

# Science Sleuths - A SCI-FI Science Adventure

The Gates Of Atlantis!

Episode 8 - Season 1 Finale!

*The flash of light from the time machine drops you off in front of a pair of massive doors! In front of the doors floats a massive pufferfish. Wait is that an ELDER GUARDIAN! I've heard they often guard underwater monuments! The guardian turns it's massive eye towards you and points you towards a nearby pillar. On the pillar are 6 challenges to open the doors to Atlantis! Professor Evan must be waiting for you inside, the quest was never about finding keys → it was about learning! Knowledge is the key!*

*The challenges may seem scary, but you've learned everything you need to know. And Professor Evan has even left you some of his notes to help.*

## Challenge 1: Decipher The Code

- Hint: Use the skills you learned in episode 1. Attached you will find instructions on how to make and use a cipher wheel to solve the message!

Hkltibadb fp qkb hbv!

## Challenge 2: Deduction

- Hint: Use the skills you learned in episode 3

**Grades K-4:**

**There are three houses in a row, the house on the left is infected with Cholera, find who is infected.**

1. Mr. Smith lives directly to the right of the Red house
2. Miss Johnson lives in the the blue house
3. Mrs. Doe lives in the middle house

	Left House	Middle House	Right House
House Color			
Name			

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## Grades 5-8:

There are three houses in a row, each with different characteristics, these characteristics are:

- Color of House (Green, Blue, Red)
- Name of Person (James, Jane, Judy)
- Animal owned (Fish, Dog, Cat)
- Sport played (Basketball, Soccer, Football)

You need to find the person's house that is the source of the Cholera Outbreak, you know that the person who likes Soccer lives in the house that is the source.

The clues that will lead to your answer are:

- James does not live in the middle house.
- The person with Dogs plays Basketball.
- The red house is on the right, and is not neighbors with the person who plays football.
- The person with the Cats lives in the middle house.
- The person with Fish lives directly to the left of the person with Cats.
- The person with the Dogs lives directly to the right of the Green house.
- Judy lives in the right house.

	Left House	Middle House	Right House
House Color			
Name			
Animal			
Sport			

## Challenge 3: Aquatic Animals

- Part of caring for the earth is learning about the incredible plants and animals that we share it with. Aquatic habitats are home to many amazing animals that need to be protected.

**Grades K-4:** Construct an origami whale using the attached materials.

**Grades 5-8:** Construct an origami dolphin using the attached materials.

## Challenge 4: Star Knowledge

Humans have always liked looking at the stars, and many different cultures have their own stories and star patterns, some of which are even used to help people find their way home.



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## International Morse Code

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.
3. The space between two letters is equal to three dots.
4. The space between two words is equal to seven dots.

A	• —	U	• • —
B	— • • •	V	• • • —
C	— • — •	W	• — —
D	— • •	X	— • • —
E	•	Y	— • — —
F	• • — •	Z	— — • •
G	— — •		
H	• • • •		
I	• •		
J	• — — —		
K	— • —	1	• — — — —
L	• — • •	2	• • — — —
M	— —	3	• • • — —
N	— •	4	• • • • —
O	— — —	5	• • • • •
P	• — — •	6	— • • • •
Q	— — • —	7	— — • • •
R	• — •	8	— — — • •
S	• • •	9	— — — — •
T	—	0	— — — — —

Thanks Rikki's Scouting Resources for the awesome diagram! [Morse Code](#)

*You've done it! The guardian moves aside and a bright blue light shines out as the doors open. Now you can finally join Professor Evan and solve the mysteries of Atlantis together!*

*Professor Evan and the Science Sleuths will return with Season 2...*

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Attached Items Needed:

Challenge 1.

