Science Remote Sensing Activities 1-9 Our Ideas Poster

Prep & Setup Guide

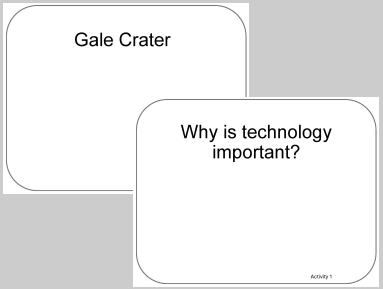
Poster Components

All poster components can be printed on **8.5 x 11” paper**

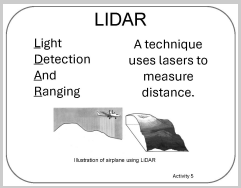
There are PDFs for:

- **Poster Pages** to build the poster (pages numbered in lower right corner with corresponding adventure(s))
- **Poster Pages** with examples are for educator reference only and not intended to print.
- **Blank Pages** for more space or to build your own poster
- **Blank ¼ page cards** for learners to add additional terms, drawings, ideas
- **Term cards**:
  - Icon-only
  - Term + icon

Poster Pages

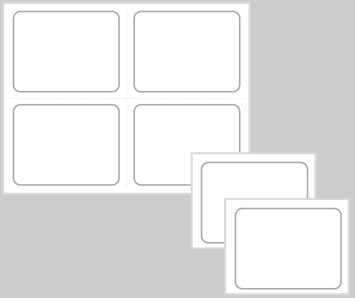


Term Cards



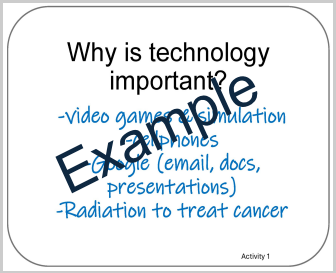
Term + icon

Blank ¼ page cards



Intended for learner responses

Poster Pages With Examples



For reference only, Do not print.

Blank Pages

Setup

To set up the poster space, you will need a wall or whiteboard area of about **80” Length x 60” Height**

» Please see the following pages for setup examples. You may choose alternative layouts to fit your learning environment.

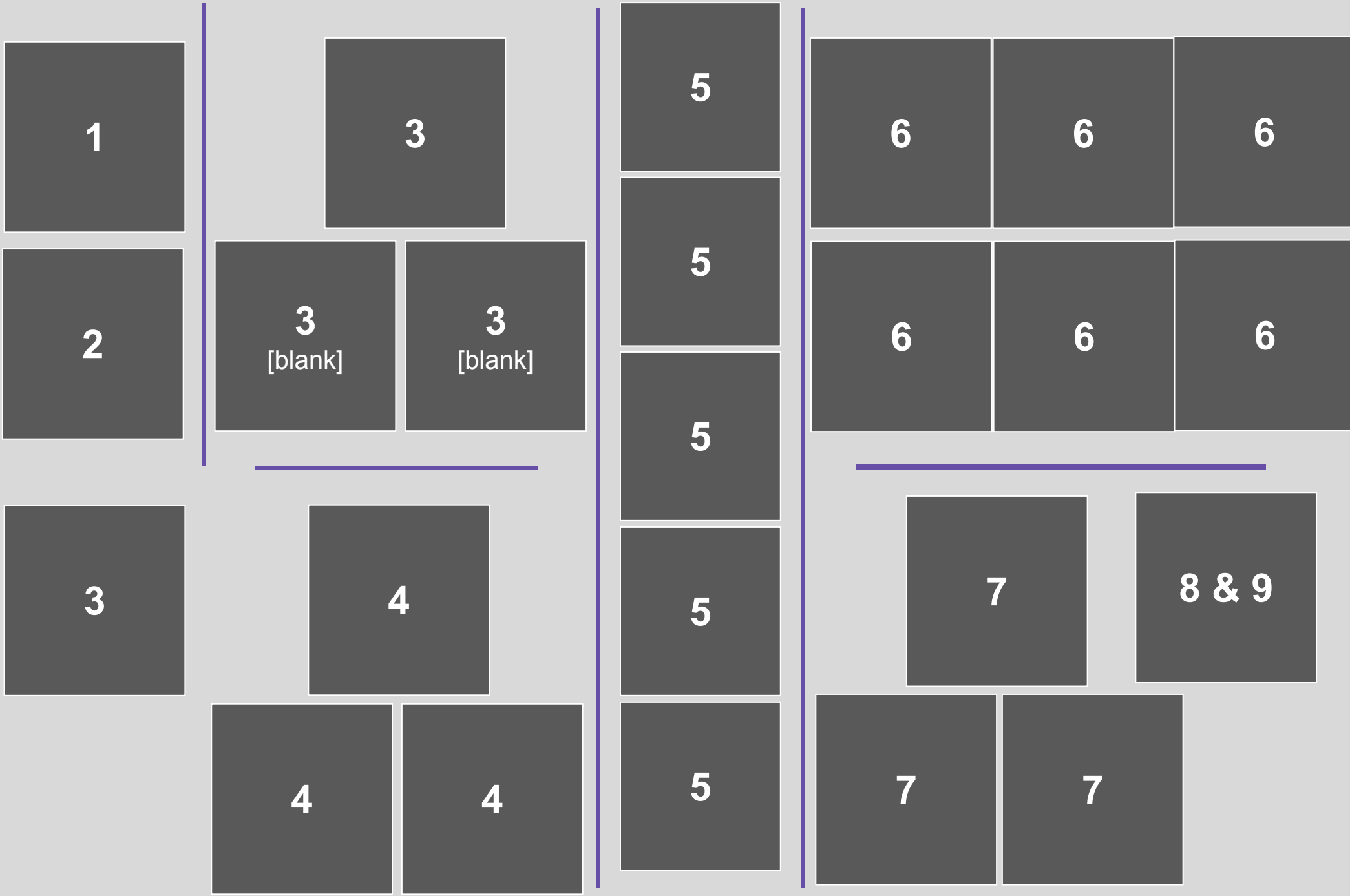
Other Materials:

