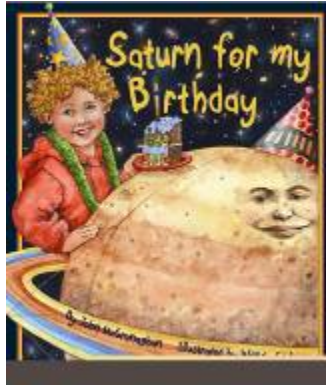


Teaching Activities

for



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<ul style="list-style-type: none">• Questions to ask before reading the book• What do children already know? With charts• After reading the book – writing prompts & thinking it through• Re-read the book looking for more information• Comprehension questions• Fun things to look for• What do children already know activity conclusion	
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Teaching Activities are intended for use at home, in the classroom, and during story-times.

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Questions to ask children before reading the book

- What do you think the book is about by looking at the cover (or one or two of the inside illustrations)? *Sometimes it is easy to tell from the cover, other times it is not.*
- What does the cover illustration show?
- Does the title tell you what the book is about?
- Who wrote the book?
- Who illustrated the book?

What do children already know?

- Young children are naturally inquisitive and are sponges for information. The whole purpose of this activity is to help children verify the information they know (or think they know) and to get them thinking “beyond the box” about a particular subject—in this case, the planet Saturn and its moons.
- The children should write down their “concepts” (or adults for them if the children are not yet writing) on the provided chart found on the next page.
- Use the questions to get children thinking about what they already know. Feel free to add more questions or thoughts according to the child(ren) involved.

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What do children already know—activity chart

Ask children to write down what they think they know before reading the book. If the information is verified while reading the book, they check “yes.” If the information is wrong, they mark “no” and cross it off, then write the correct information. Have the children note how the information was verified.

<u>What do I think I know?</u>	<u>Yes</u>	<u>No</u>	<u>Verified</u>
What is Saturn?			Text Illustration Info in FCM Other
Where is it?			Text Illustration Info in FCM Other
What do you know about Saturn’s rings?			Text Illustration Info in FCM Other
What do you know about Saturn’s moons? (How many, water?, etc.)			Text Illustration Info in FCM Other
Do you think Saturn would fit in a house? Why or why not?			Text Illustration Info in FCM Other
Can you see Saturn without a telescope?			Text Illustration Info in FCM Other

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Use this chart for any other thoughts the children might have.

<u>What do I think I know?</u>	<u>Yes</u>	<u>No</u>	<u>Verified</u>
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other

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After reading the book – writing prompts & thinking it through

- Did the cover “tell” you what the book was about?
- Can you think of another title for the book?
- Did the illustrator include anything in the pictures that were not in the story or are there things hidden in the art?
- Do you think someone could really get a planet or moons for their birthday?
- The author used very specific words for some things. Why do you think the teacher’s name was Mrs. Cassini? Why do you think he placed some of the moons where he did:
 - Janus over the door
 - Pandora next to the toy box
 - Calypso by the read
 - Atlas next to the globe
 - Mimas by the rock collection
- Write a different ending to the story

Re-read the book looking for more information

Go back and re-read the book studying each page carefully.

- What facts are mentioned in the text? (make a list)
- Pause during second readings and ask the child(ren) if they remember what happens next.

Comprehension Questions

- Why didn’t the dad want Jeffrey to ask for a pet?
- What was the dad’s reaction when Jeffrey said he wanted Saturn for his birthday?
- What were some of the ways that Jeffrey said he would take care of Saturn?
- What was Jeffrey going to do to share Saturn’s rings?
- Why can’t Jeffrey get Saturn for his birthday?
- What does Jeffrey really want for his birthday?

Fun things to look for in the art

- What are some of the different animals you see in the illustrations?
- What hints do you see that Jeffrey likes things from outer space?

What do children already know—activity conclusion

- Do the children have any more questions about Saturn? If so, write them down on the chart.
- Identify whether the information was verified and how.
- If the concept is correct, make a note of how the information was confirmed (illustration, in text, or the “For Creative Minds” section)
- If the concept was not correct, what IS the correct information – with confirmation notes as above.
- If the concept was neither confirmed nor denied, look the information up in a reliable source and note where it was confirmed.

