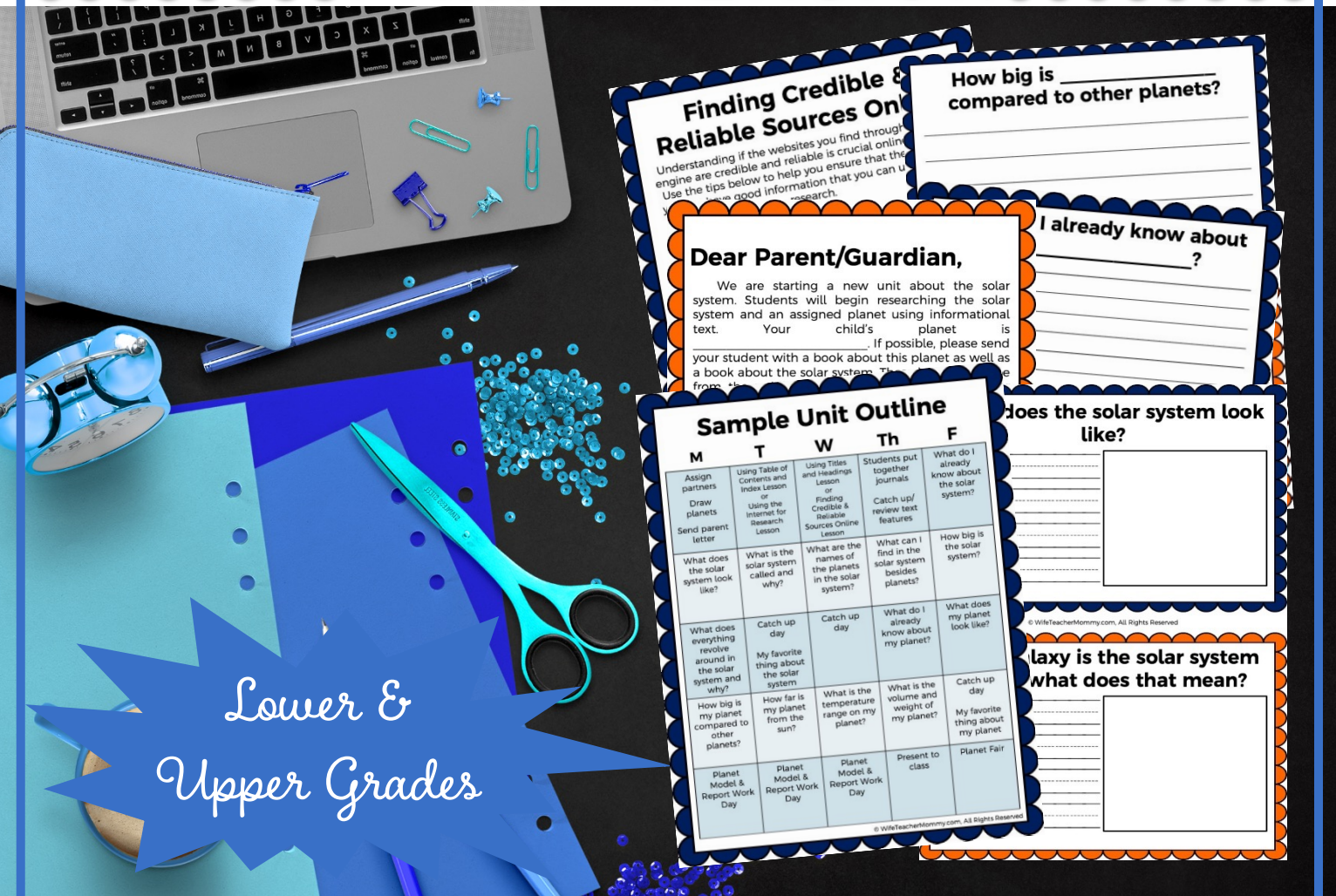


SOLAR SYSTEM Research Unit

PRINT VERSION



Lower &
Upper Grades

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Unit Outline & Lesson Plans for Easy Planning