## Cypher Set-up

Step 1: Cut out the smaller circle and the larger circle

Step 2: Place the smaller circle on top of the larger circle

Step 3: Fasten the smaller circle to the larger circle by stabbing a pin or pencil through the center black dots

Step 4: Spin the circles until the outer letter **A** matches with the inner letter **A**

Step 5: Spin the inner circle **3** spaces clockwise (After, the outer circle letter **A** will match the inner letter **X**)

## How to Use the Circle Cypher

The Inner circle letters are the letters from the coded word (the word that makes no sense)

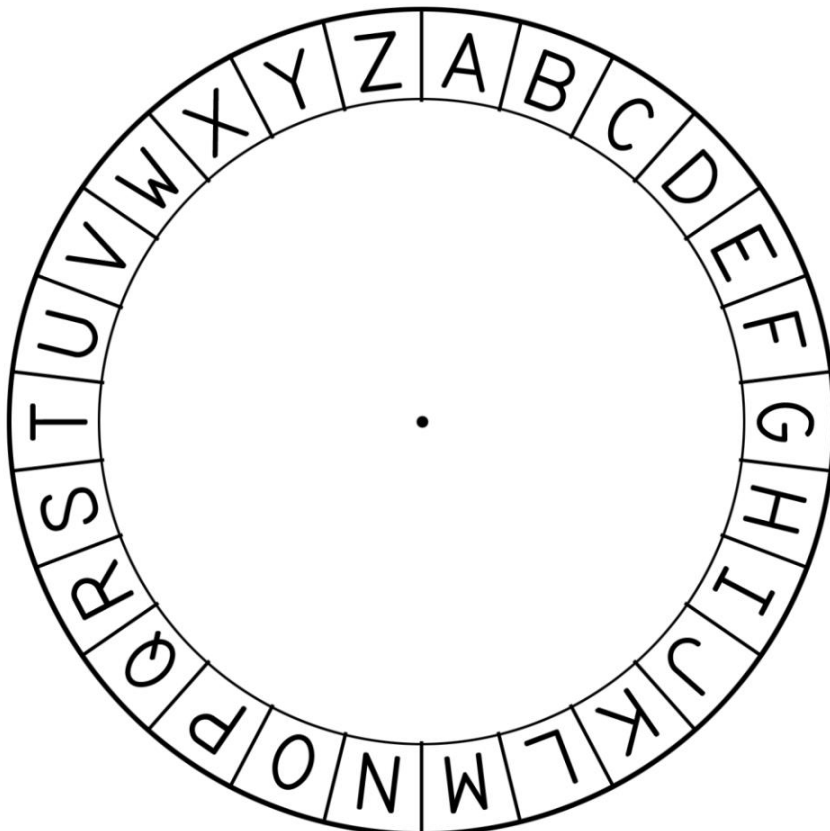
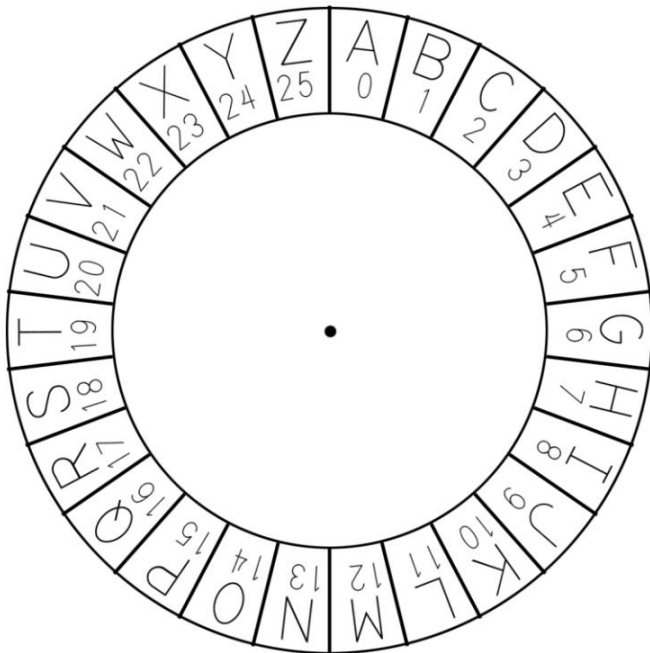
The Outer circle letters are the letters that will form the REAL word (the word that does make sense)

To decode the word **EBIIL**, find the **E** in the inner circle and see that it lines up with the **H** outer circle (so now you know the first letter of the REAL word is H)

Following the same pattern with the other letters you would see that the REAL word is **HELLO**.

You have now learned how to use the circle cypher!