Wrap it all up by adding notes with new information that the children learned either through the reading or the research while looking up something else.

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Language Arts

Developing a vocabulary “word wall”

If using the book as a way to introduce a topic or subject, this is also a great way to introduce subject-related vocabulary words. If you don't have the time (or the inclination) to develop the “word wall” by playing the Vocabulary Game (below), we have provided a vocabulary list for you.

Vocabulary words for the “word wall” may be written on index cards, on a poster board, or on a chalk board. If writing on poster board or chalk board, you might want to sort into nouns, verbs, etc. right away to save a step later. Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently.

Vocabulary game

This activity is designed to get children thinking of vocabulary words which will then be used as the beginning vocabulary list for a science lesson.

Select an illustration and give children a specific length of time (five minutes?) to write down all the words they children can think of about the particular subject. *If you do not have classroom sets of the book, it is helpful to project an illustration on a white board. Check our website (www.ArbordalePublishing.com) for book “previews” that may be used for this purpose.*

The children's word list should include anything and everything that comes to mind, including nouns, verbs, and adjectives. At the end of the time period, have each child take turns reading a word from his/her list. If anyone else has the word, the reader does nothing. If however, the reader is the only one with the word, he/she should circle it. While reading the list, one person should write the word on a flashcard or large index card and post it on a bulletin board or wall.

At the end, the child with the most words circled “wins.” And you have a start to your science vocabulary list. *Note if a child uses an incorrect word, this is a good time to explain the proper word or the proper usage.*

Putting it all together

The following activities may be done all together or over a period of several days.

- Continue to add words to the vocabulary list as children think of them.
- Sort vocabulary words into nouns, verbs, adjectives, etc. and write what they are on the backs of the cards. When the cards are turned over, all you will see is “noun,” etc. *(These can then be used to create silly sentences, below.)*
- Now sort the vocabulary words into more specific categories. For example, nouns can be divided into plants, animals, rocks, minerals, etc. They can be divided into living/non-living, or into habitat-related words.
- Have children create sentences using their vocabulary words. Each sentence could be written on a separate slip of paper.
- Have children (individually or in small groups) sort and put sentences into informative paragraphs or a story.
- Edit and re-write paragraphs into one informative paper or a story.

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Saturn for My Birthday

Suggested vocabulary list

nouns

Atlas
axis
Calypso
Cassini
Earth
gravity
ice
Janus
Jupiter
Mars
Mercury
Mimas
moon(s)
Neptune
Pandora
planets
rings
rock
Saturn
Solar System
Sun
Tethys
Titan
Uranus
Venus

verbs

float
melt
reflect
revolve
rotate

adjectives

47
cold
millions
nine
old
yellow

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Saturn for My Birthday

Silly sentence structure activity

This is a fun activity that develops both an understanding of sentence structure and the science subject. Use words from the “word wall” to fill in the blanks. After completing silly sentences for fun, have children try to fill in the proper words by looking for the information in the book.

Saturn is the 6th _____ from the sun in our solar system.
noun

It takes Saturn 10,759 Earth days to _____ around the sun.
verb

_____ was a 17th century astronomer who discovered
noun
four of Saturn’s _____s and a space between two of
noun
its rings. The Cassini spacecraft was named for him.

Saturn is _____ when viewed from space.
adjective

It is less dense than water so it could _____.
verb

It has _____ moons and scientists keep finding more.
adjective

The _____s are not solid but are floating piece of ice
noun
and _____ held together by gravity.
noun

The ice won’t _____ because it is so cold.
verb

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Saturn for My Birthday

Sequence sentence strips

Preparation: Cut into sentence strips, laminate if desired, and place in a "center." Have children put the events in order. Children may work alone or in small groups. Cards are in order but should be mixed up when cut apart.

----- ✂ -----
Jeffrey announced that he wants the planet Saturn for his birthday!

----- ✂ -----
Dad was so surprised that milk squirted out his nose.

----- ✂ -----
Jeffrey imagines watching TV with Saturn.

----- ✂ -----
He imagines taking a bath with Saturn.