Sample Unit Outline				
M	T	W	Th	F
Assign partners Draw planets Send parent letter	Using Table of Contents and Index Lesson or Using the Internet for Research Lesson	Using Titles and Headings Lesson or Finding Credible & Reliable Sources Online Lesson	Students put together journals Catch up/ review last features	What do I already know about the solar system?
What does the solar system look like?	What is the solar system called and why?	What are the names of the planets in the solar system?	What can I find in the solar system besides planets?	How big is the solar system?
What does everything revolve around in the solar system and why?	Catch up day My favorite thing about the solar system	Catch up day	What do I already know about my planet?	What does my planet look like?
How big is my planet compared to other planets?	How far is my planet from the sun?	What is the temperature range on my planet?	What is the volume and weight of my planet?	
Planet Model & Report Work Day	Planet Model & Report Work Day	Planet Model & Report Work Day	Present to class	

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Finding Credible & Reliable Sources Online and Citing the Source Mini Lesson

You Will Need:

- Finding Credible & Reliable Sources Online Worksheet
- A computer or tablet that can be projected (on a screen or TV) for the whole class to view

Instructions:

- Hand out the Finding Credible & Reliable Sources Online worksheet.
- Discuss the contents of the worksheet with students. Each tip included on the worksheet will help students with their online research.
- Tell students that including what sources they use for their research is important to give credit to the author. (Depending on the grade level of your class, you may choose how you'd like student to credit sources differently.)
- Students are not expected to credit sources with bibliographic information until 6th grade (according to CCSS). Students in 4th and 5th grade can easily include the name of the website they used as a way to credit sources.
 - For example, with this website <https://www.kidzone.ws/planets/> students may use KidZone as the way to credit the source.
- Practice searching for websites and how to credit them.

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Unit Preparation

Pages to Copy:

- Planet Cards:** These will be put in a basket and drawn out by the students to assign each pair of students a planet. All 8 planets are included with a picture of each one.
- Parent Letter:** This letter will be sent home on the first day of the unit. It will inform parents on the unit and ask them to send their student to school with informational texts about the solar system. It will also inform them about the planet fair and request that they send newspapers the week the students will be doing paper mache.
- Planet Fair Invitation:** This is an invitation that will be sent home with students at the end of the unit to invite their parents to the Planet Fair.
- Table of Contents & Index Worksheet:** To be used with the Table of Contents & Index Mini Lesson
- Other Text Features Worksheet:** To be used with the Other Text Features Mini Lesson

My Astronaut Research Journal: Each student will cut out this journal. The students will cut out the books together.

Texts for Solar Systems and Planets will be asked to send their students. Not all students may actually bring books. Students have access to books for each of the 8 planets. You may want to plan from the school library if they give them an incentive for doing so.

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Finding Credible & Reliable Sources Online

Understanding if the websites you find through a search engine are credible and reliable is crucial online research. Use the tips below to help you ensure that the websites you use have good information that you can use for your research.

- Facts vs. Opinions:** When reading the information on a website, does the author provide only facts? If opinions are included in the information on the website, it may not be a reliable source for informational research.
- Copyright/Last Updated:** Look for the website's copyright (usually at the bottom of the webpage) or when it was last updated. This will tell you how current the information is. While historical facts may not change, other information about a subject may update overtime.
- Spelling/Grammatical Errors:** A professional website that is meant for informing the reader about a topic will be free of spelling and grammatical errors. If a website has a lot of errors, choose a new source.
- Community Created Content:** Websites like Wikipedia are not necessarily credible sources. Anyone can edit the information on the website.
- Advertising:** Does the website contain a lot of ads? Websites that contain a lot of ads on the sides of or within the content are typically commercial based websites. This means they are looking for reader to click the ads so they can make money. The information on their website may not be reliable.

