## Technology Enabled Learning Classroom Catalyst

**Title:** Individualize Learning with Google Form Quizzes for Gr. 10 Biology: Systems.

## Tech Tool:

**What is this?** Google Forms is an application that allows the user to collect information in various ways. G Suite has provided multiple templates geared towards educators which includes quizzes, exit passes, assessments, and worksheets.

**How do I use this?** <https://gsuite.google.com/learning-center/products/forms/>

**Why use this?**

* Google Forms allows educators to collect real time data from their students
* Google Forms allows educators to track student progress quickly and efficiently
* Google Forms allows teachers to go paperless for quick check-ins or quizzes
* Quiz template provides instant feedback to students learning a new topic
* Quiz template provides the option for Answer Feedback in Multiple Choice questions to explain why a question is correct or incorrect

**Internet Safety:** Make sure that you and your students are safe when using technology in the classroom. This can include monitoring students to ensure that they are not using other applications and reminding them about school rules of online conduct.

## Course Code: SNC2D

|  |  |
| --- | --- |
| Topics Cells  Tissues  Organs | Timing Preparation: 30 - 60 mins (First time only)  Lesson: 55 - 65 mins |

## Specific Expectations:

B2.1 use appropriate terminology related to cells, tissues, organs, and systems of living things, including, but not limited to: absorption, anaphase, capillaries, concentration, differentiation, diffusion, meristematic, mesophyll, phloem, prophase, red blood cells, regeneration, stomate, and xylem [C]

B3.4 explain the primary functions of a variety of systems in animals (e.g., the circulatory system transports materials through the organism; the respiratory system supplies oxygen to and removes carbon dioxide from the body)

B3.5 explain the interaction of different systems within an organism (e.g., the respiratory system

brings oxygen into the body, and the circulatory system transports the oxygen to cells) and why

such interactions are necessary for the organism’s survival

## Introduction

Students typically come into the classroom with some base knowledge about biology, whether it is prior learning at home, in previous courses or from personal experience. Differentiating learning based on students’ previous knowledge can be a challenge in a large classroom, thus with the help of a diagnostic assessment for learning, we can cater the material to each student individually. In the past, we have typically completed quizzes on paper and it is time consuming to provide feedback. Google Form Quizzes provides the opportunity for instant feedback so that we can allocate time to do more learning rather than marking.

## Materials

One device per student/pair

**Teacher Set Up**

## Create your diagnostic quiz.

## Go to Google Forms → From A Template → Blank Quiz

## Title your quiz.

## 

## Start adding questions to your quiz. Multiple choice questions are recommended for this first quiz as instant feedback can be provided at the end of the quiz. Each question should focus on one topic so that students can identify learning goals. (For each question, you are able to select a correct answer and also provide feedback to the student upon completion.)

Examples:

|  |  |
| --- | --- |
| The circulatory system does not contain which of the following organs.   1. Blood 2. Heart 3. Lungs 4. Brain | True or False: Skin is the largest organ on the human body.   1. True 2. False |

Here are some suggestions for topics you could include in your quiz:

* Lungs
* Gas exchange
* Interaction of lungs and heart
* Cell specialization
* Tissues
* Organs
* Systems

4. Create a link to your quiz. Using the **Send** button, copy the link to the quiz and shorten it with goo.gl (Google Shortener) or tinyurl.com to share with your students.

5. Create a Post-Lesson Quiz. Questions should include topics outlined in the diagnostic quiz. (Follow step 4 to create a shortened link for the Post-Lesson Quiz.)

## Lesson Plan

|  |  |
| --- | --- |
| Description | Time |
| Teacher introduces learning goals for the lesson.  Have students take out device to prepare for quiz. | 5 mins |
| Students will complete the quiz. | 5-10 mins |
| Have students identify one topic (one question) they wish to learn about. (This should be a question that they answered incorrectly, or a question they did not understand.)  Students can then break out into groups based on the topic they would like to learn about. Have students research information from textbooks or vetted online sources to collect information regarding that specific topic. | 25-30 mins |
| Have students share their learning to the class or another group (jig saw). | 20 mins |

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| --- | --- | --- |
| **Instructional Strategies**  ☑Brainstorming  ☑Computers  ☑Cooperative  ☑Group Work  ☑Independent Work  ☑Questioning  ☑Class Discussion | **Assessment Strategies**  ☑Questioning  ☑Quiz/Test  ☑Computers  ☑Discussion | **Character Education**  ☑Courage  ☑Empathy  ☑Fairness  ☑Initiative  ☑Perseverance  ☑Respect  ☑Responsibility |
| **Strands**  ☑Knowledge/Understanding  ☑Communication | **Learning Skills**  ☑Works Independently  ☑Teamwork/Collaboration  ☑Organization | **Resources/Equipment**  ☑Computers/iPads  ☑Laptop/LCD  ☑Handouts: |

## Safety

No safety issues

## Teaching Suggestions/Hints

* It might be helpful to identify the topic for each question in the quiz to help students understand what they need to look up
* If you want to collect student data, add short answer questions to collect students’ names. (You may want to have a separate question for first name and last name.)

## Next Steps/Extensions/Other Topics for this Tech Tool

Next Steps for this lesson can include the following:

* To collect student work, have them build their own digital classroom resource (They can put their work into a shared Google Doc or perhaps a shared Google Slides.)
* Have students create their own quiz questions based on their topic of expertise

Other topics that can be taught using this tool include:

* Assessment as learning - use these quizzes at the end of a lesson to help students review concepts (you can now go paperless for your quizzes and reduce your workload on marking!)
* Trying this with Cellular Processes and including images in your questions. Refer to the Gsuite link above on how to include images

## Additional Resources

* Sample Google Quiz <https://docs.google.com/forms/d/e/1FAIpQLSdTjrfOQC0PsTZIxcBjHq1oAG3D-ig3eyK8gdgWa7Ou0GVhMw/viewform?usp=sf_link>
* Kaftan, J. M., Buck, G. A., & Haack, A. (2006). Using Formative Assessments to Individualize Instruction and Promote Learning. *Middle School Journal*, 37(4), 44-49.
* Google Forms: Collect, Analyze, and Automatically Grade Student Data for Formative and Summative Assessments <http://www.edtechroundup.org/reviews/google-forms-collect-analyze-and-automatically-grade-student-data-for-formative-and-summative-assessments>