----- ✂ -----
He pictures using the moons as nightlights.

----- ✂ -----
He shares the rings with friends and his teacher, Mrs. Cassini.



**Dad said that Jeffrey couldn't have Saturn
for his birthday because it's too big.**



Even the moons are too big.



**Jeffrey suggests a puppy instead and says he'll
call the puppy "Saturn."**



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Saturn for My Birthday

Word search

Find the hidden words. Even non-reading children can try to match letters to letters to find the words! Easy – words go up to down or left to right.

For older children, identify the coordinates of the first letter in each word (number, letter).

	A	B	C	D	E	F	G	H	I	J
1	B	E	A	R	T	H	G	L	O	W
2	A	Y	N	R	I	N	G	S	U	N
3	C	B	I	R	T	H	D	A	Y	P
4	A	E	P	L	A	N	E	T	X	U
5	S	H	A	P	N	O	M	U	D	P
6	S	A	P	A	N	D	O	R	A	P
7	I	R	O	C	K	S	O	N	T	Y
8	N	I	C	O	S	O	N	A	L	T
9	I	C	A	L	Y	P	S	O	A	E
10	N	E	X	D	E	N	S	E	S	A

___, ___ SATURN	___, ___ SUN	___, ___ RINGS
___, ___ PLANET	___, ___ TITAN	___, ___ MOONS
___, ___ CASSINI	___, ___ CALYPSO	___, ___ ATLAS
___, ___ PANDORA	___, ___ COLD	___, ___ ICE
___, ___ EARTH	___, ___ DENSE	___, ___ ROCKS
___, ___ BIRTHDAY	___, ___ PUPPY	___, ___ GLOW

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Science Saturn's Moons

There are currently 60 moons for Saturn that have been discovered. Of those, 52 have names. <http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=35229>. NASA shares the following information on how the moons are named <http://saturn.jpl.nasa.gov/science/moons/index.cfm>)

"How do moons get their exotic names? Who makes the final decision? For practical reasons, a new moon is given a working title that astronomers use to identify it while waiting for the official name.

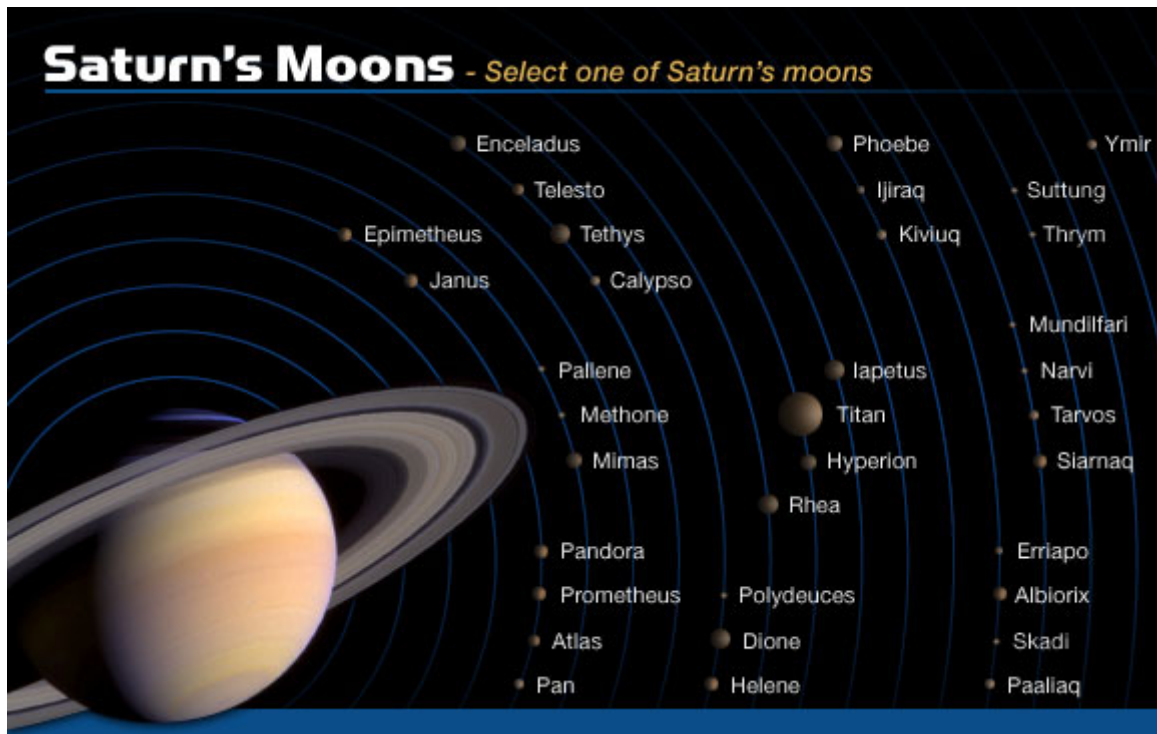
This temporary name usually consists of the year of discovery and a number indicating the order of discovery in that year. In the case of Saturn's moons, these provisory names follow the format S/2005-S1, S/2005-S2 etc. Once the existence of the moon is confirmed and its orbit determined, the moon is given a final name by the International Astronomical Union, the organization that since 1919 assumed this task.