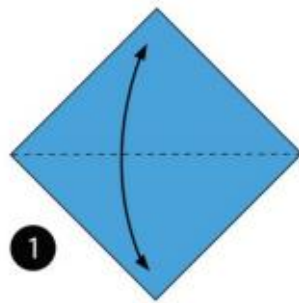
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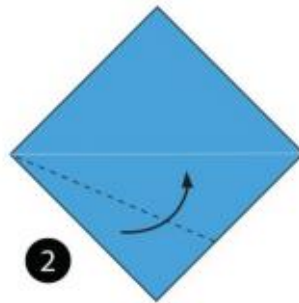
# Science Sleuths - A SCI-FI Science Adventure

## Challenge 3, K-4:

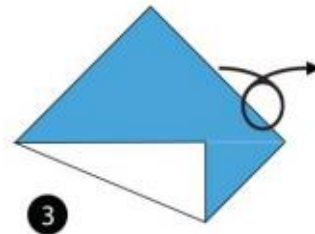
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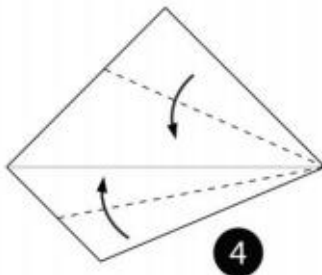
**Step 1)** Fold the paper in half and then unfold it.



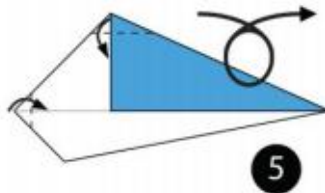
**Step 2)** Fold the bottom of the paper up along the dotted line.



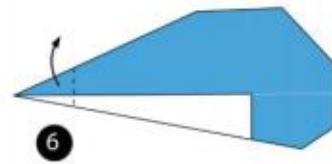
**Step 3)** Turn the paper over.



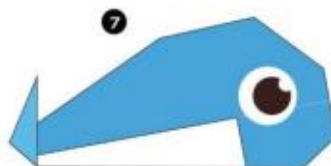
**Step 4)** Fold the top and bottom in along the dotted lines.



**Step 5)** Fold the top and side in along the dotted lines then turn the paper over.



**Step 6)** Fold the tail up a little bit.

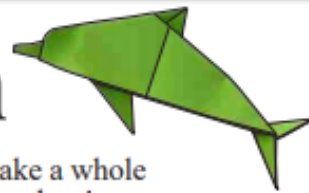


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Challenge 3, 5-8:



## Dolphin



This model is simple enough to make a whole school of dolphins... even while in class!

**1** Fold a colored Waterbomb Base. For help, consult the cloud.

**2** Valley-fold the front flap. Exact placement is not important.

**3** Valley-fold

**4** Valley-fold to make the dorsal fin. There is no guideline here; fold to taste.

**5** Valley-fold.

**6** Pleat.

**7** Reverse-fold.

**8** Reverse-fold the inner flap only.

**9** Shape the dolphin to taste with valley folds.

**10** Turn over.

**11** The Dolphin ready to swim away.

**Waterbomb Base**

**1a** To fold a colored Waterbomb Base, first turn the paper over.

**1b** Valley-fold and unfold in half both ways. Turn over.

**1c** Valley-fold and unfold diagonally in half both ways.

**1d** Collapse along existing creases.

**1e** In progress.

**1f** Further in progress.

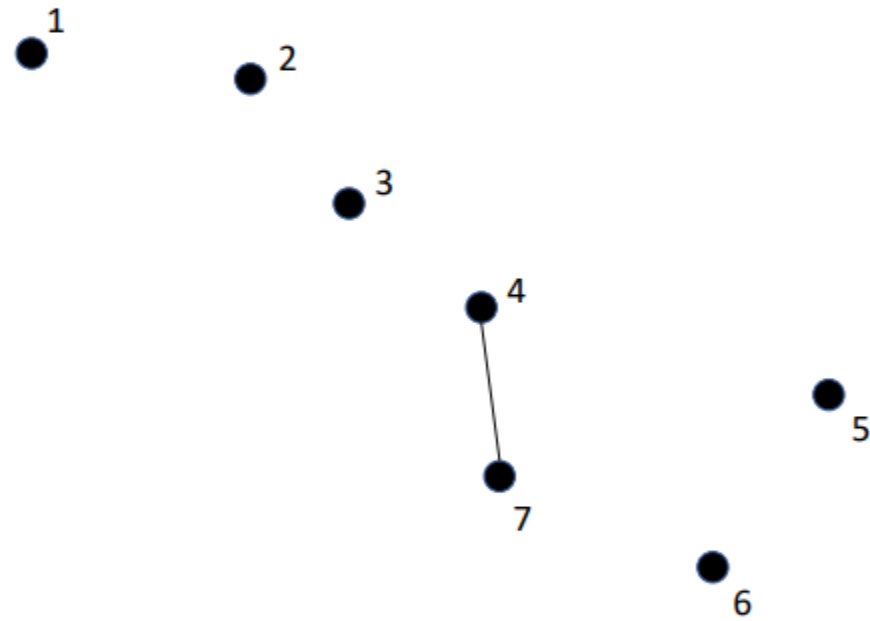
**1g** The Waterbomb Base has been built.



