

# 5 minute lesson plan ... identifying, jotting down and linking the key teaching and learning in the lesson

**Human Cell Atlas Lesson**  
 (Cells, Genes and the Human Cell Atlas)  
 To support teachers delivering the Human Cell Atlas Card Game competition for KS3

**Curiosity & engagement?**  
 The knowledge the students gain about cells and the Human Cell Atlas is to be used to design a card game. Videos of researchers talking about what they do are also available if desired.

**Objectives**  
 (differentiated)  
**Outcomes** (what success looks like)  
 Students will understand that the human body is built from cells. That there are many different types of cells that have different shapes related to their function; that cells fit together in 3D space and they 'talk' to each other.  
 Students will understand that cell types are different because they express different genes.  
 Students will understand that the Human Cell Atlas is building a map of cell types in the human body and where they are located.

**What needs to stick?**  
 (Students remember for next lesson)  
 - Your body is built from cells  
 - There are many types of cells that have different shapes and jobs  
 - The 3D arrangement of cells is important for organs to work  
 - Cells are different because they express different genes  
 - The Human Cell Atlas is building a map of cell types in the human body and their locations

**AfL**  
 (Strategies to be used to check understanding and guide progress ie key questions/plenaries/DIRT/assessments)  
 -Activity asking students to evaluate cell features and think about where they 'fit' in the body  
 -Session is part of a competition to design a card game based on the Human Cell Atlas; students will be expected to use this knowledge to design a game

**questions/words/numeracy/links**  
 Cells  
 Genes  
 Human Cell Atlas  
 Building (our bodies / organs)

**Resources: classroom, projector/audio, PowerPoint, handouts for activity (pin the cell on the human), video (YouTube). Requires internet to play videos.**

**Planned activities**  
 (independent/pair/group/teacher led/hw)  
 PowerPoint slides to guide teachers in delivering learning about cells, genes and the Human Cell Atlas

**Planned activities**  
 (independent/pair/group/teacher led/hw)  
 Task: Pin the Cell on the Human  
 Requires printing of cell cards and human body outline in advance  
 Students to look at the cell images (both cartoons and histological images of each cell type are given) and descriptions; match them and place them on the body where they think they might be found.  
 Can be done in groups or individually.

**Planned activities**  
 (independent/pair/group/teacher led/hw)  
 Task: Watch video  
 A YouTube link to a 2 minute video about the Human Cell Atlas is provided.  
 Requires internet access to play.

**Planned activities**  
 (independent/pair/group/teacher led/hw)  
 Task: Card game design competition.  
 This session is part of the resource pack to help students participating in the Human Cell Atlas card game design competition ('How to Build a Human'). This session provides background information on the Human Cell Atlas.  
 Encourage students to think about what aspects of what they've learnt could be built into a card game.  
 Further resources are provided to help students think through game design.