- Scissors
- Masking Tape
- Tape
- Markers

icons: Flaticon.com

Poster Setup (by number)

Our Ideas about Remote Sensing Science



Poster Setup (Empty Example)

Our Ideas about Remote Sensing Science

Why is technology important?

Activity 1

What is the best landing site for a Mars Rover?

Activity 2

What are landforms and how are they formed?

Activity 3

How can landforms help us choose a landing site on Mars?

Activity 3

Gale Crater

Activity 3

Jezero Crater

Activity 3

What else do we need to know about the landforms or the rover?

Activity 4

Topography:

The shape of the land in an area.

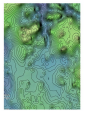
Topo: place

Graph: to write or draw

Activity 4

Topographic Maps:

Representation of the shape of land in an area.



Activity 4

How can maps help us understand a planet's landscape?

Activity 5

How can topographic maps help us choose a safe and interesting landing site on Mars?

Activity 5

LIDAR

Light Detection And Ranging

A technique uses lasers to measure distance.

Illustration of airplane using LiDAR

Activity 5

Gale Crater

Activity 3

Jezero Crater

Activity 3

Activity 5

How can measuring reflected light help us identify different materials?

Activity 6

What types of things is NASA interested in learning about Mars and why?

Activity 6

Minerals

Activity 6

Spectrum:

A range of colors- i.e.: the rainbow spectrum features a wide range of wavelengths.

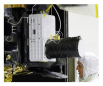
- Visible Spectrum- humans can see
- Electromagnetic spectrum- measuring lights color and its energy.

The spectrum of visible light

Activity 6

Spectrometer:

A technology that measures the amount of light reflected from an object at many different colors (wavelengths).



Activity 6

Activity 6

How can identifying minerals help us choose a landing site on Mars?

Ready SET Go 7

Which landing site on Mars do we recommend and why?

Activity 8 & 9

Gale Crater Minerals

Activity 7

Jezero Crater Minerals

Ready SET Go 7

Poster Setup (In-Use Example)

Our Ideas about Remote Sensing Science

Why is technology important?

-video games & simulation
-cellphones
-Google (email, docs, presentations)
-Radiation to treat cancer

Activity 1

What is the best landing site for a Mars Rover?

-To look for past liquid water

-What is the landscape like?

-What evidence of life is there?

Activity 2

How can landforms help us choose a landing site on Mars?

Activity 3

Gale Crater

- River valley
- Alluvial fan
- Layered rocks
- Sand dunes
- Craters

Activity 3

Jezero Crater

- Delta
- River valley
- Lava flow
- Crater rim
- Craters

Activity 3

What are landforms and how are they formed?

Sand dunes

Formed by old oceans & wind

San Francisco Peaks
Rock's basalt

Formed by volcanic activity

Grand Canyon

Formed by the river/water

Activity 3

What else do we need to know about the landforms at the rover?

-How big is the rover?
-What landing size is needed?
-What is the size of the landforms?

Activity 4

Topography:

The shape of the land in an area.

Topo: place

Graph: to write or draw

Activity 4

Topographic Maps:

Representation of the shape of land in an area.

Activity 4

How can maps help us understand a planets landscape?

-We can see how steep a landscape is.