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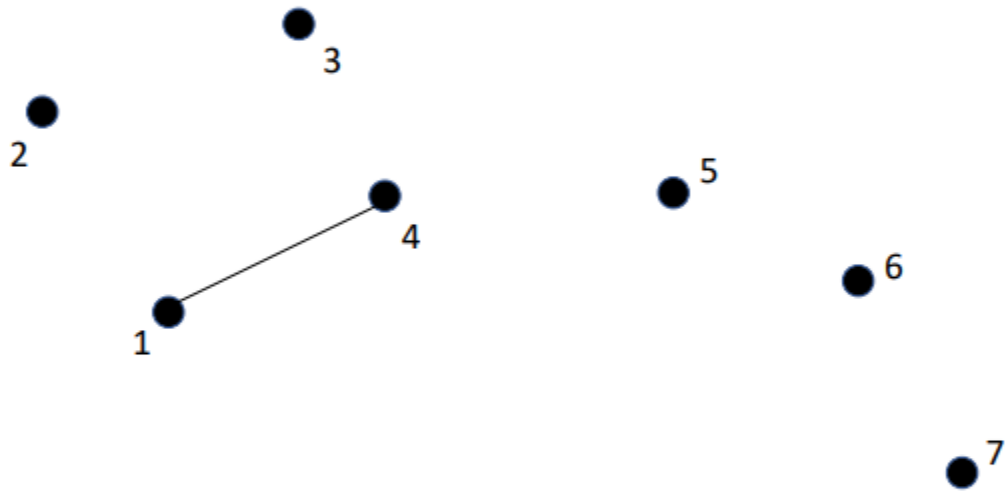
Challenge 4, K-4

## Big Dipper



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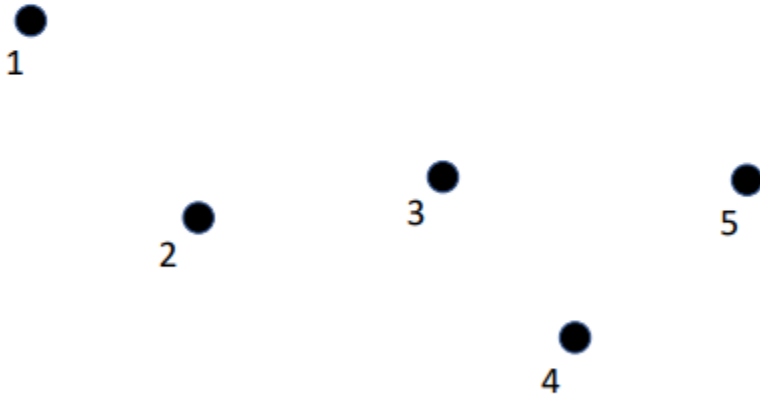
Little Dipper