While anybody can submit suggestions, the final decision is made by a committee within the organization called the Central Bureau for Astronomical Telegrams.

Names usually come from characters in Greek and Roman mythology. In the case of Saturn, moons are named after Saturn's brothers, the Titans, and Saturn's sisters, the Titanesses. These were mythological giants who were believed to rule in the heavens before Jupiter conquered them. So, 17 of the first discovered moons of Saturn bear those names. Titan was given its name because the moon is so much larger than the others."

If you were to name the moons with numbers, what would you name them?

The following diagram comes from: <http://saturn.jpl.nasa.gov/science/moons/index.cfm>



On the following pages, you will find a listing of Saturn's moons (as of July, 2007). Information is provided in the following format:

Moon name or number
number in order of discovery
distance from the center of Saturn in km

Cut out the "cards" and put in number order from the distance from the center of Saturn. Determine the equivalent number for the Roman numeral and put cards in order of discovery.

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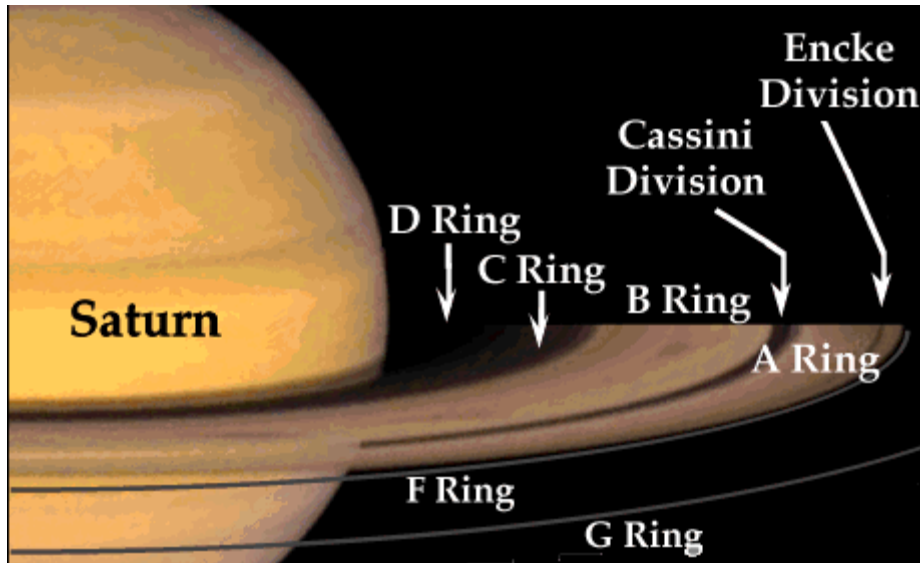
Aegir XXXVI 20 735 000	Albiorix XXVI 16 390 000	Atlas XV 137 670
Bebhionn n/a 17 119 000	Bergelmir XXXVIII 18 750 000	Bestla XXXIX 20 129 000
Calypso XIV 294 660	Daphnis XXXV 136 500	Dione IV 377 400
Enceladus II 238 020	Epimetheus XI 151 422	Erriapo XXVIII 16 950 000
Farbauti XL 20 390 000	Fenrir XLI 22 453 000	Fornjot XLII 25 108 000

