

LESSON 2:

SECRET MAPS

SUPPLIES

FOLDER

- Paper (30)
- Envelopes (15)


PENCIL BOX

- Pencils
- Markers
- Scissors

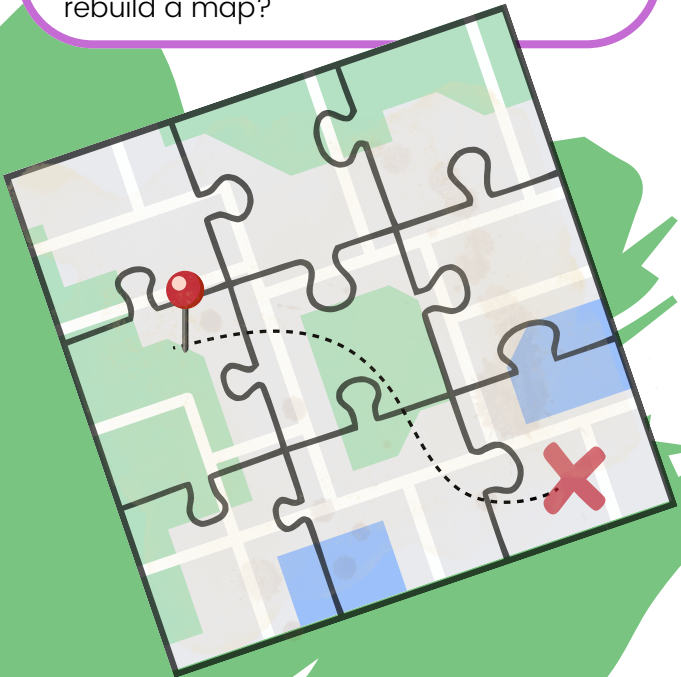
OBJECTIVES

- Students will explore how maps communicate spatial information.
- Students will use map keys and symbols as they design their own maps


HOOK

 2 min

- Have you ever used a map to get from one place to another? Today, Agent Atlas's secret map has been scrambled! Think like a secret agent: how can you work to put it back together again accurately?
- What clues would help you to read and rebuild a map?



INTRODUCTION

 5 min

Welcome back, agents! No secret mission is complete without one crucial skill: navigating through the unknown. Whether you're searching for a hidden passage or planning an escape route, every spy needs to know how to read detailed maps.

Today, we're going undercover with Agent Atlas, our official expert in top secret locations and cartography. But spies can't just use ordinary maps when handling classified information. Spies use maps that are disguised, encrypted, and often puzzle like maps that only the most experienced agents can decipher.

Today, we won't just be deciphering a map, we'll be creating one!

MEET TODAY'S SECRET AGENT

ATLAS

Specialty: Navigation & Spatial Analysis



Meet Agent Atlas, an extraordinary secret agent who specializes in understanding and interpreting spatial information presented on ancient maps. Agent Atlas knows exactly how to use a map to stay hidden, find clues, and reach mission objectives with ease. Her skills will be helpful for today's difficult mission!



DISCUSSION 5 min

Today's mission is to make a map, but we also need to protect the secret intel! In order to do so, you'll be cutting your map into pieces to turn it into a jigsaw puzzle to be deciphered. Only the most observant agents will be able to put the map back together and unlock the secrets it holds. Today's mission is all about thinking spatially, using symbols, and mastering the art of map making. With the help of Agent Atlas, you'll become a master navigator and maybe even learn how to hide your own secret locations in plain sight!

ACTIVITY PART I: MAP FACTS 5-10 min



- Begin by discussing the map components below with the class. Then, allow students to observe and discuss.
 - Compass Rose:** A compass rose is a small picture on a map that shows directions. It indicates North, South, East, and West.
 - Map Key:** A map key is a special box that explains what the pictures or symbols on the map mean. It helps you understand what you're looking at. For example, a tiny tree might mean a park, and a star might mean a secret base!
 - Labels:** Labels are words on a map that name places or things. They tell you what each place is called, like "School."
 - Symbols:** Symbols are small pictures or shapes that stand for real places or things on a map. For example, a  might show where your spy clubhouse is, and a  might show a blocked area. The map key tells you what each symbol means.