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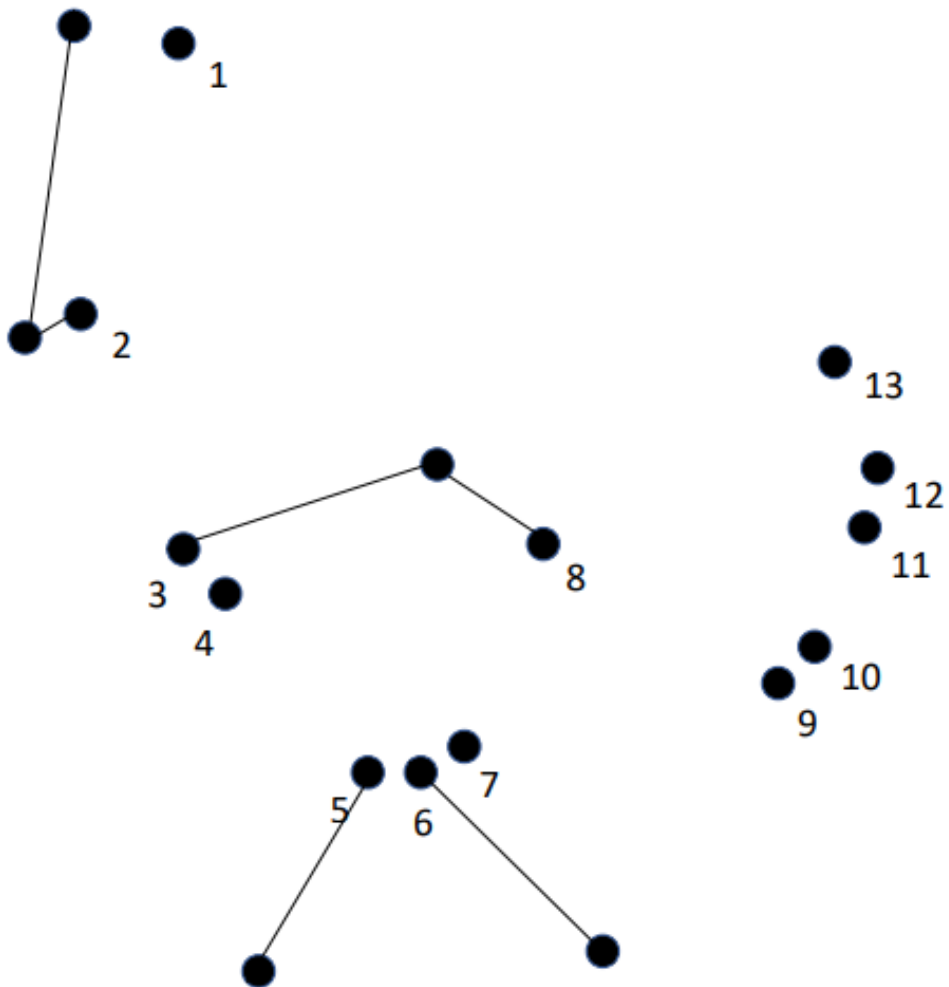
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Cassiopeia