Hati XLIII 19 856 000	Helene XII 377 400	Hyperion VII 1 481 100
Hyrokkin XLIV 18 437 000	Iapetus VIII 3 561 300	Ijiraq XXII 11 440 000
Janus X 151 472	Kari XLV 22 118 000	Kiviuq XXIV 11 370 000
Loge XLVI 23 065 000	Methone XXXII 194 000	Mimas I 185 520
Mundilfari XXV 18 710 000	Narvi XXXI 18 720 000	Paaliaq XX 15 200 000

Pallene XXXIII 211 000	Pan XVIII 133 583	Pandora XVII 141 700
Phoebe IX 12 952 000	Polydeuces XXXIV 377 400	Prometheus XVI 139 353
Rhea V 527 040	S/2004 S07 TBD 19 800 000	S/2004 S12 TBD 19 650 000
S/2004 S13 TBD 18 450 000	S/2004 S17 TBD 18 600 000	S/2006 S1 TBD 18 981 135
S/2006 S3 TBD 21 132 000	S/2006 S4 TBD 18 105 000	S/2006 S6 TBD 18 600 000

S/2007 S1 TBD 17 920 000	S/2007 S2 TBD 16 560 000	S/2007 S3 TBD 20 518 500
S/2007 S4 TBD 197 700	Siarnaq XXIX 17 530 000	Skathi XXVII 15 650 000
Skoll XLVII 17 665 000	Surtur XLVIII 22 707 000	Suttungr XXIII 19 459 000
Tarvos XXI 17 983 000	Telesto XIII 294 660	Tethys III 294 660
Thrymr XXX 20 474 000	Titan VI 1 221 830	Ymir XIX 23 040 000

Saturn's Rings



from: http://science.nasa.gov/headlines/y2002/images/rings/ringnames_big.gif



from: <http://solarsystem.nasa.gov/planets/profile.cfm?Object=Saturn&Display=Rings>

First seen with his newly-made telescope in 1610, Galileo, was the first to see Saturn's rings. These rings make it a unique planet in our night sky. Scientists are still studying the rings and it seems as though the more they learn, the more questions they have. The Cassini-Huygens mission arrived at Saturn on June 30, 2004 for what was to be a

four-year study of the planet. The mission has recently been extended for another two years. Follow and learn more about the mission by going to some of these websites and using some of their incredible teaching activities and lesson plans:

<http://saturn.jpl.nasa.gov/home/index.cfm>

http://www.planetary.org/explore/topics/cassini_huygens/

<http://photojournal.jpl.nasa.gov/targetFamily/Saturn>

<http://sci.esa.int/science-e/www/area/index.cfm?fareaid=12>

Saturn's rings are made from a mix of ice and rock mixed together. However, there are multiple rings, not just one. The rings are named with letters of the alphabet according to the order in which they were discovered. There are gaps or divisions between the rings.

Imagine that you are a scientist studying Saturn's rings. What are some questions that you might have about the rings? Here are some to get you started.

How do you think the rings stay together?

Do any of the moons have rings?

Are the rings perfect circles?

How thin or thick are the rings?

What makes the gaps or the divisions between the rings?

What color are the rings?

Once you have your questions, see if you can come up with a potential answer. Check some of the websites above to see if scientists know or are studying your questions.

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Saturn for My Birthday

Science journal

Have children draw a picture to define the vocabulary word or concept.

Planets
Rings
Moons
diameter
Cassini
float

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Saturn for My Birthday

Math—Make your own Saturn calendars

	Earth	Saturn
Planet rotates on its axis (hours/day)	24	10 hrs. 39 minutes
Planet rotates around the sun (days/year)	365	10,759

There have been several calendars used throughout history. We currently use a Gregorian calendar with 365 days a year (with a leap year every four years); 12 months, 7-day weeks, and 24 hours a day. However, the ancient Egyptians and Chinese both had ten-day weeks. The Ancient Romans initially only had ten months. The Ancient Mayans used pyramids for calendars with four sides “stairs” of 91 days and a platform on top to equal 365 days in a year. Using the information in the above chart, make your own Saturn calendar.

