

Why was the tool designed? To increase knowledge of this topic in a fun and interactive format

When can you use it? This game is intended for self-paced individual learning or in a group. It is perfect for events such as a staff meeting, annual education, or ONS Chapter meeting.

Suggested rules (feel free to create your own or edit as needed):

1. A team will be chosen randomly to select a category and the value. For example, a team might say "Animal for \$200," which means that they have selected the animal category and the \$200 value.
2. The clue, which is in the form of an answer, will be read out loud. After listening to the clue, the teams will get 10 seconds to discuss their response.
3. The team that presses the buzzer or raises their hand first will get a chance to give a response in the form of a question.
4. If the team responds correctly, the value of that clue is awarded to that team. If the team responds incorrectly, those points will be subtracted from their score, and another team will get the chance to answer.
5. Once a team responds correctly, the facilitator will select the "what is . . ." button to reveal the correct response.
6. Following each question, the facilitator will select the home icon to return to the main menu of questions.
7. The round continues until all questions are answered.



Important: Please note that the recommended browser for this game is Google Chrome, and you will not earn nursing continuing professional development (NCPD) upon completion of this learning activity. If you experience technical issues or have trouble accessing the activity, contact help@ons.org.

Answer guide:

#	Price	Category	Clue	Correct Response	Notes
1	100	Principles of Immunity and Immunotherapy I	These cells help recruit and activate phagocytes to kill and ingest microbes.	What are helper T cells?	Helper T cells (CD4+) can differentiate into effector cells that produce different cytokines.
2	200	Principles of Immunity and Immunotherapy I	This type of T cell kills cells that harbor microbes and cancer cells, primarily by inducing apoptosis.	What are cytotoxic T cells?	
3	300	Principles of Immunity and Immunotherapy I	This large family of soluble proteins are produced and secreted by cells, and coordinate inflammatory and immune responses.	What are cytokines?	Cytokine function is partly due to the activation of transcription factors.
4	400	Principles of Immunity and Immunotherapy I	These cells of the innate immune system specialize in early defense of the body against virus-infected or transformed cells and do not express antigen-specific surface receptors.	What are natural killer cells?	Natural killer cells recognize infected or stressed cells and respond by killing these cells and secreting cytokines, which increase the activity of other immune cells.

5	500	Principles of Immunity and Immunotherapy I	This immune response has two key reactions, consisting of an acute inflammatory response and the activation of antiviral defense mechanisms.	What is the innate immune response?	Inflammation is a key component of innate immunity and involves recruitment of immune cells and plasma proteins; however, this can also result in tissue damage.
6	100	Principles of Immunity and Immunotherapy II	These cells regulate cell-mediated immunity, which is an arm of adaptive immunity.	What are T lymphocytes?	Cell-mediated immunity is initiated by the capture and display of protein antigens by the naive T cells specific to these antigens.
7	200	Principles of Immunity and Immunotherapy II	This set of cell surface proteins are essential for the acquired immune system to recognize foreign molecules.	What is the major histocompatibility complex (MHC)?	The main function of MHC molecules is to bind to antigens derived from pathogens and display them on the cell surface for recognition by the appropriate T cells.
8	300	Principles of Immunity and Immunotherapy II	This phase of immunoediting occurs when the immune system can detect cancer cells as different from non-cancer cells, preventing cancer formation in the body.	What is the elimination phase?	Immunoediting contains three phases: elimination or cancer immunosurveillance, equilibrium, and escape. Cancer immunoediting is the balance of protection provided by the immune system against cancer and the evasion of cancer from the immune response. Through this process, adaptive and innate immunity can control tumor growth and shape immunogenicity.

9	400	Principles of Immunity and Immunotherapy II	This immune response could help produce long-lasting immune system memory to cancer cells with assistance from immunotherapy.	What is the adaptive immune response?	The adaptive immune response has the potential to form long-term memory against cancer cells and could provide more durable responses.
10	500	Principles of Immunity and Immunotherapy II	Immunotherapies can be classified as _____ or _____, depending on the mechanism of action of the agent.	What is active or passive?	Active immunotherapies specifically target defined tumor-associated antigens. Passive immunotherapies are relatively nonspecific and boost natural or therapy-elicited anticancer immune responses. Active immunotherapies include anti-cancer vaccines, immunostimulatory cytokines, and checkpoint inhibitor monoclonal antibodies. Passive immunotherapy includes tumor-targeting monoclonal antibodies and adoptive cell transfer.

