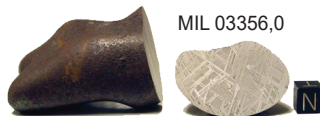


ANTARCTIC METEORITES

Collected during Antarctic Search for Meteorites (ANSMET)
Expeditions and curated at the Johnson Space Center in Houston, Texas

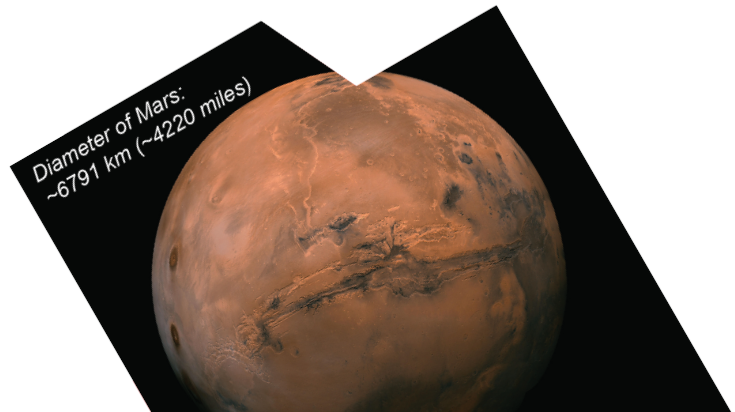
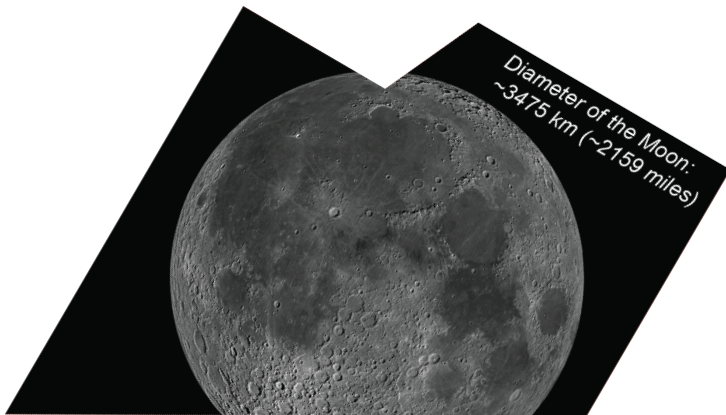
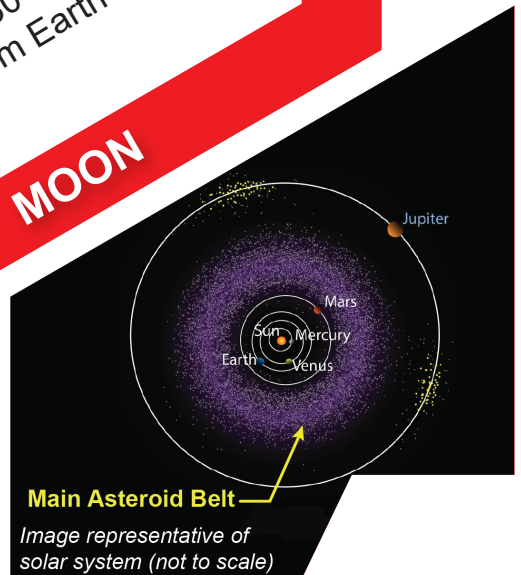
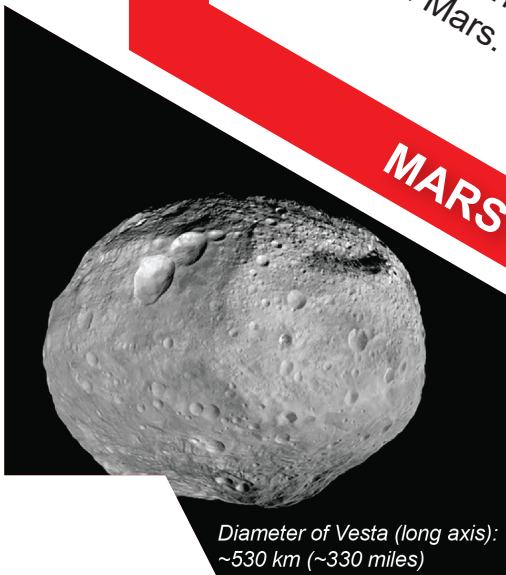
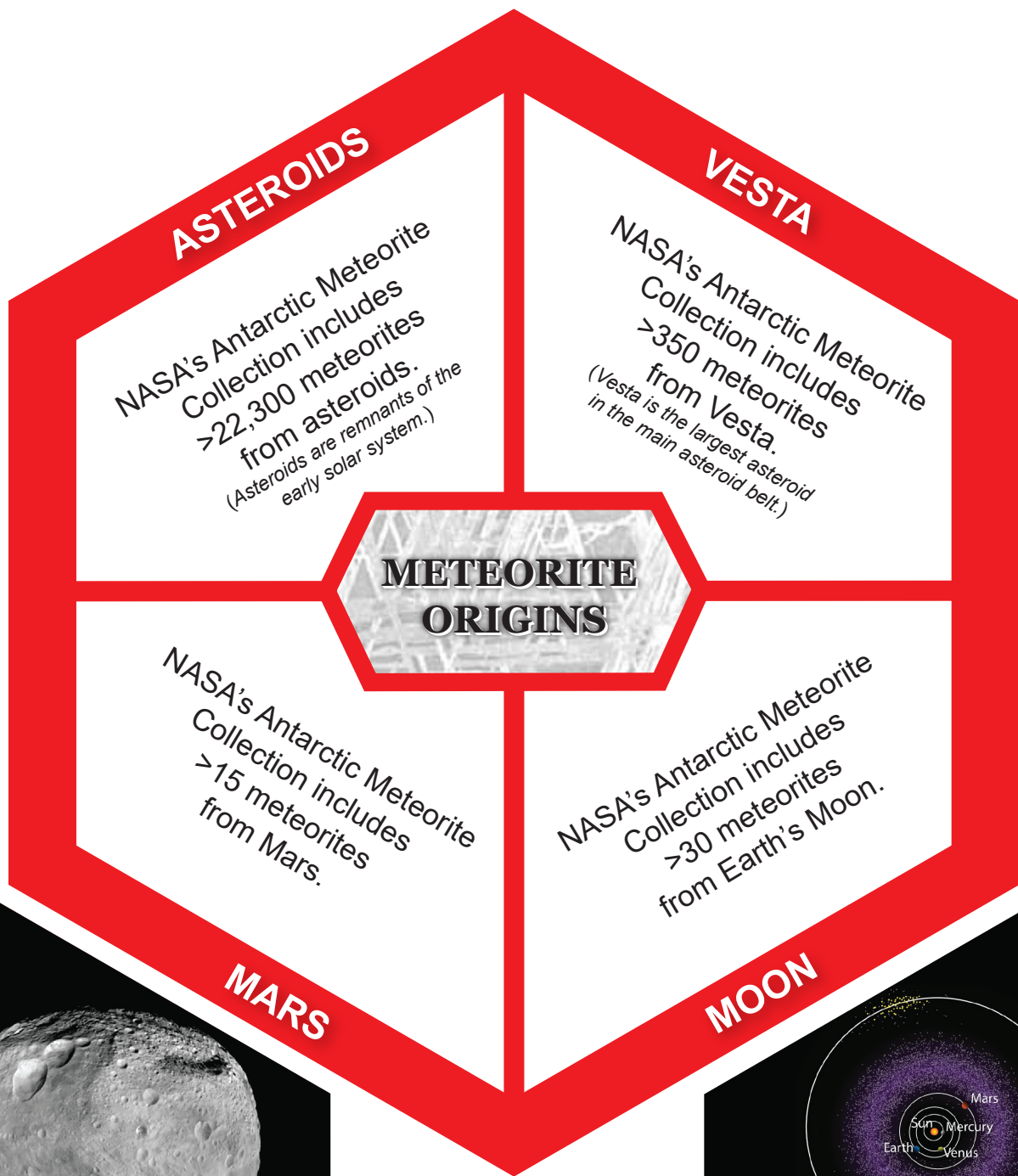