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Using the Internet for Research Mini Lesson

You Will Need:

- Using the Internet for Research Worksheet
- A computer or tablet that can be projected (on a screen or TV) for the whole class to view

Instructions:

- Have students come to the floor. Tell the students that you will be showing them how to use the Internet for research.
- Open up a kid-friendly search engine, such as [kiddle.co](https://www.kiddle.co/). Tell students that they will be using a kid-friendly search engine for their solar system research. Explain that using a search engine that is made for kids (rather than Google) will help them search for information safely.
- Ask students if they know how to use a search engine. (Call on students to answer.)
- Ask students if they think they should type in an entire question into the search box. (Students raise hands if they agree.) Tell students that typing an entire question is not usually the best way to use a search engine. They should use specific keywords when searching.
- Practice coming up with keywords for searching the following question:
 - Model in search: Who was Abraham Lincoln? (25,600,000 search results on Kiddle)

Instead of a question for internet research, sample keywords could be: Lincoln biography (5,960,000 results), Abraham Lincoln (5,500,000 results), Abraham Lincoln freed slaves (230,000 results), Lincoln birth date (93,600 results), etc.

When researching, they should always use more than one source to ensure that the information is accurate. If they find conflicting information between two sources, they should continue to research until a common fact is found and accurate. This takes patience, but is an important part of research.

China population

Factbook states that China's population is 1,379,302,772 (as of July 2016). Some sources state that China's population is 1,400,000,000 (as of July 2016). This is a live counter. World Population Review states that China's population is 1,400,000,000 (as of October 31, 2016).

Students will be best off taking the live counter number and then the number is as of the date of the report.

Using the Internet for Research worksheet. Walk around and assist if the questions. Check for their understanding as they work. If they are unsure, you can review the information again as a class.

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The unit sample outline gives you an idea of how you could implement the unit into your schedule. (However, feel free to implement the activities however you see fit!) We have included lesson plans to prep your students for their research projects.

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Parent Letter and Invitation to Keep Parents Involved


Dear Parent/Guardian,

We are starting a new unit about the solar system. Students will begin researching the solar system and an assigned planet using informational text. Your child's planet is _____. If possible, please send your student with a book about this planet as well as a book about the solar system. These books could be from the public library, from the school library, or from home. We will begin using the texts on _____. If you are unable to help them find a book, we will make sure there are still texts available for your student to use.

After students have finished their research, they will create a model of their planet using paper mache. We will need a lot of newspapers for this, so if you have any you do not need, feel free to send them to school. We will be working on our planet models the week of _____. We will display these at our Planet Fair on _____.

Please let me know if you have any questions!

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YOU'RE INVITED!

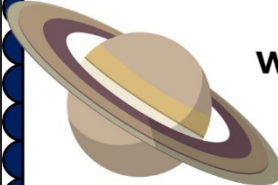
You are invited to our Planet Fair! Students will be showcasing their own planet models created using their research. Information is below!

