BASIS Lesson Plan

**Lesson Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_

 *(A catchy lesson name can help attract teachers to the lesson!)*

**Grade Level: ­**\_\_\_\_\_\_\_

**Presenter(s):**

**Standards Connection(s):**

*[CRS will identify standards connections & communicate with BASIS team about these]*

*\*Note to teachers: Detailed standards connections can be found at the end of this lesson plan.*

**Teaser/Overview**

*Advertise your lesson to teachers with a fun and interesting overview! In 2-3 sentences, what is your lesson about? (This will be sent to teachers when your lesson is advertised to them). Example:*

* *Wispy, puffy, grey, white… clouds come in all sorts of shapes and sizes! Did you know there are different types of clouds that have different properties and functions? With “Clouds, Clouds, Everywhere,” your students will learn all about them!*

**Lesson Objectives**

*What* ***meaningful scientific experiences*** *will students gain from your lesson? If possible, think about what questions students will be figuring out (as opposed to topics they will be “learning about”), and what scientific practices they will use to figure it out. Examples:*

* *Students will discover the three states in which water is found on Earth (solid, liquid, gas) and how water changes between them*
* *Students will explore the three main types of clouds found in the atmosphere, and be able to identify them in nature*
* *Students will understand what a scientific model is and how it can help them learn, remember, and share knowledge about clouds*

**Vocabulary Words**

*Include a bulleted list of 3– 6 important (new) words with appropriate definitions that will help students gain the most from your lesson.*

**Materials**

 **Scientist Volunteers will bring:**

*What will you bring with you? (Include a detailed list so that interested teachers can use this lesson plan to teach the lesson on their own, too!)*

**Materials teachers should provide:**

*What basic materials, if any, should students have ready when you arrive (pencils, paper, scissors, etc.)?*

**Classroom Set-Up**

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*Share anything the teacher should know about how the classroom should be set up prior to this lesson (this info is shared with the teachers in their confirmation email). For example:*

* *Do you want the students split up into groups?*
* *Will your introduction start with students at their desks or seated in a central area of the classroom, such as on the classroom rug (common in younger grades)?*
* *Will you need access to a sink/projector/power outlet? Etc.*

**Classroom Visit**

**1. Introduction** ( \_\_\_ minutes)

**Role Model Introduction:***Being a role model for students is an important part of being a BASIS volunteer. Begin your lesson by introducing yourselves! Every team member should take a moment to explain who they are and what they study/do as a scientist. A bonus will be to tell your “story,” as if giving an elevator pitch to 8-year-olds: Why did you become a scientist? What made you interested in your topic? Why should students relate to you, or be interested in you? Feel free to draft a script of what you will say, here. And remember, you can also weave your story throughout your lesson through examples from your own life, and/or return to it with Q&A at the end.*

**Topic Introduction:**

*The introduction should be a clear overview of what the lesson will be about, giving the students whatever info they’ll need in order to understand, complete, and take meaning from the hands-on portion of the lesson. Since BASIS lessons help support the transition from the old, content-based science standards to the new, question- and practice-driven Next Generation Science Standards in East Bay schools, think about your BASIS lesson as a* ***question-driven exploration*** *of a natural phenomenon. How will you prepare students for that exploration? Think about:*

* *What general phenomenon are student scientists going to explore? (Eg our heart rate increases after we run around at recess; clouds have different shapes; different beetles look similar to one another, but also have differences; when you drop a ball, it falls to the ground; etc.)*
* *Ask students what they already know about this phenomenon, and what observations can they make about it. This is important to engage students in the inquiry process, and also to get a feel for what they already know (in case you need to adjust a bit).*
* *Think about what questions students can ask about the phenomenon, and which of those questions will they be trying to figure out through your lesson. Eg:*
	+ *After it rains, puddles form on the sidewalk – but when the sun comes back out, the puddles disappear. How and why does that happen?*
	+ *Trees have much more mass than the seeds they started from. Where does all that mass come from? How does it increase so much?*
	+ *My siblings and I (or other siblings I know) look like our parents, but also look different from one another. How come we don’t look exactly the same?*
* *What vocabulary will you need to share with students to take their understanding to the next level?*
* *Why should students care enough to figure out the answers with you? (“the big picture”)*
1. **Learning Experience** (\_\_\_\_minutes)

***Describe the hands-on portion of the lesson.*** *Now that you’ve introduced the topic, how will students go about exploring it? Make sure it’s clear WHY students are doing these activities, and how each activity connects to the question they’re trying to figure out. Include a detailed description (including instructions) of any:*

* *Demonstrations and images*
* *Hands-on activities*
* *Experiments*
* *Games*
* *Discussion/Writing*
* *Different stations students will rotate through*

*The more details, the better! That way, the lesson can be used by teachers to prepare, to follow-up, and even possibly to teach the lesson themselves.*

*(\*Remember to leave time for clean-up!\*)*

**3. Wrap Up: Review and Discuss the Learning Experience** ( \_\_\_\_ minutes)*It’s important to leave time to* ***review*** *and* ***discuss*** *the learning experience at the end of the lesson. This might take the form of discussing conclusions from an experiment; or review of the take-away of the lesson*

* *What phenomenon were they exploring?*
* *What questions did they try to answer?*
* *What did they do to find answers?*
* *What answers did they find?*
* *What questions do they still have that haven’t been answered?*

**4. Connections & Close** ( \_\_\_ minutes )

**Connections to the real world around students:**

*Why should students care about the phenomenon they’ve been exploring? How does their exploration fit into the bigger picture of why scientists study it? What connections can students draw to their own lives? How can they learn more?*

**Close:**

*Wrap up as a role model by leaving a few minutes for students to ask questions about science, about being a scientist, and about becoming a scientist. Then, thanks and goodbye!*

**Follow Up: After the Presentation**

*You’re the expert on your lesson! What can you share with teachers to help them extend the impact of your lesson? For example:*

* *List/attach examples of other activities kids can do in class or at home to learn more*
* *List websites or books students can use for additional learning*
* *Suggest students write a letter explaining how they learned about Topic X through your lesson*
* *Attach any worksheets, handouts, or visuals you used that teachers can return to*
* *Etc.*

**Standards Connections**

*[CRS will identify standards connections & discuss them with your BASIS team]*