According to infoplease, (<http://www.infoplease.com/ipa/A0002065.html>) the days of the week come from:

Latin	Old English	English	German	French	Italian	Spanish	Planet
Dies Solis	Sunnandaeg	Sunday	Sonntag	dimanche	domenica	domingo	Sun
Dies Lunae	Monandaeg	Monday	Montag	lundi	lunedì	lunes	Moon
Dies Martis	Tiwesdaeg	Tuesday	Dienstag	mardi	martedì	martes	Mars
Dies Mercurii	Wodnesdaeg	Wednesday	Mittwoch	mercredi	mercoledì	miércoles	Mercury
Dies Jovis	Thunresdaeg	Thursday	Donnerstag	jeudi	giovedì	jueves	Jupiter
Dies Veneris	Frigedaeg	Friday	Freitag	vendredi	venerdì	viernes	Venus
Dies Saturni	Saeternesdaeg	Saturday	Samstag	samedi	sabato	sábado	Saturn

NOTE: The seven-day week originated in ancient Mesopotamia and became part of the Roman calendar in A.D. 321. The names of the days are based on the seven celestial bodies (the Sun, the Moon, Mars, Mercury, Jupiter, Venus, and Saturn), believed at that

time to revolve around Earth and influence its events. Most of Western Europe adopted the Roman nomenclature. The Germanic languages substituted Germanic equivalents for the names of four of the Roman gods: Tiw, the god of war, replaced Mars; Woden, the god of wisdom, replaced Mercury; Thor, the god of thunder, replaced Jupiter; and Frigg, the goddess of love, replaced Venus.

We use month names that come from the Ancient Romans. Before we adopted the current Gregorian calendar, the Ancient Roman calendar started with the month of March. That's why the months of September through December have number roots that start with March as month number one:

- January: named after Janus, the god of doors and gates
 - February: named after Februalia, a time of purification
 - March: named after Mars, the god of war
 - April: from *aperire*, Latin for "to open" (buds) or for *Aphrodite*
 - May: probably named after Maia, the goddess of growth of plants
 - June: probably named after *Junius*, Latin for the goddess Juno
 - July: named after Julius Caesar in 44 B.C.
 - August: named after Augustus Caesar in 8 B.C.
 - September: from *septem*, Latin for "seven"
 - October: from *octo*, Latin for "eight"
 - November: from *novem*, Latin for "nine"
 - December: from *decem*, Latin for "ten"
-
- How many hours in your Saturn day? _____
 - How many days in your Saturn year? _____
 - How many months would there be? _____
 - How many days in your Saturn month? _____
 - How many weeks in a month? _____

What will you name the days of your Saturn week?

What are the names of your Saturn months?

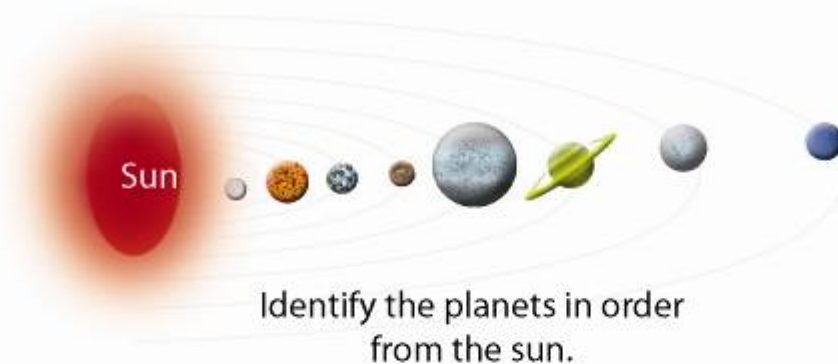
We have holidays to celebrate famous people or discoverers. What holidays could you have on your Saturn calendar?

