Science & Engineering Remote Sensing Ready SET Go Our Ideas Poster

Prep & Setup Guide

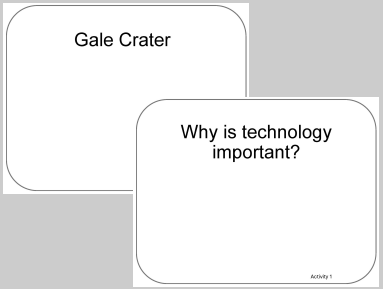
Poster Components

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

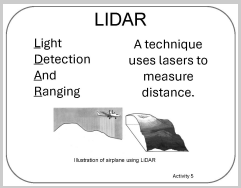
There are PDFs for:

- **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

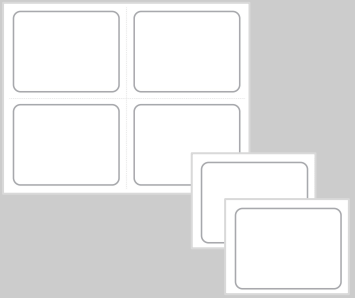


Term Cards



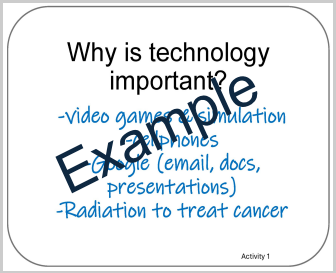
Term + icon

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.

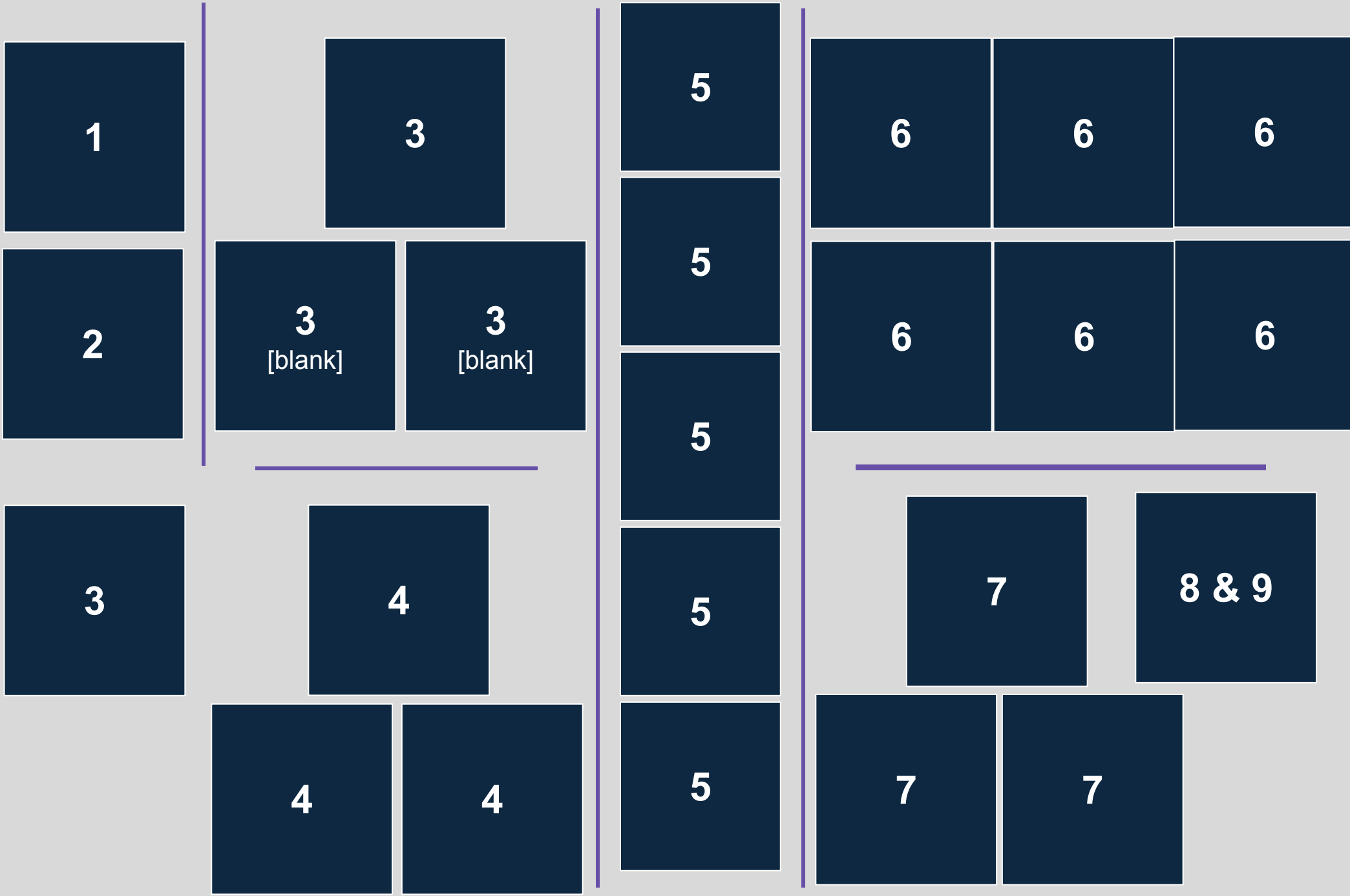
Other Materials:

- 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.

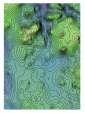
Topo: place

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.

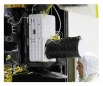
- Visible Spectrum- humans can see
- Electromagnetic spectrum- measuring lights color and its energy.

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 air, waves & wind

San Francisco Peaks — Formed by volcanic activity

Peak's Goodful

Grand Canyon — Formed by the river/water

Activity 3

What else do we need to know about the landforms for 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

Ga... rater

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?

...s 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

...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
-quartz
-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?

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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?

What are landforms and how are they formed?

Sand dunes

Formed by old oceans & wind

San Francisco Peaks

Dook'o'oosłiid

Formed by volcanic activity

Grand Canyon

Formed by the river/water

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

Jezero Crater

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

Gale Crater

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

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

-How big is the rover?
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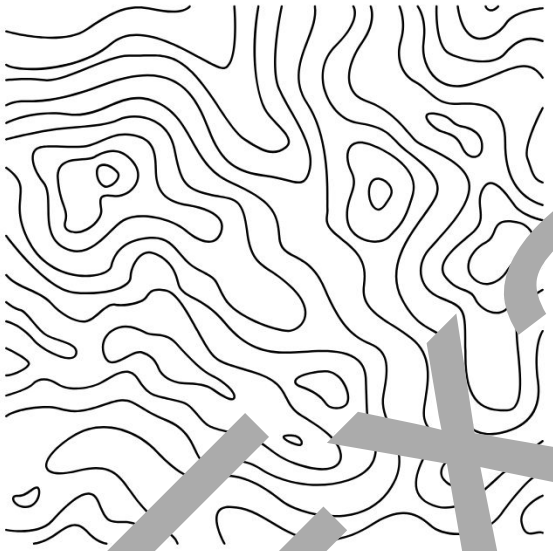

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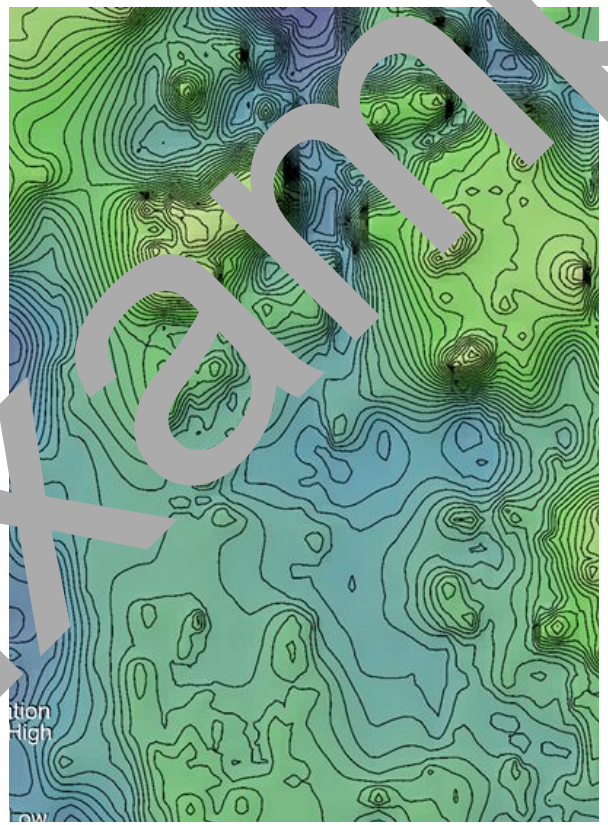