-They show the shape of land in an area.

Activity 5

How can topographic maps help us choose a safe and interesting landing site on Mars?

Activity 5

LIDAR

Light Detection And Ranging

A technique uses lasers to measure

Gale Crater

Activity 3

Jezero Crater

Activity 3

They show us what the landscape looks like

LIDAR
Helps show us the depth and shape of the landscape

Activity 5

How can measuring reflected light help us identify different materials?

-Rocks and minerals present?

Activity 6

What types of things is NASA interested in learning about Mars and why?

Activity 6

A range of colors- i.e.: the rainbow spectrum features a wide range of wavelengths

- Visible Spectrum
- Electromagnetic

ring lights color and its

The spectrum of visible light

Activity 6

A spectrometer: A technology that measures the amount of light reflected from an object at many different colors (wavelengths).

Activity 6

Minerals

-Precious minerals
-Minerals occur naturally
-form crystals
-salt
-quarte
-diamonds

Activity 6

Different colors represent what the materials are.

Activity 6

How can identifying minerals help us choose a landing site on Mars?

-Minerals that form in water can tell us where water once was.

Ready SET Go 7

Which landing site on Mars do we recommend and why?

Activity 8 & 9

Gale Crater Minerals

-Olivine
-Nontronite (forms in water)
-Kieserite (forms in water)
-Gypsum (forms in water)

Activity 7

Jezero Crater Minerals

-Olivine
-Pyroxene
-Kaolinite(forms in water)

Ready SET Go 7

Remote Sensing Activities 1-9 Our Ideas Poster

Why is technology important?

What is the best landing site for a Mars Rover?

What are landforms and how are they formed?

Activity 3

How can landforms help us choose a landing site on Mars?

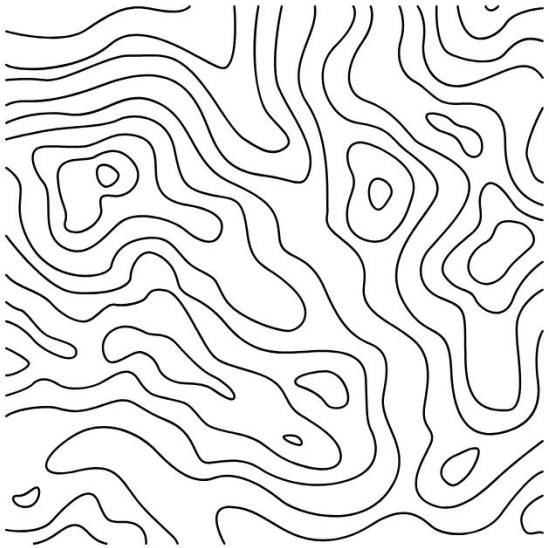
Jezero Crater

Gale Crater

What else do we need to know about the landforms or the rover?

Topography:

The shape of the land in an area.

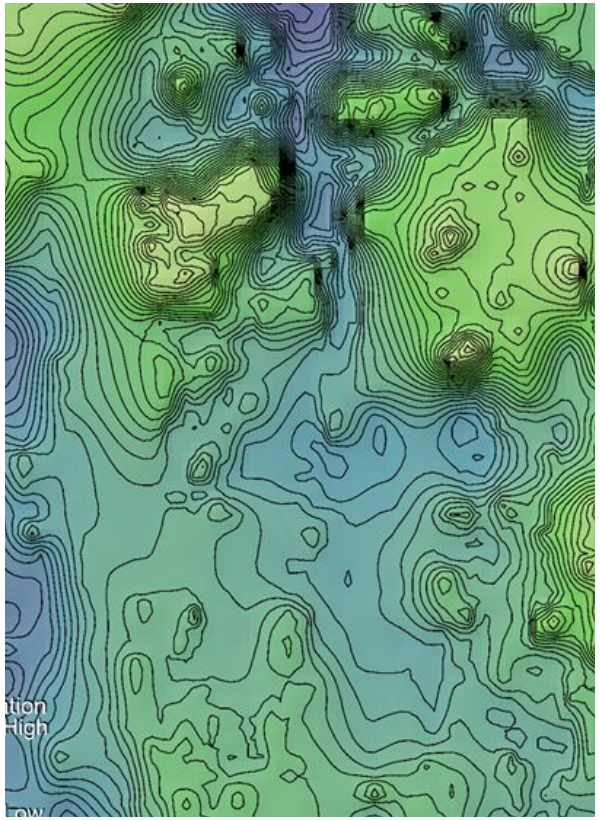


Topo: place

Graph: to write or draw

Topographic Maps:

Representation of the shape of land in an area.



How can maps help us understand a planet's landscape?