Meteorites are rocks from space that hold clues about our
solar system's origins and evolution.



MIL 03356,0

Developed by Astromaterials Research
and Exploration Science (ARES),
Jacobs/JETS at the NASA
Johnson Space
Center



WHERE THEY FALL

EVERYWHERE!
Some create impact craters
while others land on the
surface waiting to be found!

BEST PLACES TO FIND

DESERTS: HOT & FROZEN
Minimal vegetation and the
dark color of meteorites
make them easier to spot.

FINDING METEORITES

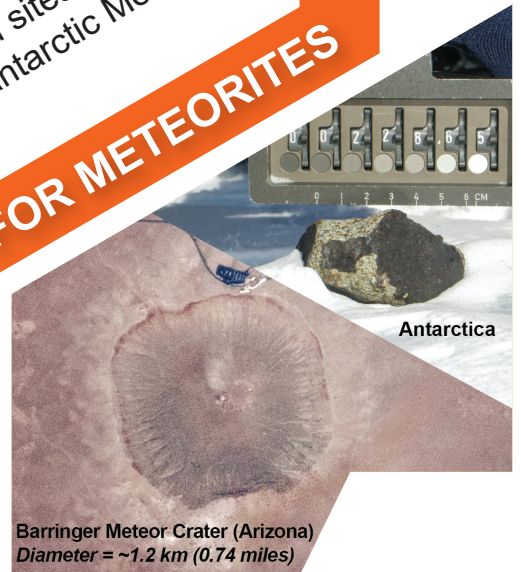
Teams spend ~6 weeks
at field sites in Antarctica
as part of the **Antarctic**
Search for **METEORITES**
(ANSMET) Program.

ANSMET teams travel
on snowmobiles
searching for meteorites
at field sites along the
Transantarctic Mountains.

ANTARCTIC EXPEDITIONS



SEARCH FOR METEORITES



Barringer Meteor Crater (Arizona)
Diameter = ~1.2 km (0.74 miles)



FROZEN CARGO

Collected samples are put in "ice chests" to keep them frozen in the field and as they travel to the lab.
(Antarctica to Houston, Texas)

STORAGE

Sealed bags containing samples are stored in freezers in the NASA Meteorite Lab until processed.
(Thawed, weighed, photographed, described, named, and chipped for further analysis.)

CURATING ANTARCTIC METEORITES

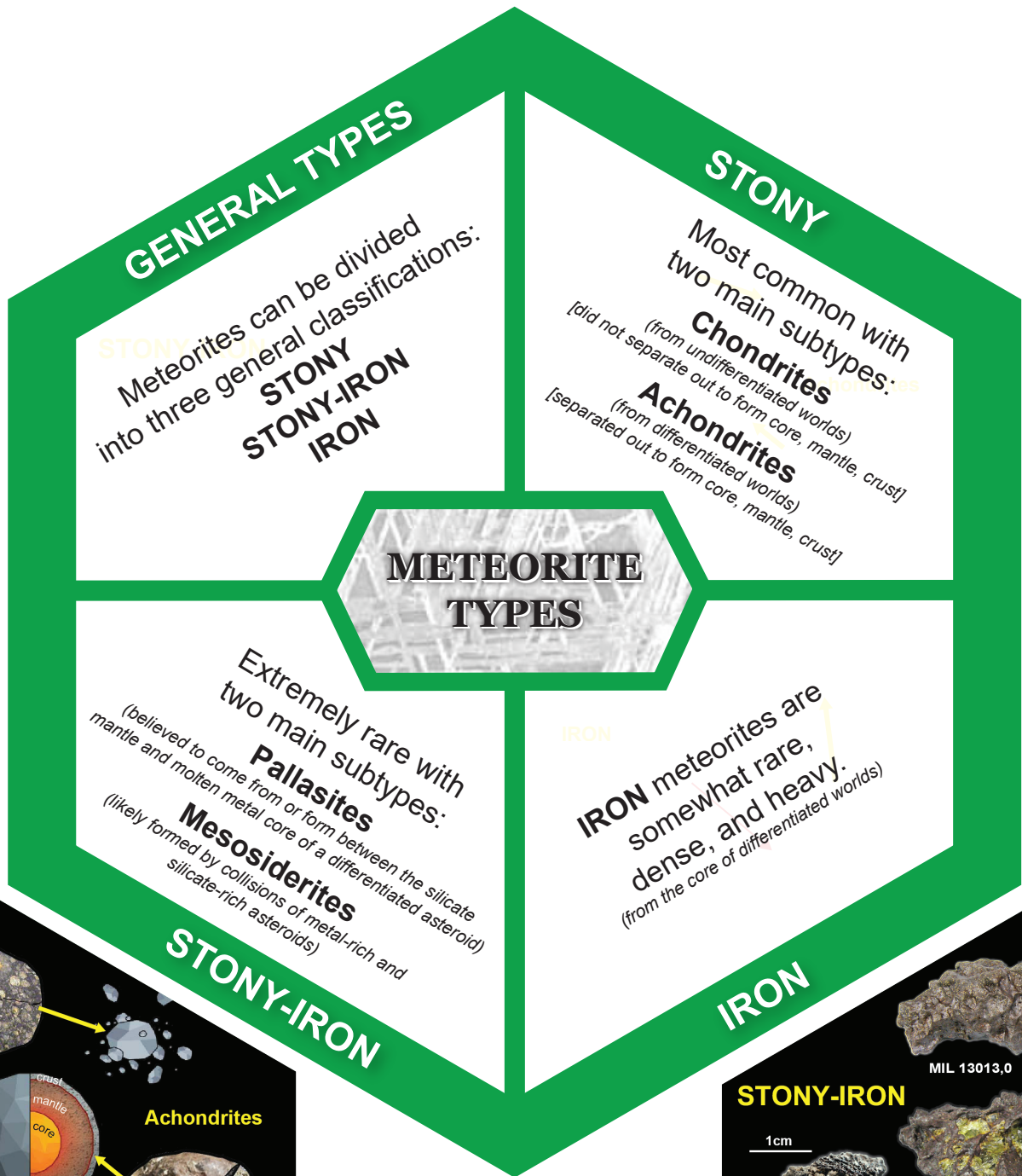
Samples are processed in a specialized clean lab before sending to scientists for research.

