

Strand 1 – Activity 1

Landmarks

Context

When you are looking for a star or constellation, it is important to know which direction to look in. So, the starting point for learning stargazing is to learn the four directions. This activity teaches the layout of the four directions, north, south, east and west, and identifies local landmarks that can be used to find the directions.

Specific Learning Outcomes

You will identify a stargazing place near your home, and identify landmarks that enable you to find the four parts of the sky: north, south, east and west.

Teacher Planning and Preparation

Students can do most of this activity at school, but need to complete it at their home. Completed map sheets should be checked by the teacher, but kept by the students for future reference when stargazing.

Students who complete the activity from memory should be encouraged to take the sheet home to conduct a field check.

Each student needs access to a map, but as class sets of street maps can be hard to come by, here are the two methods we have used:

Photocopying method

Provide each student with a photocopy of the relevant part of a street map. This method only works if you can make clear photocopies of the map. Make certain the left and right edges of the paper line up with the north-south lines on the map, and that north is at the top of the photocopy. If possible photocopy the map alongside the worksheet on a single A3 sheet. If this is not possible, get your students to join the map and worksheet side-by-side, with sellotape.

Hand copying method

Have students work in small groups with one map to a group of 3 to 6 students. Students copy their stargazing place and nearest road onto the worksheet.

What You Need

Handouts and Posters

- Landmarks Worksheet and Instruction Sheet
- Photocopy of local street map (if used)

Equipment

- Pencils
- Street Map
- Sellotape (if you want to join photocopied maps to worksheets)



Science Background Knowledge

What makes a good landmark for direction finding?

- Something permanent like a tree, building, or hill
- Something as far away as possible
- Something that stands out and is easy to identify

How can we line a map up so it points the same way as the real world?

There are two main ways to do this...

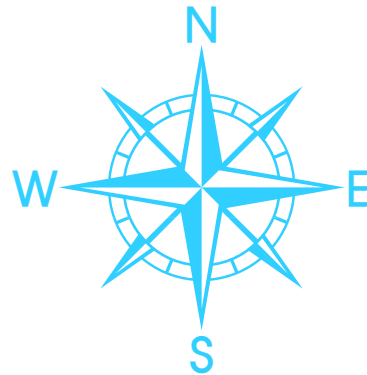
1. Line up physical features in the world with their representation on the map. One really easy feature to use is a road. Roads are good because they tend to have straight bits that are quite easy to line up. Other physical features can be used if roads are not convenient, such as distant mountain peaks and so on.
2. Find north with a compass. Then line it up with the compass rose on the map.

We recommend the first method, unless students have access to magnetic compasses and know how to allow for the difference between magnetic north and true north.

What makes a good stargazing place?

When you start stargazing a city is a good place to stargaze from. Because of the streetlights, only the brighter stars can be seen. This makes the brighter stars and constellations easier to find. So if you live in the city, a good stargazing place is where:

1. you can see quite a bit of the sky,
2. street lights and neighbour's house lights don't shine in your eyes too much, and it is a safe place to stand at night.



Classroom Lead-In

When you introduce students to this activity, it should be part of introducing the whole Starry Starry Night strand. (See Overview of This Strand.)

Things you might discuss with the students as a warm up to this activity:

- What are the four directions?
- What is a landmark?
- What makes a good landmark for direction finding?
- How can we line a map up so it points the same way as the real world?
- What makes a good stargazing place?

Some of these questions are answered in the Science Background Knowledge section of this document.

It is recommended that you complete a Landmarks Worksheet as a whole class activity using the school as your stargazing place. To identify a good stargazing place, walk around the school with the class locating streetlights and looking for good views of the sky. You will also need to take the class outside to line the worksheet/map up with the nearest road and locate landmarks.

Instructions

These instructions are also available on the Landmarks Worksheet Instruction Sheet.

Photocopying method

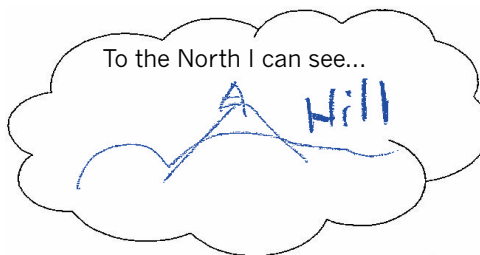
1. Choose a stargazing place near your home. (See “What makes a good stargazing place?”)
2. Find your stargazing place on the photocopied map and mark it in pencil.
3. Draw a picture of your stargazing place in the box on the Landmarks Worksheet.



4. Go outside with your worksheet and map. Stand beside the road near your stargazing place. Turn the worksheet and map until the road on the map lines up with the real road.

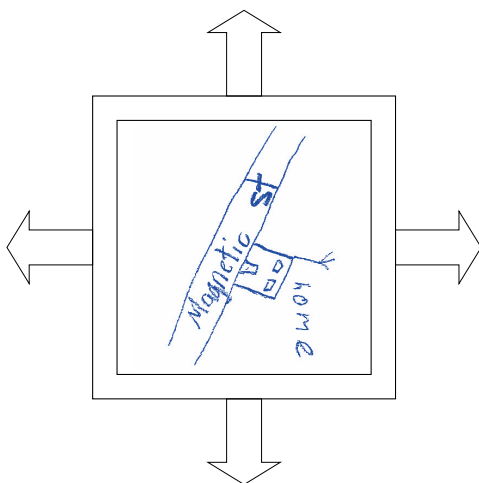


5. Look in each direction and write or draw the landmarks you see in the bubbles on the worksheet. (See “What makes a good landmark?”) There might not be a good landmark in each direction, but fortunately one good landmark is enough. Choose distant landmarks, because when you move from beside the road to your actual stargazing place you need the landmarks to still be in the right direction.

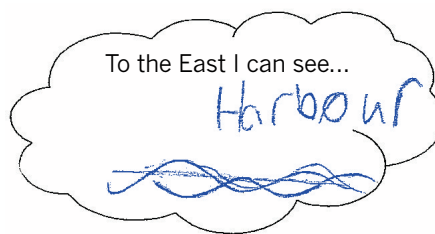


Hand copying method

1. Choose a stargazing place near your home. (See “What makes a good stargazing place?”)
2. Find your stargazing place on a street map.
3. Copy your stargazing place and the nearest road into the box on the Landmarks Worksheet. First turn your worksheet until north on the worksheet and north on the street map line up. Keep things the same way up when you copy them.



4. Go outside with your worksheet. Stand beside the road near your stargazing place. Turn the worksheet until the road you have drawn on the worksheet lines up with the real road.
5. Look in each direction and write or draw the landmarks you see in the bubbles on the worksheet. (See “What makes a good landmark?”) There might not be a good landmark in each direction, but fortunately one good landmark is enough. Choose distant landmarks, because when you move from beside the road to your actual stargazing place you need the landmarks to still be in the right direction.



Follow Up and Extension

A suggested classroom follow-up activity is for stargazing places and their landmarks to be collected onto a single map on the wall of the classroom. Pins with flags on them are a good way to do this.

Discussion questions might be:

- Who found four good landmarks? three? two? one? none?
- How many people share the same landmarks?
- What things made the best landmarks?

When complete, students should keep their Landmarks Worksheets at home to refer to when they go outside stargazing.

Downloadable Resources

- This document as an Adobe Acrobat file
- Landmarks Worksheet and Instruction Sheet

Download from:

www.AstronomyInYourHands.com/activities/landmarks.html

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