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| **ELASTIČNO ILI ČVRSTO – praktični rad** | | |
| Ime i prezime: | Razred: | |
| RP: 18–17 odličan, 16–15 vrlo dobar, 14–11 dobar, 10–9 dovoljan, 8–0 nedovoljan  PP: 18–16 odličan, 15–13 vrlo dobar, 12–9 dobar, 8–7 dovoljan, 6–0 nedovoljan | Bodovi: /18 | Ocjena: |

**POTREBNO PRIPREMITI:** tri pileće kosti (najbolje pileći batci), dvije staklenke s poklopcem, ocat, štednjak, pekač/protvan, tanjur, pinceta

**ISTRAŽIVAČKO PITANJE:** Može li se elastičnost i čvrstoća kostiju promijeniti? O čemu to ovisi?

**OPASNOST!** Pripazi u radu s kiselinom i štednjakom!

**TIJEK ISTRAŽIVANJA:**

1. Jednu pileću kost stavi u staklenku i prelij octom tako da cijela kost bude uronjena u ocat. Zatvori staklenku poklopcem i pusti da odstoji barem 5 dana.
2. Nakon 5 dana izvadi kost pincetom iz otopine octa i isperi je pod mlazom vode.
3. Drugu kost stavi u pekač/protvan i peci na 250 ⁰C 30-ak minuta.
4. Nakon toga odloži kost u drugu staklenku ili na podlogu i pričekaj da se ohladi.
5. Nakon što si pripremio/la dvije kosti na opisani način, uzmi kosti i stavi ih na tanjur te dodaj i treću kost koja nije ničime tretirana.

**ANALIZIRAJ REZULTATE I DONESI ZAKLJUČKE:**

1. Usporedi kakva je savitljivost svih uzoraka kostiju. Opiši u čemu je razlika.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Sad pokušaj svakom kosti udariti po čvrstoj podlozi. Ponašaju li se jednako? Opiši u čemu je razlika.

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1. Prema svojim opažanjima ispuni tablicu tako da upišeš + ili – za svako opisano svojstvo.

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|  | Uzorak 1 (ocat) | Uzorak 2 (pečena kost) | Uzorak 3 (kontrolni) |
| Savitljivost (elastičnost) |  |  |  |
| čvrstoća |  |  |  |

1. Zašto smo upotrijebili i treći uzorak (kost koju nismo ničim tretirali) u istraživanju? \_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Možeš li na temelju rezultata zaključiti što se dogodilo s kostima? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. U bilježnici i udžbeniku pronađi podatke o tome od čega je kost građena i pokušaj to povezati s dobivenim rezultatima. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Možemo li dobivene rezultate povezati s nekim bolestima i promjenama koje se događaju na ljudskim kostima? Potraži podatke u dodatnoj literaturi i na pouzdanim internetskim stranicama te objasni svoj odgovor.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**ZAKLJUČAK:**

Kost koju sam uronio/la u kiselinu se \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Prema tome, mogu zaključiti da je kiselina otopila \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ i \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a preostao je \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, koji kostima daje \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Kost koju sam žario/la se prilikom savijanja \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Prema tome, mogu zaključiti da se žarenjem razgradio \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a preostali su \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ i \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, koji kostima daju \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.