LS-HHMI Outreach Summer Curriculum Project Classroom Resource Information Form			
Title	**"Play Ball with Photosynthesis"** [File titles]: GAME - PS baseball (Power Point file) Rules – PS baseball (Doc file) Game Board - PS baseball (Power Point file) Vocabulary – PS baseball (Doc file) Preview with answers – PS baseball (PDF file) [screen shots with answers in 'notes' section]		
Resource Type	Lesson Plan ☐ **Activity** ☐ Lab Activity ☐ Homework Assignment ☐ Correlations ☐ **Other** ☐ **Extra credit assignment**		
Description	This "game" is set up as either a pre lesson quiz to demonstrate reading comprehension OR as a post-lesson group quiz to demonstrate topic knowledge of photosynthesis following in-class instruction. Although designed for PHOTOSYNTHESIS units only, this format can be adapted for other or all units by replacing these photosynthesis questions with either teacher or student derived questions. [There is a BLANK SLIDE at conclusion of the game to add questions – duplicate prior to altering for multiple "add-on" questions] You may also want to substitute background of slides for generic or topic specific background.		
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Objective	Upon completion of this activity students should have either a better understanding of photosynthesis information read [if done as a pre-quiz] OR a better understanding of photosynthesis concepts covered in class [if done following the completion of a photosynthesis unit].		
Key Concepts	This review/preview covers basic and not so basic photosynthesis vocabulary, concepts and processes. Some questions address term understanding, some allow students to explain particular concepts, while others allow students to synthesize information about several areas of photosynthesis.		
Student Prep	Either detailed reading/outlining of unit/chapter if done as pre-unit activity or outline/notes review and vocabulary sheet fill-in, if done at the completion of photosynthesis unit.		
Materials	Text book/internet as 'resources' to verify information if question answers happen to be challenged. Computer projector / Screen to make board and questions visible to whole class. Two computers recommended – one to display Game, one to display game board		
Grade Level(s)	Appropriate [at level written] for Honors Level General Biology students and above. Maybe be modified with additional questions or eliminate included questions to make it appropriate for lower level Biology classes or enhanced with more difficult questions for AP level students.		
Teacher Prep Time	To become familiar with format and arrange questions in desired order ~ 30 – 45 mins. Adding OWN questions – time will vary.	**Class Time** Will vary . . . Review of vocab. min recommended	Partial class to one plus classes time permitting
National Standards	National standards: C – The Cell, Biological Evolution, Matter/Energy/Organization; D – Energy in the Earth System		
State Standards	High School Biology MA framework standards; 2.4 along with 2.5, 1.1, 1.3		
Sources	Self-designed concept. Adapted from trial and error techniques while in the classroom.		
References	All images borrowed from free use sources. Sources included as site references below images		

Assessment	Usually used as group grade [winning team gets ‘A’, non-winning team gets ‘B’. Or set minimum points scored for grade ahead of time. 5 runs = ‘A’, 4 runs ‘B’ etc…. Having students come up with questions at “COLLEGIATE” [easier], “MINOR LEAGUE” [more difficult] or “MAJOR LEAGUE” [extra difficult] levels might be a homework or IN CLASS assignment several days prior to “GAME DAY” may be a worthwhile assignment. This would provide additional questions for a ‘rematch’ or questions to choose from for subsequent years. Teachers may keep track of individual questions answered by individual students and upon assigning a GROUP score/grade to winning and non-winning teams – adjust score up/down depending on individual student contribution to TEAM score. 9ie – member of winning team with no total bases gets an ‘A-‘ while students with most total bases get ‘A+’ on same team.