Date: _____

Location: _____

Time: _____

Details: _____

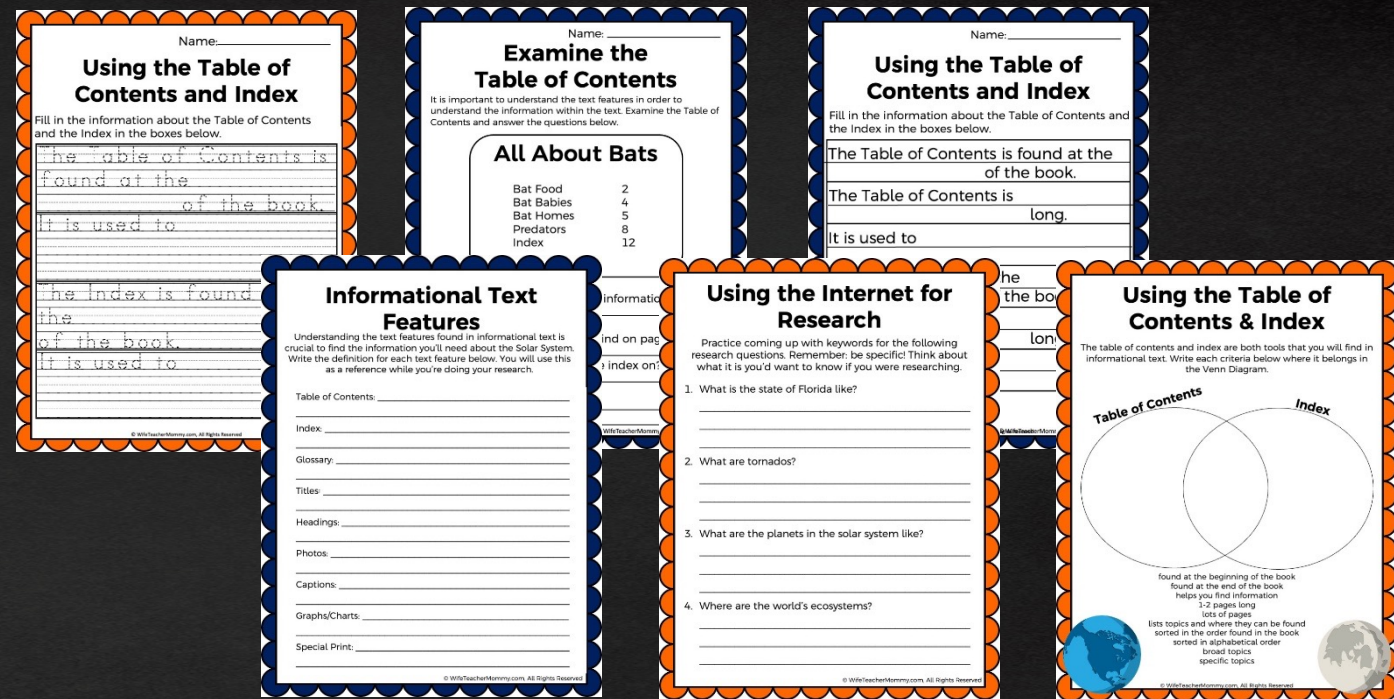


We Hope to See You There!

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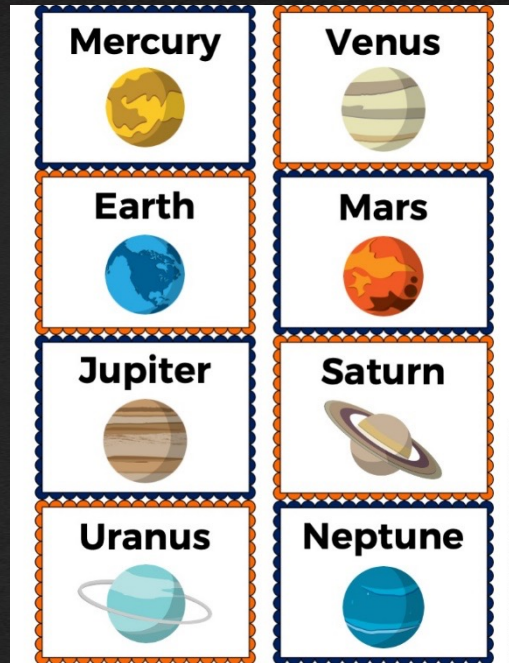
We have included a letter to parents and a Planet Fair invitation to help keep your students' parents and guardians involved and informed. You can type the dates and your name right into the letter.

Differentiated Student Worksheets to Teach Each Element of the Research Project

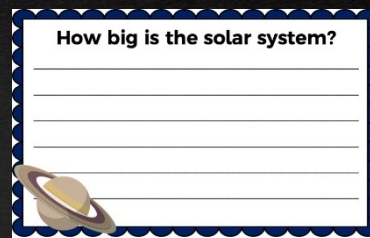


Differentiated student worksheets are included for each mini lesson. We have created these worksheets to help your students of all ages learn each element of a research project in a simple easy to understand way.


Planet Cards to Randomly Assign a Planet to Each Student



We have selected 8 planets and have included cards spotlighting each of them for you to print, cut, and mix in a basket. Students will randomly choose which planet they will research.



Planet Model Example



Planet Neptune

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