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Saturn for My Birthday

Geography

Solar System Map



Earth
Mars
Neptune
Uranus

Jupiter
Mercury
Saturn
Venus

1.  _____

2.  _____

3.  _____

4.  _____

5.  _____

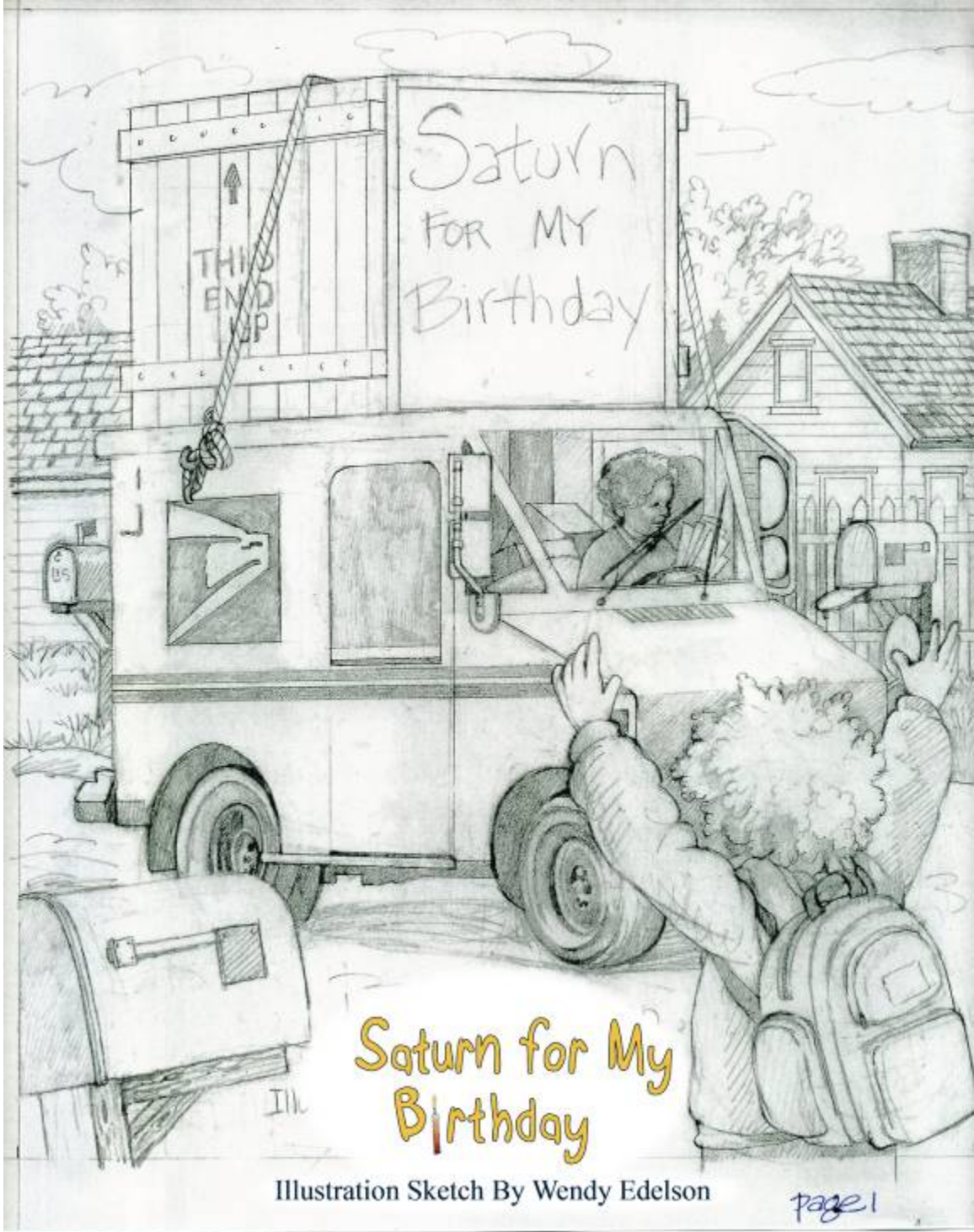
6.  _____

7.  _____

8.  _____

Answers: 1. Mercury, 2. Venus, 3. Earth, 4. Mars, 5. Jupiter, 6. Saturn, 7. Uranus, 8. Neptune

