ANIMAL COORDINATION, CONTROL & HOMEOSTASIS

1. Hormones: secreted from endocrine gland & transported through bloodstream

pituitary gland: Master gland - acts on other glands directing them to secrete hormone

TSH - thyroid stimulating hormone: thyroid gland

FSH - follicle stimulating hormone: ovaries

Thyroid gland

thyroxine: heart

Regulates metabolic

ADH – antidiuretic hormone: kidney Growth hormone: all tissues

Testes

Adrenal glands Prepares body for flight/fight response adrenaline: respiratory/circulatory

Ovaries

oestrogen: ovaries / uterus / pituitary gland progesterone: uterus

Controls puberty & sperm production testosterone: reproductive system

2. Adrenaline - produced by adrenal glands to prepare body for fight/flight

Heart: adrenaline binds to specific receptor cells in heart, causes it to contract: more frequently: increases heart rate with more force: increases blood pressure

Pancreas

Insulin: liver

glucagon: muscle

Liver: adrenaline binds to receptors in liver - causes conversion of glycogen -> glucose: increases blood sugar levels - source of energy for rapid contractions To muscles/brain: widen - increased blood flow - cells receive more oxygen/glucose - increased respiration - work faster **Blood vessels**:

To other organs: narrow - increases blood pressure

Lungs: Airways widen - more oxygen intake - increases respiration rate

Thyroxine - controls metabolic rate - negative feedback 3.

Low thyroxine level: Hypothalamus $TRH \rightarrow$ pituitary $TSH \rightarrow$ Thyroid gland thyroxine

Negative feedback: receptors in brain detect increases in level: inhibits release of TSH which inhibits the release of thyroxine People who produce too much thyroxine: oxygen/food products react quickly - release energy faster: higher heart/metabolic rate - radiate heat

Stage 2: Day 4-14 Uterus lining repairs – until thick spongy layer full of blood vessels haread for fertilised egg to applant there Stage 3: Day 14 Ovulation: egg develops & released from to as Stage 4: Day 14-28 Lining maintained No fertilised egg landed on uterus wall: spongy lining of

5. Menstrual cycle hormones

FSH - follicle-stimulating hormone Released by: pituitary Causes: eggs to mature in ovary Ovary to release oestrogen

Oestrogen

Released by: ovaries Causes: lining of uterus to grow/thicken Pituitary to release LH Inhibits FSH

LH - luteinising hormone

Released by: pituitary

Stimulates: ovulation – mature egg release

egg follicle remains develop into corpus luteum - secretes progesterone

Progesterone

Released by: corpus luteum - after ovulation Causes: maintenance of uterus lining Inhibits FSH & LH release

Low level: menstruation Pregnant: level stays high to maintain uterus lining