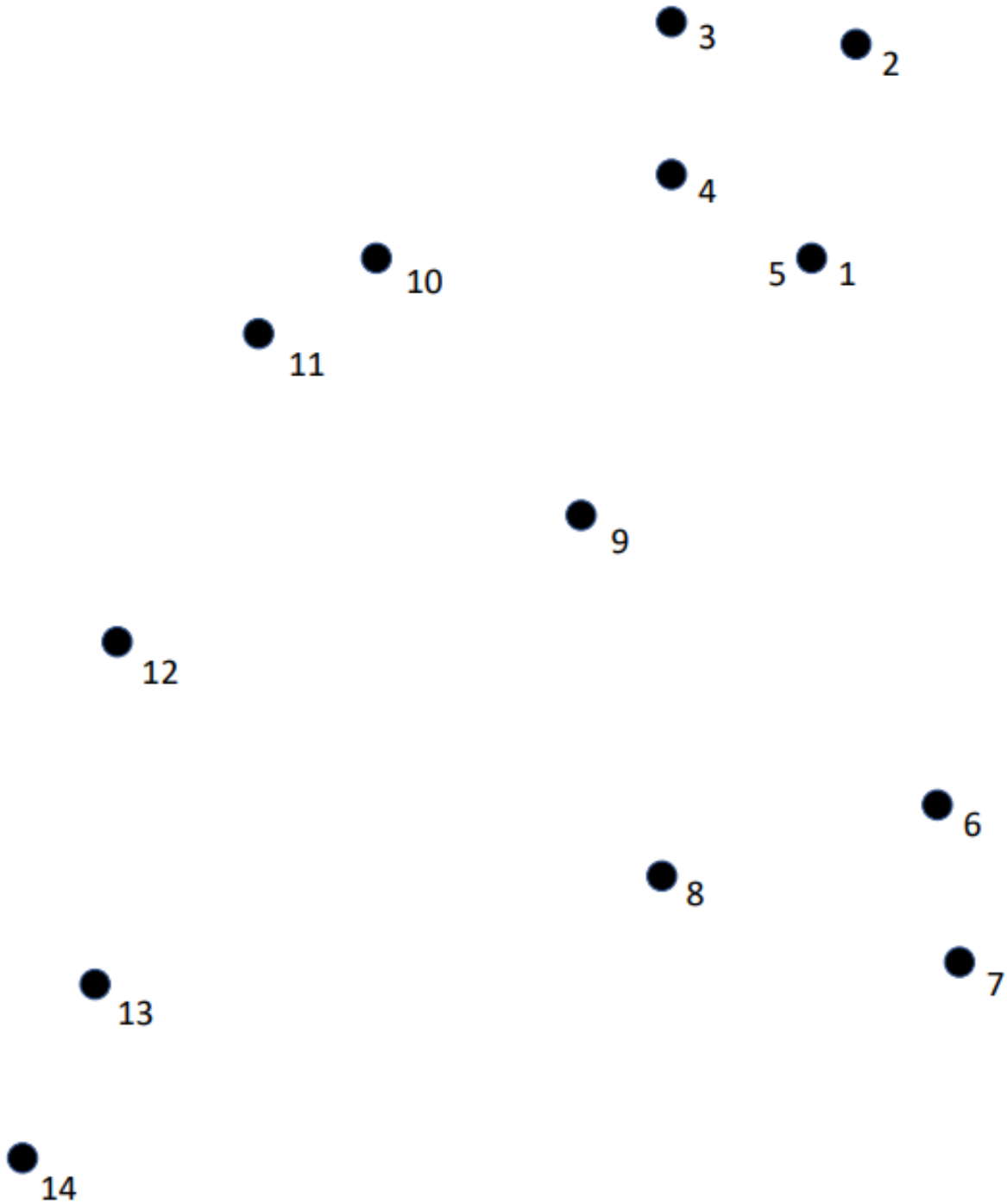
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## Orion