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Jezero Crater

Gale Crater

LIDAR

Light
Detection
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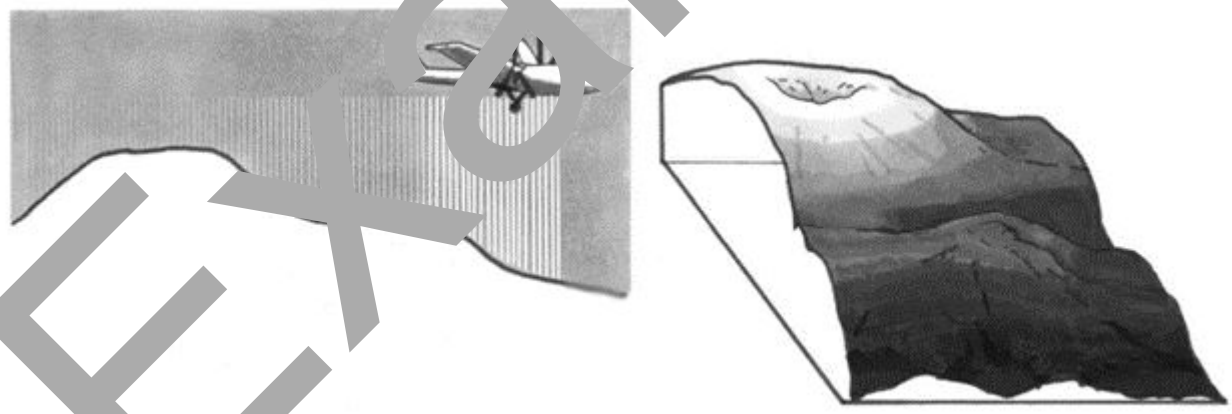

Illustration of airplane using LiDAR

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

They show us what the landscape looks like

LIDAR

Helps show us the depth and shape of the landscape

How can measuring reflected light help us identify different materials?

Rocks and minerals present?

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

Minerals

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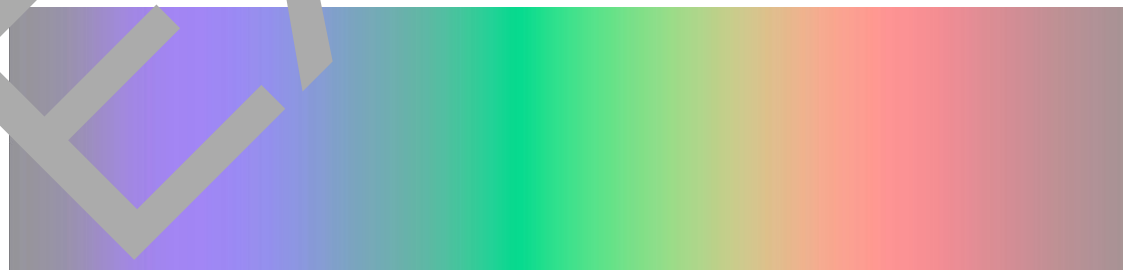

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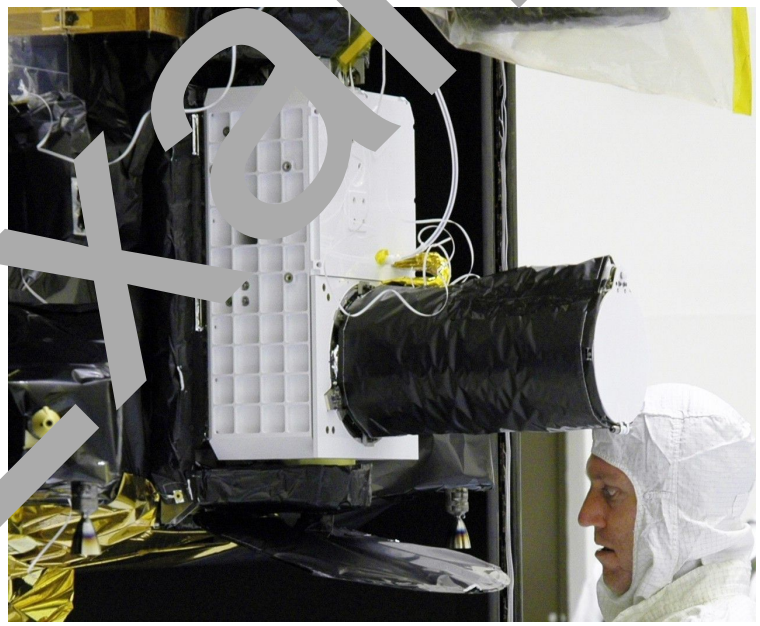

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