a Sprite,"** Scratch website
  - **"Create Animations that Talk,"** Scratch website
- Use the following **"Scratch cards,"** from the Scratch website, with students for additional support:
  - Say something
  - Change costumes
  - Change backdrops
  - Add a sound

California Computer Science Standards

Grades	Standard	Description
3-5	DA.9	Use data to highlight and/or propose relationships, predict outcomes, or communicate ideas. (P7.1)
3-5	AP.12	Create [or modify] programs that include events, loops, and conditionals. (P5.2)

Next Generation Science Standards

Grade	Performance Expectation	Description
5	5-ESS1-2*	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. *NGSS Performance Expectation notes specify the inclusion of moon patterns.
Related Standards		3.PS2.A Disciplinary Core Ideas
Science and Engineering Practices		Analyzing and Interpreting Data
Cross Cutting Concepts		Patterns

Vocabulary

- **Algorithm:** Step by step instructions to solve a problem.
- **Code:** Set of written commands that a computer follows when executed.
- **Computational thinking:** A way to solve problems that uses logic and thinking that a computer can understand. We use these same ways of solving problems in our everyday life too. Computational Thinking includes algorithms, patterns, decomposition, and abstraction.
- **Computer program:** A set of instructions to tell a computer what to do.
- **Computer scientist:** A person who studies or creates computer programs.
- **Conditional:** Something that needs to happen in order for something else to happen.
- **Event:** An action that needs to happen for the code to run.
- **Flowchart:** A diagram that shows what a computer program looks like.
- **Loop:** A set of instructions that will happen over and over for a set amount of times.
- **Operator:** Arithmetic blocks that have mathematical operations (+, x, -, etc.) and logical operators (and, or, not).
- **Pattern recognition:** Recognizing if there is a pattern and determining the sequence.
- **Phase:** A distinct part or step in a process.
- **Pseudocode:** Steps written in plain language with some programming terminology that describes what your program does.
- **Sequence:** The order in which the code will happen.
- **Variable:** A value that can change depending on what is happening.

Student Handouts

Title	Page
• Moon Phase Observation Calendar	1
• Flowchart Template	2

Patterns of the Moon
Moon Phase Observation Calendar

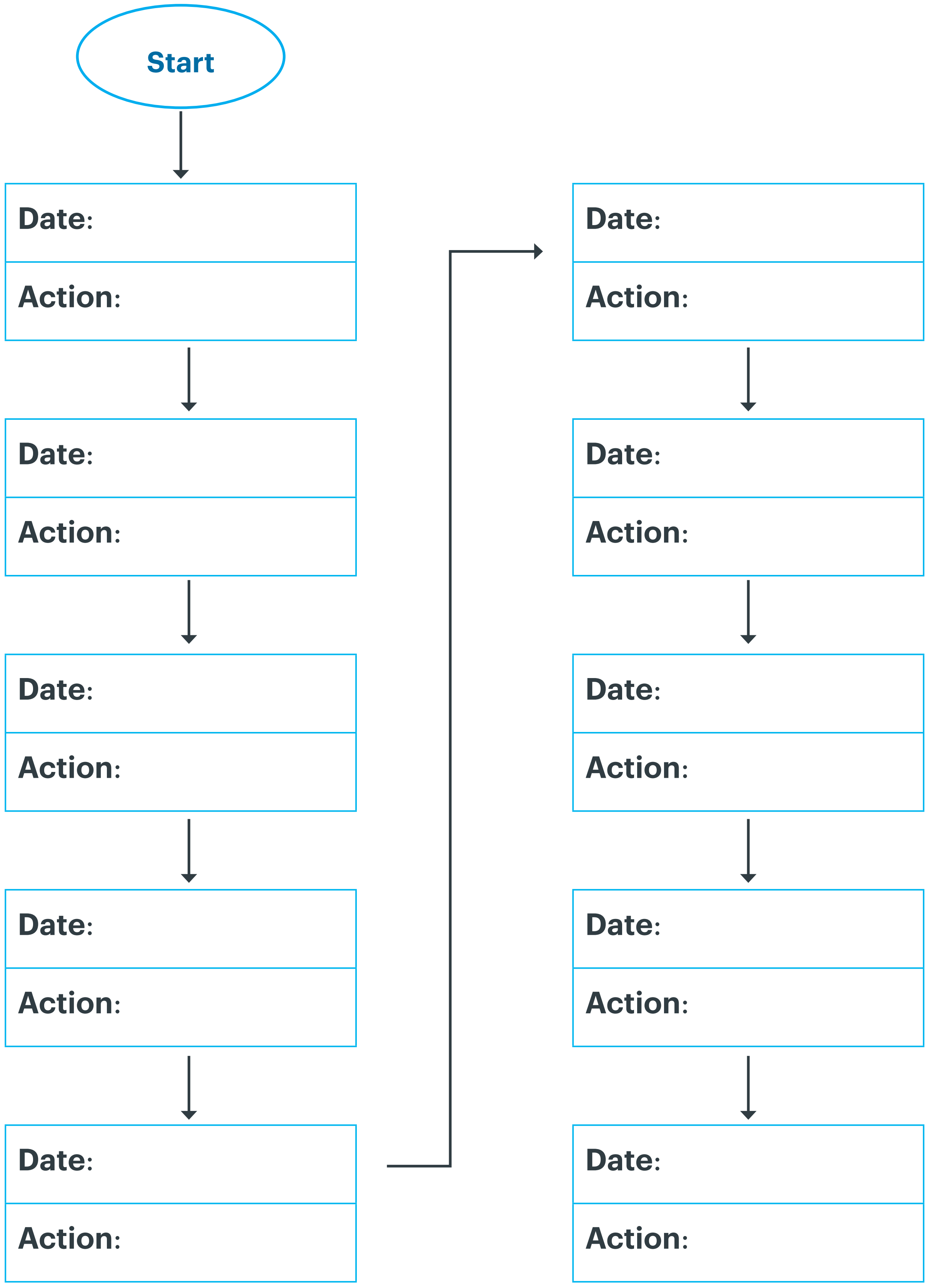
Team Name(s): **Date:**

MONTH________________						
Su	**Mo**	**Tu**	**We**	**Th**	**Fr**	**Sa**

Patterns of the Moon
Flowchart Template

Team Name(s):

Date:



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