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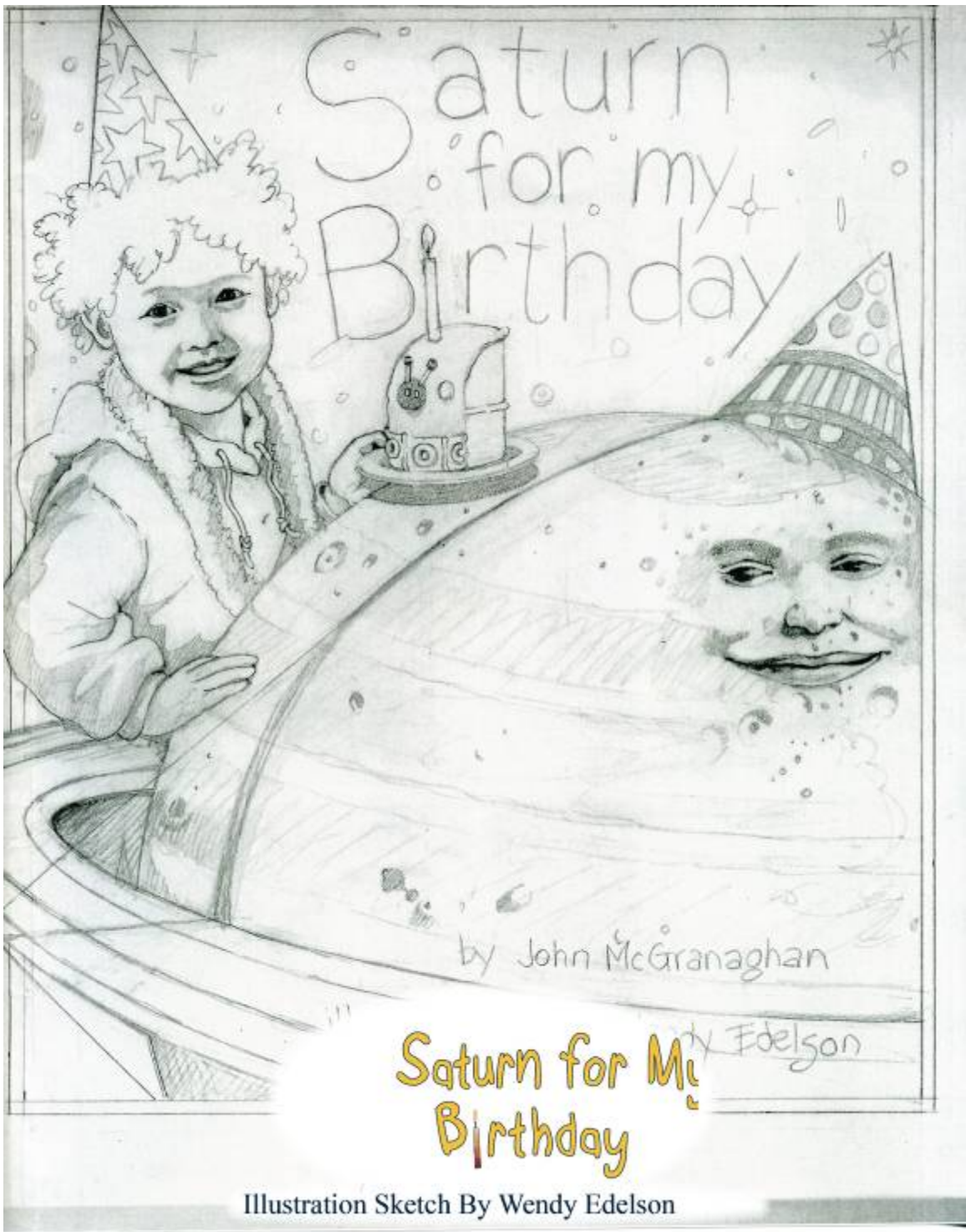


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Saturn for My Birthday

Illustration Sketch By Wendy Edelson



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