

Transmissions Specialist

Handout #1



Planet Team:

(Circle one)

Jupiter

Saturn

Uranus

Neptune

Pluto



Transmissions



At this moment, we are receiving faint radio messages from the lost ship. The messages, however, are jumbled. Mission Control needs your help to decode the messages.

Examine your team's Data Computer to get the messages

There is one message for each planet team.










The messages are about the ship's travels over the last five days from Monday to Friday. **The ship traveled from one planet to another once each day and never visited the same planet twice.** The messages are like clues. You will need to work with other Transmission Specialists from other teams to understand the clue.












Decoding the Messages

Handout #1 / Task Card #3

Use this to decode message #1:

	=	Monday
	=	Tuesday
	=	Jupiter
	=	Saturn
	=	Uranus
	=	Neptune
	=	Pluto
	=	Oberon
	=	Charon

	=	the ship
	=	planet
	=	largest
	=	blue
	=	sixth
	=	docked on
	=	near
	=	not near
	=	crashed



Planetary Facts

Handout #1 / Task Card #4

You may need these facts to understand your message:

	Jupiter	Saturn	Uranus	Neptune	Pluto
Order	Fifth	Sixth	Seventh	Eighth	Ninth
Appearance	Largest Has a big red spot	Has rings	Blue	Blue	Smallest
Rotation around the Sun:	12 Earth years	29.5 Earth years	84 Earth years	165 Earth years	248 Earth years
Size (diameter)	142,984 km	120,536 km	51,118 km	49,532 km	2274 km
Number of Moons	63	52	27	13	3
Major Moons	Io, Europa, Ganymede, Callisto	Rhea, Titan, Lapetus, Phoebe	Oberon, Titania, Ariel, Umbriel	Triton, Neried, Proteus	Charon, Hydra, Nix

Problem-Solving Chart

Handout #1 / Task Card #5

Using the message you decoded on the last Task Card, circle either “near” or “not near” for the correct day and planet. Only circle “maybe” when you can’t decide between two planets.

	Jupiter	Saturn	Uranus	Neptune	Pluto
Monday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Tuesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Wednesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Thursday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Friday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe



STOP - Report to the Main Wall Chart

Handout #1 / Task Card #6

Planet Team:

(Circle one)

Jupiter

Saturn

Uranus

Neptune

Pluto

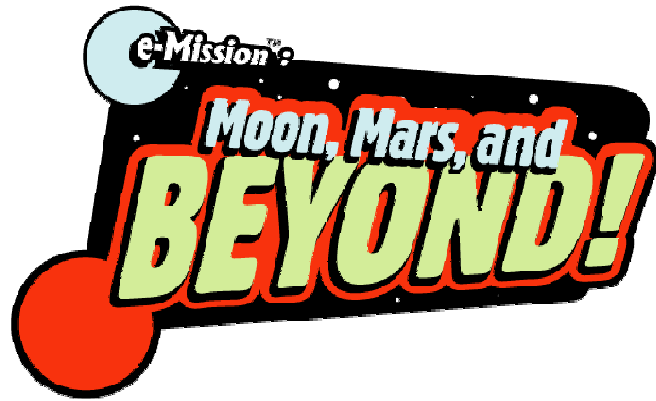
1. Stop here and go to the main chart on the wall.
2. Circle either “near,” “not near,” or “maybe” for the correct day and planet. Some other specialists’ clues may be similar to your clues. This is one way to double check that you are on the right track.
3. Discuss all the messages with other Transmissions Specialists and try to figure out where the ship was on Monday and Tuesday.



Do NOT go on until you are told to do so by Mission Control.

Transmissions Specialist

Handout #2



Planet Team:

Jupiter

Saturn

Uranus

Neptune

Pluto

(Circle one)



Decoding the Messages

Use this to decode message #2

	=	A		=	J		=	S
	=	B		=	K		=	T
	=	C		=	L		=	U
	=	D		=	M		=	V
	=	E		=	N		=	W
	=	F		=	O		=	X
	=	G		=	P		=	Y
	=	H		=	Q		=	Z
	=	I		=	R		=	,

Write your message here: _____

Planetary Facts

Handout #2/ Task Card #3

You may need these facts to understand your message:

	Jupiter	Saturn	Uranus	Neptune	Pluto
Order	Fifth	Sixth	Seventh	Eighth	Ninth
Appearance	Largest Has a big red spot	Has rings	Blue	Blue	Smallest
Rotation around the Sun:	12 Earth years	29.5 Earth years	84 Earth years	165 Earth years	248 Earth years
Size (diameter)	142,984 km	120,536 km	51,118 km	49,532 km	2274 km
Number of Moons	63	52	27	13	3
Major Moons	Io, Europa, Ganymede, Callisto	Rhea, Titan, Lapetus, Phoebe	Oberon, Titania, Ariel, Umbriel	Triton, Neried, Proteus	Charon, Hydra, Nix



Problem-Solving Chart

Handout #2/ Task Card #4

Using the message you decoded on the last Task Card, circle either “near” or “not near” for the correct day and planet. Only circle “maybe” when you can’t decide between two planets.