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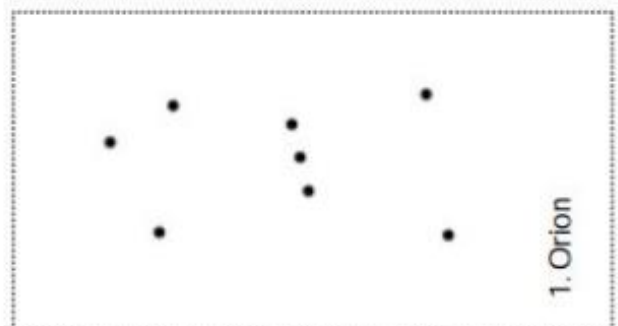
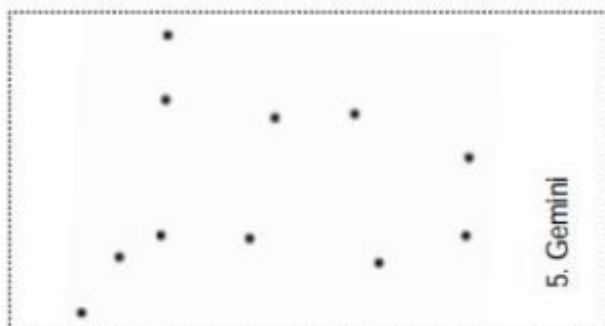
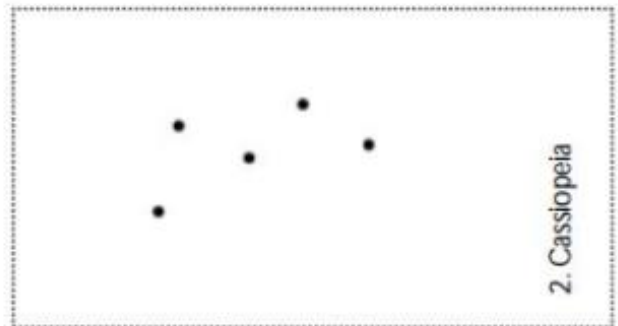
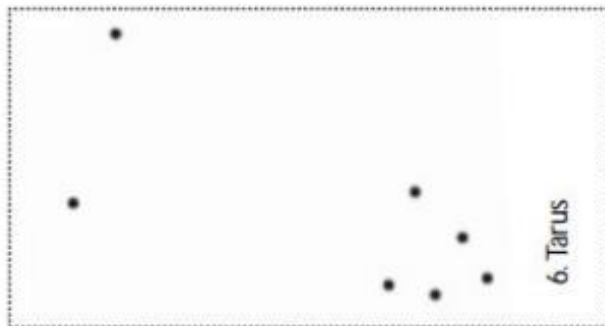
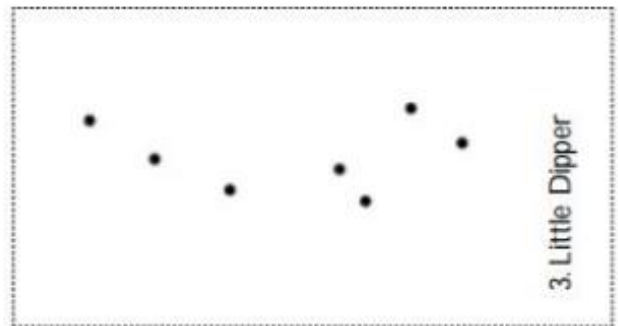
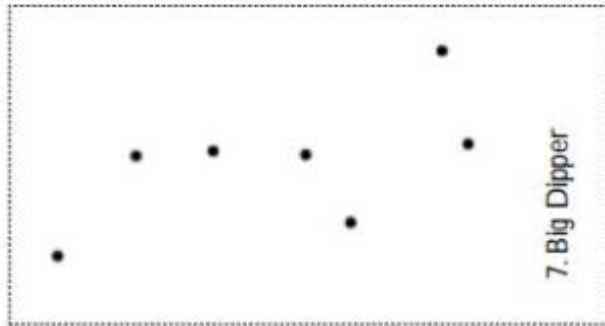
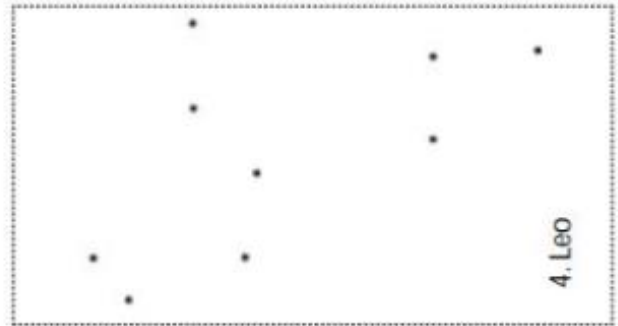
Draco



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## Challenge 4, 5-8

Photocopy these patterns and cut out along the dotted line. Tape or glue each one to a 3x5 card.



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## Star Patterns

Look at the Constellation cards.  
Match each pattern on this page to one of the cards. To help you get started, look at Pattern A and Constellation Card 7 (Big Dipper).

Each dot stands for a star. Star patterns are called constellations. This page shows constellations you can find in winter.



A. Big Dipper

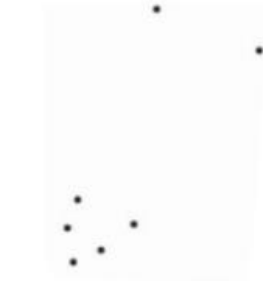
B.



C.



D.



G.



E.



F.



















Source: <https://airandspace.si.edu/files/pdf/explore-and-learn/teaching-posters/skyquest.pdf>

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## Challenge 5:

### Wetland Scavenger Hunt

Explore a swamp, marsh or pond near you and see how many of these items you can find!

<p>A Frog or Toad</p> 	<p>A turtle</p> 	<p>Plants under water</p> 	<p>Cattails</p> 
<p>Plants floating on the surface of the water</p> 	<p>A bird in the water</p> 	<p>Animal tracks</p> 	<p>An animal home</p> 
<p>A damselfly</p> 	<p>A dragonfly</p> 	<p>A water beetle</p> 	<p>A plant that grows straight out of the water</p> 
<p>Bubbles or ripples in the water</p> 	<p>A Fish</p> 	<p>A Flower near the water</p> 	<p>A Tadpole</p> 

Graphic Courtesy: The Morton Arboretum