Decoding sample name:
• 3 letters = site found
• 1st 2 #'s = year found
(followed by assigned lab #)
• # = parent (,) or split #

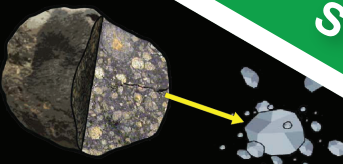
NASA'S METEORITE LAB

METEORITE NAME

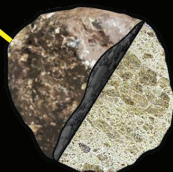
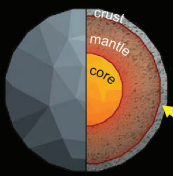




Chondrites



Achondrites

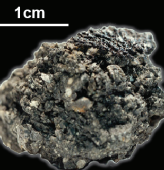


IRON



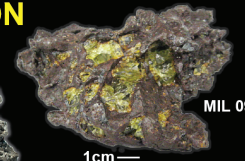
MIL 13013,0

STONY-IRON



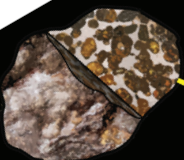
ALH 81003,0

STONY

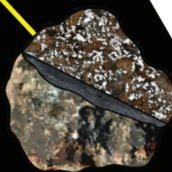
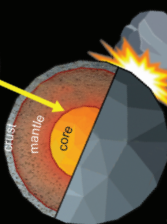


MIL 090029,0

Pallasite



Mesosiderite

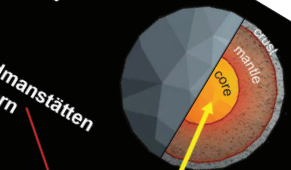


IRON



MIL 03356,0

Widmanstätten pattern



CHONDRULES

Round inclusions found in chondrites.
(Chondrules are ~4.56 billion years old; some of the oldest materials in our solar system!)

FUSION CRUST

Dark crust found on the exterior of many meteorites.
(Coating that forms from heat as they blaze through Earth's atmosphere.)

METEORITE FEATURES

Green colored crystals found typically in pallasites.
(The mantle of many rocky solar system worlds is olivine-rich.)

Thumbprint-like indentations found mostly on iron meteorites.
(These depressions can form as some space rocks blaze through Earth's atmosphere.)

OLIVINE CRYSTALS

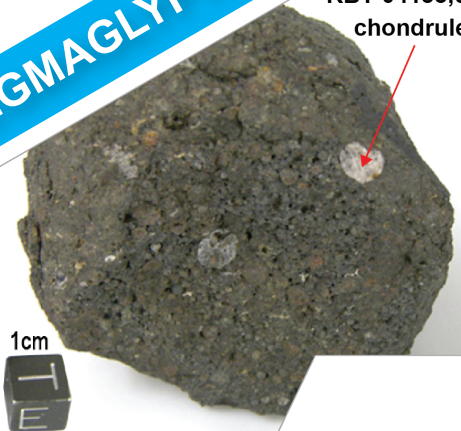
GRO 95530,0



fusion crust (black)

REGMAGLYPTS

RBT 04133,0
chondrule



MIL 090029,0



olivine crystals
(green)

regmaglypts
(indentations)



MARTIAN METEORITE

How do we know?
Gases trapped in inclusions within sample match gases detected in Mars' atmosphere.

LUNAR METEORITE

How do we know?
Composition closely matches samples collected during Apollo Missions to the Moon.

SLEUTHING (INVESTIGATING) ORIGINS

How do we know?
Dawn Mission data support decades of research that help confirm meteorite origins from Vesta.

Continue Exploring!
Meteorites hold clues about our solar system's origins and evolution! Explore NASA Antarctic meteorites in 3D!

VESTA METEORITE



ASTROMATERIALS 3D