How can topographic maps help us choose a safe and interesting landing site on Mars?

Jezero Crater

Gale Crater

LIDAR

Light
Detection
And
Ranging

A technique uses lasers to measure distance.

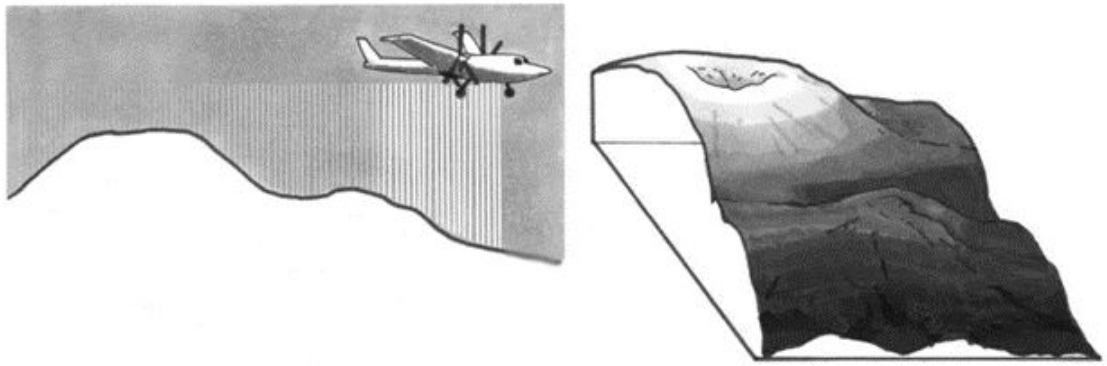


Illustration of airplane using LiDAR

Activity 5

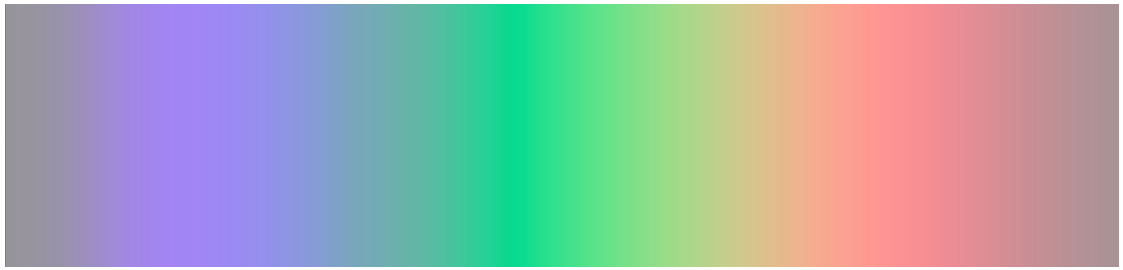
How can measuring reflected light help us identify different materials?

What types of things is NASA interested in learning about Mars and why?

Minerals

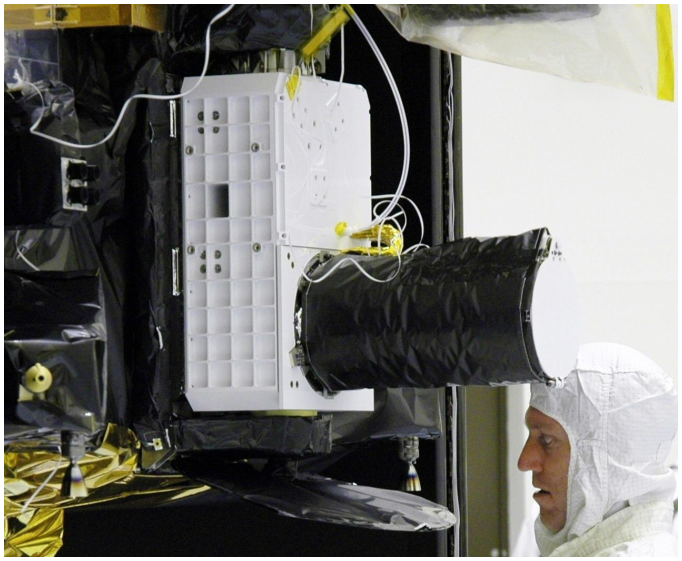
Spectrum:
A range of colors- i.e.: the rainbow spectrum features a wide range of wavelengths.

- Visible Spectrum- humans can see
- Electromagnetic spectrum- measuring lights color and its energy.



The spectrum of visible light

Spectrometer:
A technology that measures the amount of light reflected from an object at many different colors (wavelengths).



Activity 6

How can identifying minerals help us choose a landing site on Mars?

Jezero Crater Minerals

Gale Crater Minerals

Which landing site on Mars do we recommend and why?