11	100	Types of Immunotherapy	This type of immunotherapy works to increase the immune response against cancer cells by blocking inhibitory signals for T lymphocytes.	What are checkpoint inhibitors?	Immune checkpoint receptors maintain homeostasis by protecting normal tissues from damage and preventing autoimmunity; this is accomplished by downregulating T-cell signaling to stop overproliferation of T cells. Cancer cells can “hijack” these checkpoint receptors to allow evasion of the immune system. Checkpoint inhibitors block the inhibitor signaling pathway, allowing for sustained T-cell activation and attack on cancer cells.
12	200	Types of Immunotherapy	This process is the passive administration of antitumor T cells.	What is adoptive cell transfer?	Examples of adoptive cell transfer include the use of tumor-infiltrating lymphocytes and chimeric antigen receptor (CAR) T cells.
13	300	Types of Immunotherapy	This category of drugs could be considered both an immunotherapy and a targeted therapy, depending on the specific drug’s mechanism of action.	What are monoclonal antibodies?	Monoclonal antibodies, which do not incite a response from the immune system as a result of their mechanism of action, are considered a targeted therapy rather than an immunotherapy.
14	400	Types of Immunotherapy	This type of immunotherapy not only has therapeutic functions, but also can play a role in cancer	What are cytokines?	Types of cytokines include Interferon alfa, interleukin-2, and interleukin-6.

			development, influence prognosis, and contribute to the symptomatology of the patient.		
15	500	Types of Immunotherapy	Classified as either prophylactic or therapeutic, this type of immunotherapy harnesses memory cell function to create sustained and adaptable immunity, which can be activated by future tumor growth.	What is vaccine therapy?	
16	100	Adverse Effects	This is usually the first symptom of cytokine release syndrome.	What is fever?	Fever is defined as a temperature greater 38°C with no other attributable cause. Cytokine release syndrome symptoms can also include hypotension, tachycardia, hypoxia, and chills.
17	200	Adverse Effects	Rash associated with immunotherapy typically has this type of appearance.	What is maculopapular?	Dermatologic toxicities are common adverse effects with immunotherapy. The rash associated with immunotherapy typically has a maculopapular appearance versus the more acneiform rash seen with targeted therapies. Pruritus is also commonly seen and may occur without rash.

18	300	Adverse Effects	This drug may be used to treat grades 2-4 immunotherapy associated diarrhea/colitis if there is no response to steroid therapy.	What is infliximab?	Diarrhea is a common symptom with checkpoint inhibitor therapy (44% of patients). Infliximab may be used if life-threatening enterocolitis develops or there is an inadequate response to high-dose steroids.
19	400	Adverse Effects	This uncommon nervous system toxicity often presents as progressive, symmetrical muscle weakness with absent or reduced deep tendon reflexes and often starts with pain in the lower back and thighs.	What is Guillain-Barré syndrome?	Guillain-Barré syndrome is a rare neurologic toxicity and can have overlapping symptoms (paralysis of the eye muscles and ascending weakness) with myasthenia gravis, another rare neurologic toxicity.
20	500	Adverse Effects	These are the two most common endocrinopathies associated with checkpoint inhibitor therapy.	What are hypophysitis and hypothyroidism?	Presentation of these toxicities is not as straightforward as other immune-related adverse effects because of the nonspecific symptoms (i.e., fatigue, nausea, headache, and depression). Routine monitoring of thyroid-stimulating hormone is recommended.

21	100	Miscellaneous	This phenomenon can be observed in patients receiving immunomodulating agents, checkpoint inhibitors, and CAR T cells and is characterized by a measurable increase in size of the primary tumor after initiation of treatment, followed by subsequent tumor regression.	What is pseudoprogression?	Also called tumor flare, the initial increase in size of the tumor is the result of migration of T cells into the tumor, which causes inflammation. The subsequent decrease in size is related to a decrease in inflammatory cells and tumor cell burden.
22	200	Miscellaneous	These are a variety of genetic markers, antigens, hormones, and cell receptors that can be indicators of tumor presence, growth, or response and are used to guide treatment decisions and prognosis.	What are biomarkers?	
23	300	Miscellaneous	This type of immunotherapy can be either nonpathogenic or pathogenic and directly kills cancer cells by causing tumor death, which produces tumor-toxic cytokines or antitumor host immune responses.	What is oncolytic virus therapy?	Nonpathogenic oncolytic viruses are harmless to humans, whereas pathogenic viruses require genetic modification for use.

24	400	Miscellaneous	Tocilizumab is used to treat cytokine release syndrome because it blocks this cytokine receptor.	What is interleukin-6?	Interleukin-6 was shown in early studies to be one of the most highly expressed cytokines. Tocilizumab effectively blocks interleukin-6 receptors. Siltuximab is also being used in some cases because it directly binds to interleukin-6.
25	500	Miscellaneous	This CTLA-4 inhibitor is used in combination with radiation for the treatment of metastatic melanoma.	What is ipilimumab?	Combination ipilimumab and radiation has demonstrated an improved response to radiation therapy. Studies have suggested that combining radiation and immunotherapy, specifically checkpoint inhibitors, may have a synergistic effect on tumor cells and prevent them from evading the immune system.
26	1000	Tie-breaker	This was the year the first monoclonal antibody was approved for the treatment of cancer.	What is 1997?	The first monoclonal antibody approved for cancer was rituximab and was used to treat non-Hodgkin lymphoma.

Supporting References:

Cancer Research Institute. (2019). *Timeline of progress*. <http://www.cancerresearch.org/immunotherapy/timeline-of-progress>

Olsen, M., LeFebvre, K., & Brassil, K. (Eds.). (2019). *Chemotherapy and immunotherapy guidelines and recommendations for practice*. Oncology Nursing Society.

Walker, S., & Prechtel Dunphy, E. (Eds.). (2018). *Guide to cancer immunotherapy*. Oncology Nursing Society.