	Jupiter	Saturn	Uranus	Neptune	Pluto
Monday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Tuesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Wednesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Thursday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Friday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe

STOP - Report to the Main Wall Chart

Handout #2/ Task Card #5

Planet Team:

(Circle one)

Jupiter

Saturn

Uranus

Neptune

Pluto

1. Stop here and go to the main chart on the wall.
2. Circle either “near,” “not near,” or “maybe” for the correct day and planet.
3. Discuss all the messages with other Transmissions Specialists and try to figure out where the ship was on Tuesday and Wednesday.



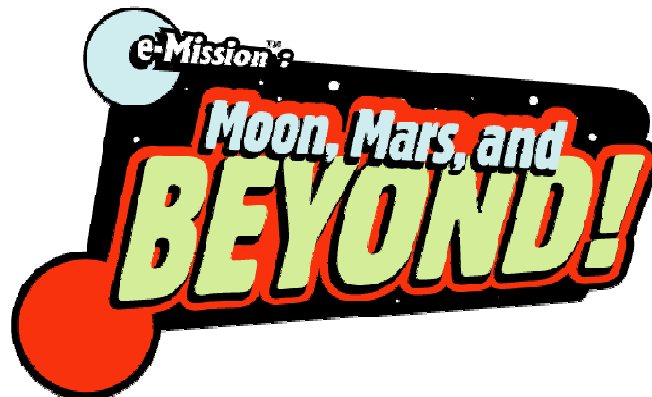
Do NOT go on until you are told to do so by Mission Control.



Transmissions Specialist

Handout #3

Handout #3/ Task Card #1



Planet Team:

(Circle one)

Jupiter

Saturn

Uranus

Neptune

Pluto

Message #3

The next message you receive can be decoded using a little math.

For example, if the message is : “The ship was near Pluto”
It might be encoded as, “(10 + 2) was near (8 + 1)”

To Solve:

1) Write the answers above the equations: $\begin{matrix} 12 & & 9 \\ (10 + 2) & \text{was near} & (8 + 1) \end{matrix}$

2) Use the decoding key on the next Task Card to figure out that 12 equals “the ship” and 9 equals “Pluto”

3) Write the words near the answers: $\begin{matrix} 12 = \text{the ship} & 9 = \text{Pluto} \\ (10 + 2) & \text{was near} & (8 + 1) \end{matrix}$

And you get, “The ship was near Pluto” as your message.



Planetary Facts

You may need these facts to understand your message:

	Jupiter	Saturn	Uranus	Neptune	Pluto
Order	Fifth	Sixth	Seventh	Eighth	Ninth
Appearance	Largest Has a big red spot	Has rings	Blue	Blue	Smallest
Rotation around the Sun:	12 Earth years	29.5 Earth years	84 Earth years	165 Earth years	248 Earth years
Size (diameter)	142,984 km	120,536 km	51,118 km	49,532 km	2274 km
Number of Moons	63	52	27	13	3
Major Moons	Io, Europa, Ganymede, Callisto	Rhea, Titan, Lapetus, Phoebe	Oberon, Titania, Ariel, Umbriel	Triton, Neried, Proteus	Charon, Hydra, Nix

Decoding the Messages

Write your equation here: _____

_____.

Use this to decode message #3:

1	=	Tuesday
2	=	Wednesday
3	=	Thursday
4	=	Friday
5	=	Jupiter
6	=	Saturn
7	=	Uranus
8	=	Neptune
9	=	Pluto
10	=	The Sun

11	=	Rhea
12	=	The Ship
13	=	Planet
14	=	Big Red Spot
15	=	Rings
16	=	Smallest
17	=	Blue
18	=	Fifth
19	=	Near
20	=	Not Near

Write your message here: _____

_____.



Problem-Solving Chart

Using the message you decoded on the last Task Card, circle either “near” or “not near” for the correct day and planet. Only circle “maybe” when you can’t decide between two planets.

	Jupiter	Saturn	Uranus	Neptune	Pluto
Monday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Tuesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Wednesday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Thursday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe
Friday	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe	Near Not Near Maybe

STOP - Report to the Main Wall Chart

Handout #3/ Task Card #6

Planet Team:

(Circle one)

Jupiter

Saturn

Uranus

Neptune

Pluto

4. Stop here and go to the main chart on the wall.
5. Circle either “near,” “not near,” or “maybe” for the correct day and planet.
6. Discuss all the messages with other Transmissions Specialists and try to figure out where the ship was on Wednesday and Thursday.



**Do NOT go on until you are told
to do so by Mission Control.**