Compass Rose:

- A compass rose shows cardinal directions: North, South, East, and West.
- The sun rises in the East and sets in the West.
- Once you find North, you are able to determine all directional points.
- Tip: "Never Eat Soggy Waffles" helps remember the order of your cardinal directions.

Symbols:

- Map symbols are tiny pictures on a map that show where different things are.
- Example: A  might mean a mountain, and  could mean a forest.
- You can find the meanings of map symbols in the map key or legend.



Map Key:

- A map key, or legend, labels each map symbol so that the map is clear and easy to read.
- Map keys are like the "secret code" that tells you what each symbol means on a map.

Map Scale:

- A map scale details how far apart things are on the map in real life. For example, 1 inch on the map might equal 1 mile in real life.
- A map scale helps to measure distance that is essential for navigation.



ACTIVITY PART 2: MAKING A MAP 25 min

1. Handout materials to students (Pencils, markers, scissors, paper)
2. Instruct students to create a map of an imaginary secret base. Students should include a map key with at least 3 symbols (e.g. tree = forest).
3. Students should add map elements like a compass rose to show direction.
4. Bonus: Encourage students to add fun spy bonus elements to their map like secret shortcuts, hidden trapdoors, or buried treasure!
5. Once maps are finished, instruct students to cut their map into 5-10 jigsaw-style pieces. Encourage creativity in how they cut. Inform students that strange or irregular shapes make better puzzles!
6. Once the pieces are cut out, have students place the pieces into an envelope labeled with their secret spy code name.



Map

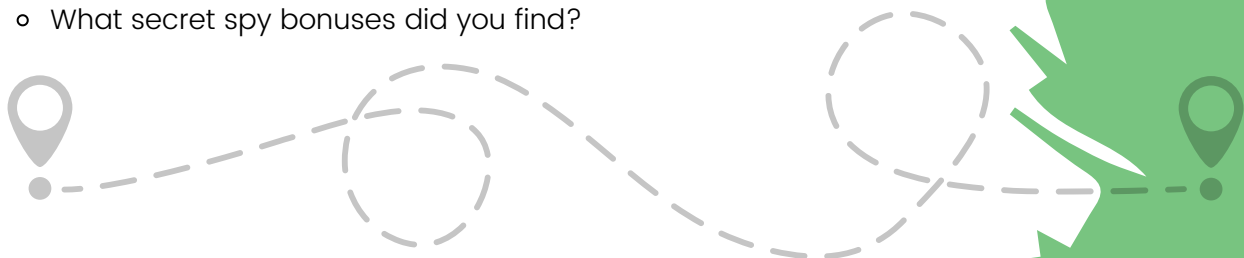


Puzzle



ACTIVITY PART 3: DECIPHERING THE MAP! 10 min

1. Instruct students to exchange envelopes with a partner.
2. Students can now reassemble their partner's secret map using the map key and clues on the pieces.
3. Once complete, allow students to share their findings with their partner:
 - What do the map symbols mean?
 - What helped you solve the puzzle?
 - What secret spy bonuses did you find?

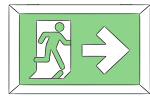


SECRET MAPS

DISCUSS ⌚ 3-5 min

Discuss as a class the process of making and deciphering maps!

- What did you learn about maps today?
- What makes a map difficult or easy to follow?
- If you made a secret map again, would you cut out the pieces any differently?
- How do symbols help spies share secret information?
- What was one challenge you encountered while making or solving the map puzzle?



Exit Ticket



Ask each student one of the following questions as they walk out the door.

- Q: What is cartography?
 - A: The science of making maps.
- Q: What is a location indicator?
 - A: A location indicator or location identifier is an arrow or a marker that uniquely identifies a specific place or location.
- Q: Can you name an example of a map symbol?
 - A: Examples can include a triangle for a mountain, a tree for a forest, a black dot for a town, a blue line for a river, and a star for a capital city.

